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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

(Mark One)

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2024

or

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from _____ to _____

Commission File Number: 000-42115

SmartKem, Inc.

(Exact name of registrant as specified in its charter)

Delaware	**85-1083654**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification Number)**

Manchester Technology Centre, Hexagon Tower.
Delaunays Road, Blackley
Manchester, M9 8GQ U.K.
(Address of Principal Executive Offices)
Registrant's telephone number +44 161 721 1514

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	**Trading Symbol(s)**	**Name of exchange on which registered**
Common Stock, par value $0.0001 per share	SMTK	The Nasdaq Stock Market LLC

Securities registered pursuant to Section 12(g) of the Act: None.

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☐ No ☒

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ☐ No ☒

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer", "accelerated filer", "smaller reporting company", and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☐	Accelerated filer	☐
Non-accelerated filer	☒	Smaller reporting company	☒
		Emerging growth company	☒

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☐

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements. ☐

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to §240.10D-1(b). ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

The aggregate market value of the common stock held by non-affiliates of the registrant, based on the closing sale price on The Nasdaq Capital Market of $5.735 per share, was $9,705,409 as of June 30, 2024.

As of March 26, 2025 there were 3,620,217 shares of the registrant's common stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

None.

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Glossary of Terms and Abbreviations

The following is a glossary of technical terms used in this Annual Report on Form 10-K (this "Report"):

10^6 – 1,000,000 (the symbol before the number 6 indicates "raised to the power")

AMOLED – Active Matrix OLED

AR – Augmented Reality

a-Si – Amorphous silicon (TFT)

BKM – Best-Known Method

BL – Base Layer

°C – Degrees Celsius

CoA – Certificate of Analysis

CAD – Computer Aided Design

COC – Cyclic Olefin Copolymer

CPI – Centre for Process Innovation

DLT – Digital Lithography Technology

EDA – Electronic Design Automation

EL-QD-LED – Electroluminescent Quantum Dot Light Emitting Diode

FET – Field-Effect Transistor

IC – Integrated Circuit

IGZO – Indium gallium zinc oxide TFT

IV – Current-Voltage

LTPS – Low-Temperature Polysilicon TFT (Note: Low-Temperature is relative to silicon wafer processing temperatures >300°C, however not low temperature relative to the glass transition temperature of many plastics (<150°C)

OEM – Original Equipment Manufacturer

OGI – Organic Gate Insulator

OLED – Organic Light Emitting Diode

OSC – Organic Semiconductor

OTFT – Organic Thin-Film Transistor

PCB – Printed Circuit Board

PDK – Process Design Kit

PEN – PolyEthylene Naphthalate

PET – PolyEthylene Terephthalate

POR – Process of Record

PV – PassiVation layer

SAM – Self-Assembled Monolayer

SRL – Sputter Resistant Layer

TAC – Cellulose TriACetate

T_g – Glass transition temperature

TFT – Thin-Film Transistor

VR – Virtual Reality

V_{th} – Threshold Voltage

V_{to} – Turn-on Voltage

CAUTIONARY NOTE ON FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K, including the sections entitled "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations," contains express or implied forward-looking statements that are based on our management's belief and assumptions and on information currently available to our management. Although we believe that the expectations reflected in forward-looking statements are reasonable, such statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by forward-looking statements. All statements other than statements of historical fact contained in this Report are forward-looking statements. In some cases, you can identify forward-looking statements by terminology such as "may," "could," "will," "would," "should," "expect," "plan," "anticipate," "believe," "estimate," "intend," "predict," "seek," "contemplate," "project," "continue," "potential," "ongoing" or the negative of these terms or other comparable terminology.

These forward-looking statements include, but are not limited to, statements about:

- the implementation of our business model and strategic plans for our business, technologies and products;
- the rate and degree of market acceptance of any of our products or organic semiconductor technology in general, including changes due to the impact of (i) new semiconductor technologies, including MicroLED technology, (ii) the performance of organic semiconductor technology, whether perceived or actual, relative to competing semiconductor materials, and (iii) the performance of our products, whether perceived or actual, compared to competing silicon-based and other products;
- the timing and success of our and our customers' product releases;
- our ability to develop new products and technologies;
- our ability to meet management goals;
- our estimates of our expenses, ongoing losses, future revenue and capital requirements, including our needs for additional financing;
- our ability to obtain additional funds for our operations and our intended use of any such funds;
- our ability to maintain compliance with the continued listing requirements of The Nasdaq Stock Market LLC ("Nasdaq");
- our receipt and timing of any royalties, milestone payments or payments for products, under any current or future collaboration, license or other agreements or arrangements;
- our ability to obtain and maintain intellectual property protection for our technologies and products and our ability to operate our business without infringing the intellectual property rights of others;
- the strength and marketability of our intellectual property portfolio;
- our dependence on current and future collaborators for developing, manufacturing or otherwise bringing our products to market;
- the ability of our third-party supply and manufacturing partners to meet our current and future business needs;
- our exposure to risks related to international operations;
- our dependence on third-party fabrication facilities;
- our relationships with our executive officers, directors, and significant stockholders;
- our expectations regarding our classification as a "smaller reporting company," as defined under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and an "emerging growth company" under the Jumpstart Our Business Startups Act (the "JOBS Act") in future periods;
- our future financial performance;
- the competitive landscape of our industry;
- the impact of government regulation and developments relating to us, our competitors, or our industry; and
- other risks and uncertainties, including those listed under the caption "Risk Factors."

These statements relate to future events or our future operational or financial performance, and involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by these forward-looking statements. Factors that may cause actual results to differ materially from current expectations include, among other things, those listed under "Risk Factors" and elsewhere in this Report.

Any forward-looking statement in this Report reflects our current view with respect to future events and is subject to these and other risks, uncertainties and assumptions relating to our business, results of operations, industry and future growth. Given these uncertainties, you should not place undue reliance on these forward-looking statements. No forward-looking statement is a guarantee of future performance. You should read this Report and the documents that we reference in this Report and have filed with the Securities and Exchange Commission, or the SEC as exhibits hereto completely and with the understanding that our actual future results may be materially different from any future results expressed or implied by these forward-looking statements. Except as required by law, we assume no obligation to update or revise these forward-looking statements for any reason, even if new information becomes available in the future.

PART I

Item 1. Business

Unless otherwise stated or the context otherwise indicates, references to "SmartKem" the "Company," "we," "our," "us," or similar terms refer to SmartKem, Inc. and its subsidiaries.

Overview

We are seeking to change the world of electronics with a new class of transistor developed using our proprietary advanced semiconductor materials that we believe has the potential to revolutionize the display industry. Our TRUFLEX® semiconductor polymers enable low temperature printing processes that are compatible with existing manufacturing infrastructure to deliver low-cost, high-performance displays. Our semiconductor platform can be used in a range of display technologies including MicroLED, miniLED and AMOLED, as well as in applications in advanced chip packaging, sensors, and logic.

We design and develop our materials at our research and development facility in Manchester, UK and provide prototyping services at the Centre for Process Innovation ("CPI") in Sedgefield, UK. We also operate a field application office in Hsinchu, Taiwan, close to our collaboration partner, The Industrial Technology Research Institute of Taiwan ("ITRI"). With our collaboration partners, we are developing a commercial-scale production process and EDA tools for our materials to demonstrate the commercial viability of manufacturing a new generation of displays using our materials. We have an extensive IP portfolio including 138 granted patents across 17 patent families, 16 pending patents and 40 codified trade secrets.

Our Technology

The invention and development of OTFT devices has enabled the rapid expansion of the electronics industry, particularly with the advent of the planar process essential for integrated circuitry. This is due to the ability to create compact circuits with an ever-increasing capability, lower cost per logic function, and a higher frequency of operation. Integrated circuits are present in almost all electronic devices today and there is a constant drive to embed more smart features into a greater number of applications.

TFTs are a type of FET that can be processed on large area flat surfaces to make display screen backplanes, digital/analog electronics, and sensor arrays for a wide range of consumer and industrial applications. The manufacturing of silicon-based electronics either in wafer or thin-film form, such as a-Si on glass, requires a high temperature process (approximately 300°C). Because most polymer substrates melt or degrade at these high temperatures, TFTs are mainly manufactured on special glass that can withstand such high temperatures resulting in the production of mainly rigid products.

Our OTFT technology comprises predominantly organic materials (such as polymers and organic small molecules) that can be solution coated at low temperature (as low as 80°C) using existing manufacturing infrastructure onto a wide range of low-cost plastic substrates, as well as onto traditional substrate materials. The similarity in the coefficient of thermal expansion between the substrate and our TRUFLEX® materials permits production of robust, bendable/flexible and lightweight devices. Our OTFT performance, as measured by charge mobility, exceeds a-Si performance by a factor of four, which we believe offers product designers a significant extension of capability, by enabling them to transform flat, bulky objects into lightweight, robust, and flexible products that we expect will appeal to consumers. Our device stability under positive and negative thermal bias stress testing (60°C for 1 hour at +/-30V) achieves <2V change in threshold voltage even without device encapsulation. The current driving ability of the short channel OTFT devices has been shown to be able to drive mini and MicroLED displays at >100,000 nits making the technology attractive for use in emissive display applications. Our recent demonstration of monolithic integration (OTFT backplane processed on top of GaN mini/microLED arrays) proved the viability of using a monolithic manufacturing process that is more efficient than existing manufacturing techniques.

Our OSC materials combine a high mobility polycrystalline small molecule with a low molecular weight semiconducting polymer. The polymer controls the morphology, phase segregation and uniformity of the semiconducting layer and a solvent is included to deliver inks that are used to fabricate devices with mobilities of approximately 4 cm^2/Vs. In addition, we have developed all the other interlayer polymers that are necessary to form the complete transistor stack.

Polymeric plastic substrates, such as PET, PEN, TAC and COC have relatively low glass transition temperatures (Tg) in the range of 100°C to 200°C. Using these plastics at temperatures above this level causes significant distortion and, in some instances, may even result in melting or thermal breakdown of the polymer. Our OTFTs can be processed at temperatures as low as 80°C, enabling the use of polymer substrates that are optically clear, flexible and less expensive than glass or temperature resistant polymers. In addition, short duration processing at low temperature results in significant energy savings. Also, plastics do not have the same risk of shattering as glass and therefore less strengthening around the edge of large area plastic-based devices is necessary, such as the use of aluminum frames to support torsional rigidity in glass substrates. Plastics can also be processed in very thin sheets (tens of microns) which saves space within the final product, allowing for increased battery capacity. Thin plastic substrates also enable the device to conform very easily to non-planar surfaces such as the human body which makes them well suited for wearable sensors and display devices. Thin plastic sheets are also conformable, allowing electronics to be formed around irregular surfaces, for example, curved pillars in buildings.

Our unique materials set comprising BL, SAM, OSC, OGI, SRL and PV inks can be deposited using standard coating techniques such as spin-coating which is widely used for the lithography processes used in TFT manufacturing. As a result, our OTFT process is intended to be integrated into existing manufacturing lines using standard industrial techniques without the need for additional large capital investment. Furthermore, the solubility of our inks enables customers to digitally print the features of the OTFT device, which we believe may be attractive to potential customers seeking to lower manufacturing costs.

Advantages of Our TRUFLEX® Technology

The most widespread display backplane technology currently in use is a-Si which is principally used in the manufacture of LCDs. More recent developments in inorganic semiconductors include the use of the metal oxide IGZO for backplanes for large area OLED TVs and LTPS for high resolution cellphones. Inorganic TFTs are fabricated using high temperatures for the plasma-enhanced chemical vapor deposition (PECVD) SiNx (often exceeding 300°C). They therefore require high-cost, temperature resistant polymers (e.g., polyimide) substrates, especially if they are to be used to manufacture plastic-based screens. All inorganic TFTs can be subject to damage on bending and require additional product engineering for protection during bending to prevent failure of the display. This adds to the overall cost of production of a bendable or foldable device.

We believe that our ability to employ TRUFLEX® materials at temperatures as low as 80°C will enable manufacturers to use low-cost plastic substrates and the polymeric nature of our materials will allow the transistors to be truly flexible. We believe that robust and lightweight display screens, which are capable of being curved, flexed or folded to tight bend radii, would enable manufacturers of mobile devices to create products more tailored to customer demand and that our TRUFLEX® OTFTs are well suited for this application. Our materials are organic and polymer-like and hence can withstand the mechanical strains experienced in severe bending such as a fold of a display. In addition, the substrate does not require the degree of protection from the edges as glass displays do, which can eliminate the weight and cost associated with aluminum frames. Low temperature processing enables a wider range of plastic substrates to be used, allowing properties such as optical clarity to be optimized.

Our low-temperature OTFTs also permit them to be poured on top of other display elements, such as a MicroLED array, since the low process temperature would not damage the emissive components. We believe this ability to pattern the backplane on top of other components could lead to alternative display or sensor design configurations with advantages such as higher aperture ratio. We also believe that our ability to build the backplane in-situ over the MicroLED array (the ‘chip-first’ approach) — which would eliminate the critical front and backplane hybridization step — has the potential to increase the yield of the display fabrication process while also reducing manufacturing cost. The small size of MicroLEDs (normally under 100 microns and evolving down to <20 microns) and tight pixel

pitches make it challenging to ensure each MicroLED aligns perfectly with the corresponding pixel driver on the backplane. Electrical connection of the MicroLEDs on top of the display backplane requires the use of eutectic
bonds through a metal junction containing at least one low melting point metal. Deposition and patterning of the low melting point metal for the bumping process typically uses thermal evaporation and lift-off processes, which are not typically used in display backplane fabs, therefore creating uncertainty over the scale up of this approach. Our chip-first integration route makes use of high precision and well-established photolithography processing and/or dry etching to form vias through one of our dielectric layers and then a metal contact is deposited through the via to connect to the MicroLED pads. The metallization process uses sputtering, photolithography and wet etching, all of these are scalable techniques used in current display manufacturing.

The difficulty of manufacturing MicroLEDs with existing technology has led to delays in the rollout of the MicroLED displays. For example, in March 2024, Apple Inc. reported that it had cancelled its project to develop MicroLED displays in-house for wearable devices, including the Apple Watch. Because a number of development projects were delayed, scaled back or postponed in the wake of Apple's action, media reports speculated that Apple's setback might affect continued development of MicroLED technology. However, development of MicroLED technology has continued at a rapid pace with Samsung Electronics Co., Ltd.'s ("Samsung") "The Wall" being a prominent example of a commercially available MicroLED display, while Sony Group Corporation ("Sony") also produces MicroLED video walls and cinema screens. Additional global display manufacturers who continue to pioneer MicroLED display technology include LG Corporation ("LG"), AUO Corporation ("AUO") and BOE Technology Group Co., Ltd. and it is widely acknowledged that next generation displays will inevitably migrate to MicroLED technology due to its higher brightness and resolution.

Products and Services

We have developed in-house the materials necessary to fabricate high-performance OTFT devices, other than the
contact metals and substrates on which those materials are deposited. We supply our products as a set of stable liquid inks, with each ink forming separate layers of the device. Each of the inks forming these layers has been carefully designed to result in the device performance and electrical stability specified by the customer. We supply the ink set with a detailed process of record ("POR") for making the desired device. In addition to supplying our OTFT stack materials as a package, prospective customers also evaluate the use of our range of interlayer materials as single layers in new and existing chip and display products (in so-called advanced semiconductor packaging). The interlayer materials are being tested as redistribution layers, pixel definition layers, permanent resists and organic dielectric layers due to their favorable processability, patternability, planarity and other properties of our materials when compared with existing materials. During 2023, we began developing a range of customized dielectric inks for customers' advanced electronics packaging applications.

Products have been scaled up for formulated ink supply to customers in package sizes ranging from 100ml to several liters, all supplied from our Manchester facility. These are supplied with a certificate of analysis (CoA) and POR, alongside device and design consultancy to ensure successful technology transfer.

We intend to offer foundry services to customers who wish to have electronic circuits manufactured for them, with the choice of two facilities, depending on the application size and quantity. Through our current agreement, expiring on March 31, 2025, with the United Kingdom's CPI, we have access to a 300mm x 300mm foundry that we use for creating prototypes for evaluation by potential customers. In 2022, we began process characterization using a maskless aligner at CPI to reduce the time from CAD layout to prototype for new designs. Additionally, in partnership with ITRI, we have successfully demonstrated the direct patterning of one of our interlayer dielectric materials using digital lithography technology ("DLT"). In 2023, we entered into a transfer technology agreement with ITRI pursuant to which ITRI is developing Gen 2.5 scale (370mm x 470mm) commercial manufacturing processes for a range of our OTFT materials. The goal of our agreement with ITRI is to develop robust commercial scale manufacturing processes that will enable potential customers to develop prototypes on ITRI's Gen2.5 line using our OTFT technology before transferring the manufacturing process to their own lines or to a third-party foundry, including ITRI. We believe that the successful development of commercial manufacturing processes and their validation on ITRI's equipment will help to accelerate the adoption of our materials technology and process concepts by display manufacturers. During 2024, we continued to develop the process of establishing the

fabrication of our OTFT-based devices, including by conducting the set-up of the recipes for the individual device layers.

We do not have the in-house capability to produce our flexible transistors at commercial scale and intend to partner with existing foundries to provide us with the ability to meet full production orders for customers that do not have their own facilities. We use product prototyping services to demonstrate applications enabled by OTFT to prospective customers. This allows potential customers to evaluate physical samples of our materials prior to committing to final design and long-term supply agreements.

During 2023, we announced the successful creation of the first monolithic MicroLED display using OTFTs, which was the result of our collaboration with Prof. Xiaojun Guo's group at Shanghai Jiao Tong University, China. This breakthrough was published in November 2023 in the peer-reviewed journal, *Nature Communications*. In 2024 we showed the first flexible samples of MicroLEDs using our chip-first approach at the International Meeting on Information Display (IMID). We believe that this new method of processing our thin-film transistor backplane on top of Gallium Nitride LEDs has the potential to accelerate the commercialization of MicroLED displays by demonstrating the ability to efficiently manufacture MicroLED displays by simplifying the process of connecting transistors to LEDs. Consumer electronics companies are actively developing MicroLED displays because such displays promise higher brightness, lower power consumption and longer lifetime than current display technology. The existing manufacturing processes for creating MicroLED displays use physical transfer of LEDs from the wafer upon which they are manufactured to the TFT display backplane, where they must be laser welded to the contact pad of the transistor to make an electrical connection. Because millions of tiny LEDs need to be transferred from one place to another and welded into place, error rates from misplacement reduce the efficiency of these processes leading to significant and costly rework and low yields.

Our low temperature process makes it possible for OTFT transistors to be processed directly on top of the MicroLEDs. This "chip first" approach eliminates the mass transfer and laser welding process, and the fabrication of OTFTs can use existing low-cost manufacturing tools currently used for LCD backplane manufacturing. We believe that the improvements available through the adoption of our process will be particularly important for portable powered displays such as smartwatches and AR/VR displays which cannot readily accommodate large, heavy batteries.

Market Opportunity

The main market for our technology is in the display industry. According to Omdia, the global display market size is forecast to exceed 200 million square meters of area in 2025, with over 75% of this in the TV and public display segments. The overall global display market was estimated at around $150 billion in 2024. Advances in display technology focus on improving image quality and power consumption and the development of new form factors, such as flexible/foldable or curved displays.

MicroLED technology is a focus of leading OEMs because it offers higher brightness, better energy efficiency and longer lifespans compared to traditional displays. MicroLED Technology is being targeted at a range of applications including premium TV, commercial signage and automotive applications. Markets and Markets Research Pvt. Ltd. projects that the MicroLED market will grow from $592 million in 2021 to over $21 billion by 2027—a 81.5% compound annual growth rate (CAGR). According to a research report from Grand View Research, Inc., 34% of MicroLED revenue in 2023 came from the 3,000 to 5,000 pixel per inch segment (smartphones, smartwatches and VR devices) while the greater than 5,000 pixel per inch segment is expected to grow at a 79% CAGR from 2024 to 2030, driven by rising demand for high-resolution displays in AR/VR headsets like Apple's Vision Pro and the Meta Quest Pro. The Business Research Private Ltd. reported that it expects the smartwatch market to grow from $91.01 billion in 2024 to $106 billion in 2025, a 17% CAGR. In addition, Maximize Market Research PVT. Ltd. has reported that the automotive display market was valued at 8.4 billion in 2023, and that total automotive display revenue is expected to grow at a CAGR of 18.26 % from 2024 to 2030, reaching nearly $27.2 billion by 2030. We believe that our technology can offer single or complete materials sets and novel process and architecture solutions (e.g., chip-first for OTFT backplanes) for most display segments.

Our proprietary TRUFLEX® organic materials set enable customers to make backlight units and direct emissive displays that are both flexible and capable of driving stable currents, combined with the benefits of low temperature processing. Recently, several manufacturers have launched TVs with mini-LED backlight units, and a number of companies are developing a new generation of direct emission MicroLED displays (including Samsung, with 'The Wall' offering unparalleled brightness and visual clarity, Sony, LG and AUO), flexible OLED displays, and transparent OLED displays. These new formats are supported by a variety of different backplanes using tiled versions of existing technologies or PCB backplanes. We believe that our TRUFLEX® materials can be used to provide active-matrix transistor arrays that can address these new product categories using low-cost, flexible substrates.

Our customized inks can be made with low viscosity, low processing temperatures and without the use of hazardous solvents. In addition, our organic inks offer low film stress and shrinkage/warpage versus many established materials.

We believe there are other markets in which our materials may offer advantages. For example, we believe that our OTFTs are suitable for applications where a relatively low number of transistors are required over a wide area such as chemical/biological sensors or distributed logic circuits. We believe the growth in Internet of Things (IoT) devices also offer opportunities for low cost, mass manufacturable, printable logic devices, as can be made possible by our technology platform. We believe that our strategy of targeting low cost of prototyping and an ability to rapidly transition from design to device will help drive the development of these technologies with our customers.

Commercialization Strategy

Our commercialization strategy rests on three pillars: continuous improvement of our polymer materials, development of EDA tools, and development of robust commercial manufacturing processes.

We intend to seek to work with leading display makers, end users and chip packaging players to undertake joint validation programs and support, through a structured technology transfer process and the development of a scalable manufacturing capability with our partners. In the case of advanced semiconductor packaging dielectrics, we intend to seek to partner with equipment companies – who have well-established channels to the outsourced semiconductor assembly and test (OSAT) customers in Asia - formulating ink specific to the workstation design (e.g., for inkjet printing). Initial volumes of inks will come from our Manchester materials technology center and later we expect to establish one or more accredited materials manufacturing plants that will supply our client base.

Continued Development of Our Materials

We design and develop our materials at our research and development facility in Manchester, UK, where we respond to customer inquiries and anticipate market trends. In response to requests from potential customers, our chemistry team has focused on the development of a range of specialized dielectric polymer interlayers. Additional specialty dielectric polymer formulations are being designed for use in advanced mobile communications operating at frequencies in excess of 5GigaHz (5G applications and beyond). Interlayer inks are also being provided to potential customers for evaluation across a wide range of advanced electronics packaging applications. We believe that our knowledge base and experience in the design and characterization of OTFTs gives us the ability to respond rapidly to customer preferences and emerging market trends.

Development of EDA Tools

We have developed an initial PDK for our process that is designed to be used by third parties in EDA software to allow them to design digital logic devices. The PDK contains information such as design rules that are specific to our process equipment, and it will also incorporate models of OTFTs made using our materials set. This will be used for digital device simulation and layout of circuit designs. We continue to characterize the electrical performance of our materials and to use that data to improve the correlation between simulations produced using those tools and actual devices. As part of this development, we expect to populate a library of reference designs for common gates used in digital electronic circuits to further simplify third party design processes. At this time, our circuit layout work is done by hand by skilled engineers.

Once we have identified a specific application requirement, we expect to proceed with development work through an understanding of the product specifications and engineering work to calculate the size and capabilities of pixel TFTs and storage capacitors. For digital logic applications, the situation is more complex, and circuits cannot be designed without access to supporting simulation, design, and layout software. In silicon IC design, EDA tools are used to predict the behavior of circuits made using foundry services. This allows designers to simulate the behavior of prototype circuits and check their functionality ahead of the fabrication, therefore saving time and money.

We believe that the development of proprietary EDA tools that permit customers to efficiently design circuits using our processes and materials is an important requirement for our commercial success. We have entered into a four-year collaboration with Flexible Integrated Circuits S.L. (FlexiIC) with the aim of configuring open-source or low-cost paid for EDA tools for our OTFTs.

Development of Robust Commercial Manufacturing Processes

Our BL, SAM, OSC, OGI, SRL and PV inks can be deposited using standard coating techniques such as spin-coating or slot-die coating which are widely used for the lithography processes used in TFT manufacturing. As a result, our OTFT process can be integrated into existing manufacturing lines using standard industrial techniques without the need for additional large capital investment. Furthermore, the solubility of our inks would permit customers to digitally print the features of the OTFT device, which we believe may be attractive to potential customers seeking to lower manufacturing costs.

While we can provide prototype foundry services for potential customers through our access to CPI and ITRI we do not have the capability to provide commercial-scale foundry services. We believe that many customers will produce circuits using our OTFT materials either directly or through their existing third-party foundry arrangements, including ITRI. Accordingly, we believe the development of robust commercial manufacturing processes that use existing foundry equipment and that can be easily transferred to commercial foundries is an important part of our commercialization strategy.

Through our relationship with ITRI, we have successfully demonstrated the direct patterning of one of our interlayer dielectric materials using DLT, a common commercial manufacturing technology. In 2023, we entered into a transfer technology agreement with ITRI pursuant to which ITRI is developing Gen 2.5 scale (370mm x 470mm) commercial manufacturing processes for a range of our OTFT materials. The goal of our agreement with ITRI is to develop robust commercial scale manufacturing processes that will enable potential customers to develop prototypes on ITRI's Gen2.5 line using our OTFT technology before transferring the manufacturing process to their own lines or to a third-party foundry, including ITRI. We believe that the successful development of commercial manufacturing processes will help to accelerate the adoption of our technology by display manufacturers in Taiwan and other areas of Asia.

2025 Management Goals

Our management has established a number of 2025 operational goals for our company in furtherance of our efforts to commercialize our products:

- Commence development work on a rollable, transparent MicroLED display with our partner, AUO – commenced in January 2025;
- Complete the first sale of our TRUFLEX® materials to Chip Foundation under the terms of our co-development agreement – completed in January 2025;
- Extend our technology transfer agreement with RiTdisplay to transfer our OTFT process from ITRI to RiTdisplay's Gen2.5 line;
- Enter into a joint development agreement for a "chip-first" MicroLED display;
- Enter into additional collaboration and/or co-development agreements that further advance our technology toward commercialization; and
- Produce a demonstration of a MicroLED display using our OFT technology.

These goals are primarily aspirational in nature and may be subject to modification, alteration or elimination as a result of a number of factors, such as changes in market trends, access to capital, changes in potential customer preferences, performance by our collaboration partners, and technological developments, many of which are out of our control. There can be no assurance that we will achieve the goals described above or that our achievement of those goals will result in the successful commercialization of our products. Accordingly, investors are cautioned not to place undue reliance on these goals in making an investment decision about our company. For additional information, see "Cautionary Note on Forward-Looking Statements" and "Risk Factors" elsewhere in this report.

Sales and Marketing

The majority of our target customers are large consumer electronics companies based in Asia (Taiwan, South Korea, Japan and China) that already own or have access to display backplane manufacturing lines and engage in large scale production of display products for TV or mobile/tablet markets using a-Si process lines. Many of these target companies are already seeking to develop MicroLED technology. We believe that these customers are seeking to create novel, higher added value electronics products that cannot be manufactured using a-Si glass backplanes. We believe display manufacturers will be attracted to our TRUFLEX® technology which would enable them to create novel, plastic-based products with improved robustness, higher flexibility and lighter weight using their existing production lines. The same region is also a source of new inquiries for evaluation of use of our unique dielectrics in the advanced chip packaging sector.

We have a direct sales force consisting of two employees located in Taiwan, assisted by two technology transfer engineers, and sales representation in China. Our technical specialists and senior management team also play an active role in promotional events and engage with strategic partners in Asia. We believe that our initial customers will be located in Taiwan, South Korea, Japan and China but we are also directly working with OEMs located in North America, Europe and elsewhere in Asia who have the ability to require their suppliers to use our materials. Our sales team is supported for new program delivery by engineers and product specialists located the materials technology center in Manchester, our ITRI production validation facility in Taiwan and our prototyping and development site in Sedgefield. We anticipate building up our sales and marketing resources through a mixture of new in-house and specialist agencies.

Our marketing efforts include attendance at significant industry trade shows (including in 2024: the IMID, the International Conference on Flexible and Printed Electronics (ICFPE), the PlayNitride MicroLED Technology Forum, SEMICON Taiwan and MicroLED Connect) at which we demonstrate the capabilities of our TRUFLEX® technology and respond to requests for proposals and other inquiries from potential customers. We publish technical papers that explain our products and technology to inform and engage with potential customers. We have also entered into several joint development agreements to demonstrate the capabilities of our materials and to show the feasibility of utilizing our products in specific applications. In addition, we make presentations at trade events to showcase our technology and familiarize potential customers with the value we believe our technology adds to various applications. We also publish press releases and other announcements relating to our technical capabilities or achievements and include product information and related technical materials on our website.

We expect that the time between the identification of a potential customer and the receipt of a purchase order or agreement for the sale of our products will be relatively long. In certain instances, a potential customer may contact us seeking a generic sample of our materials for evaluation. In other instances, a customer may come to us with specific performance specifications and inquire about our ability to provide products meeting their specifications after which we provide samples of materials or specific data for evaluation. After the initial evaluation, the prospective customer may request a prototype of a specific design as proof-of-concept. We fabricate prototypes using the foundry access we have through our existing arrangements with CPI in the UK (for smaller sizes) and ITRI in Taiwan (for Gen 2.5). A significant proportion of all work done during this phase of our sales cycle would be done at our expense, with customers making a contribution in some cases.

Assuming successful prototyping is completed, we expect that we would negotiate and enter into a development agreement with an interested customer under which we would, in collaboration with the potential customer, engage

in further engineering and design work. We expect that we will receive compensation for those services. We could also engage in a pilot-scale level of manufacturing for the products developed for the customer as part of that process.

After the satisfactory completion of development work and any related pilot project, an interested customer would then enter into a sales agreement with us under which we would either agree to manufacture products to the customer's specifications from time to time as requested by the customer, including potential minimum quantity requirements, or we would agree to license our process to the customer for a fee based on a royalty of sales and enter into a supply agreement for our proprietary inks, utilizing a process developed by ITRI and owned and qualified by us, formulated into inks either in our own facilities or by third-party formulators and shipped directly to customers.

We expect that the sales cycle described above will take approximately 12-24 months. During that period, we will be required to incur significant expenses without any assurance that a customer order will be obtained. Accordingly, we will have a significant risk that we will incur those expenses without ever making a sale.

Research and Development

Our research and development efforts have focused on ensuring that we have a broad, future-proofed portfolio of best-in-class organic semiconductor materials that are patent protected. Some critical OTFT device parameters include:

- Charge mobility – the ability of the material to conduct charge under an electric field. The higher the charge mobility number the greater the current that can be driven through the device for a given size. Also, in circuits mobility determines the maximum switching frequency of a device from one logic state to another. a-Si has a mobility of ~0.5 cm2/Vs, LTPS typically has mobility >50 cm2/Vs and crystalline silicon has a mobility of near 1000 cm2/Vs. SmartKem's OTFTs can achieve >3 cm2/Vs at channel length of 4 microns and >4cm2 at 10 microns.

- On/off ratio – the ratio of the current driven by the transistor during its on state to the current passed during biasing in its off state. On/off ratios of >10^6 are typically required for TFTs used in display pixels so that the programmed voltage does not decay during the frame time. Our OTFTs have on/off ratios in the order of 10^7 and have even demonstrated 10^9 on/off ratios in devices having large W/L.

- Turn on voltage ("Vto") – the gate voltage at which the TFT starts to increase its current output. Values close to zero volts are considered desirable for low power consumption products. The device should also achieve its transition from off to on over as small a range of gate voltages as possible since this can reduce energy consumption and hence is desirable in battery powered devices.

- Threshold voltage ("Vth") – gate-source voltage at which the magnitude of the drain current reaches a specified low value (e.g., 10^-9A).

- Threshold voltage stability – The ability of device to maintain a defined threshold or turn on voltage following a period of electrical stress (either at room temperature or elevated temperature). Bias voltage shifts of <2V after 1 hour voltage stress at 60°C and +30V or -30V is a typical specification required for display applications. We have demonstrated <1V Vth bias stress shift for NBTS and <2V for PBTS in R&D tests.

Since 2023, our chemistry team has switched its focus from the development of organic semiconductors to the development of a range of specialized photoimageable dielectric polymers. Some of these dielectric materials are intended for use in the display industry as redistribution layers, passivation layers, MicroLED interlayers and as pixel definition layers. In response to requests from potential customers, we have also directed our efforts to the development of customized dielectric materials to be used in the field of Advanced Electronics packaging. Some of the technical challenges facing the development of these dielectrics include tuning interfacial adhesion between a broad range of different interlayers including polymer-to-polymer, polymer-to- metal and polymer-to-silicon interfaces. Another important aspect of the development of novel dielectric inks for advanced packaging applications

is the need for them to be capable of being deposited using a range of coating /printing techniques, including use in additive printing such as industrial ink jet printing.

Once new dielectric materials have been characterized, our materials development team customizes the formulations and process parameters to allow integration into the fabrication processes at CPI. This team establishes the BKMs for each material and generates an understanding of the parameters that can influence the performance. Customers frequently request detailed materials data packages for our customized dielectric materials which once approved by them should enable them to quickly process our polymer inks at their in-house facilities. At any given time, our dielectric inks are under evaluation by a number of potential end users. Initial work is also being done to scale up routes and identify potential supply chains for our materials in anticipation of customer needs.

The generation of fabrication processes and the integration of new materials is carried out at CPI under the direction of our Chief Technology Officer. The toolsets at this site provide a rapid feedback loop between our chemistry R&D and industry relevant device performance data sets. Additionally, the equipment sets can be used to generate demonstrator OTFT backplane devices on plastic, OTFT driven displays, sensors or circuits and a wide range of other device prototypes. Technology transfer to customers' pilot lines can also be supported by this team and they can help to diagnose and rectify process problems. Process engineers also travel to customers' sites to assist technology transfer alongside our field application engineering team in Taiwan. Through this work, we believe we have developed a novel method for integration of OTFT backplanes and MicroLED devices. We believe this process is feasible due to the low temperature processing of OTFT. We believe that the use of higher temperature materials, such as a-Si, LTPS and IGZO, would damage the LED devices. As a result, current practice is to attach the MicroLEDs after the backplane is fabricated. Using our process, we have demonstrated active-matrix backplanes driving MicroLEDs using OTFT at high brightness (>100,000 nits). We have sought patent protection for our processes. In addition, the Company has successfully integrated OTFT and OLED (AMOLED) in a 200ppi display. We are working to integrate our process into the ITRI facility in Taiwan at Gen 2.5 scale, which should permit commercial-scale processing compared with CPI at a lower defectivity. The ITRI line running our OTFT process is located close to a number of our current and potential future customers and is expected to simplify the process of transferring the technology into manufacturing.

CPI Agreement

We perform prototyping with our own employees using foundry equipment made available to us by CPI. We use the CPI facility to produce test samples for internal evaluation and for the supply of demonstrators to potential customers and for general market development. CPI is funded through a combination of U.K. government grants, collaborative research and development projects funded by the private and public sector and contracts funded by businesses. CPI provides services to companies engaged in translating ideas and inventions into commercially successful products and processes. It operates seven national facilities in the Northeast of England and Scotland and provides relevant industry expertise and assets to its customers.

We have entered into a framework services agreement with CPI Innovation Services Limited ("CPIIS"), the commercial trading company for CPI, pursuant to which we purchase services consisting primarily of access to CPI process equipment required for fabrication as well as access to CPI staff with specific skills, to the extent required, at specified costs, including a minimum annual spending requirement. We have 11 employees at the CPI facility who operate or support operations and OTFT developments using the CPI equipment on our behalf. Pursuant to the terms of this agreement, we utilize an online booking system to book equipment for immediate use, subject to availability. For critical equipment that other CPI customers may seek to use, we may book up to two weeks in advance to guarantee availability. CPIIS has agreed to use its reasonable commercial endeavors to supply the requested services.

The current agreement with CPIIS expires on March 31, 2025 but has been extended until May 31, 2025 as described in the next paragraph. The agreement may be terminated by either party in the event of a breach by the other party. We also lease space at CPI's facility in Sedgefield, England.

CPIIS is in the process of reviewing the operation of the clean room facility used by Smartkem and is seeking to reduce the facility's operating costs by, among other things, consolidating its clean rooms and seeking to pass more of its operating costs to users including us. On March 28, 2025, we entered into an agreement with CPIIS pursuant to

which the term of the current CPIIS agreement was extended until May 31, 2025. We intend to use the extension period to complete negotiations with CPIIS regarding a longer-term agreement. Under the terms of the extension, we have agreed to an increase in our share of the costs of the CPI facility and to increased minimum usage obligations during the extension period. We expect that any longer-term agreement with CPIIS will require us to bear additional costs. If we are unable to reach a new agreement with CPIIS on terms that are satisfactory to us, we intend to find an alternative facility. We believe that there are adequate alternative sites available at which we could conduct our prototyping operations. In the event that we decide to move our prototyping operation to an alternative facility, we believe that the move would take between two and nine months, depending on equipment availability and any required facility modifications, during which time we would incur additional costs to prepare the new facility and install any necessary equipment. In such event, we intend to schedule our prototyping activities to minimize any disruption to those operations and would use ITRI's prototyping line as an interim facility for such work.

Collaboration Agreements

In October 2021, we entered into a joint development agreement with RiTdisplay, a Taiwan based developer of displays. Under this agreement the two parties are collaborating on the production of a full color demonstration AMOLED display. In 2023, we entered into a technology transfer agreement with RiTdisplay commencing a joint project to develop the world's first commercially ready active-matrix OLED display using OTFT technology. If successful, we believe the project with RiTdisplay will result in the development of the world's first commercially ready active-matrix OLED display using OTFT technology. In 2025, we entered into a memorandum of understanding with RiTdisplay for the extension of our existing technology transfer agreement which, when finalized, will include the integration of our OTFT process on to RiTdisplay's Gen 2.5 Pilot Line which will enable us to provide product prototyping of the world's first commercially ready AMOLED display using OTFT technology on a commercial Gen2.5 OTFT product manufacturing line at RiTdisplay's existing state-of-the-art facility in Hsinchu, Taiwan. The memorandum of understanding is non-binding and there can be no assurance as to whether or when a definitive agreement will be executed by the parties or as to the ultimate terms of any such agreement.

In 2022, we entered into a joint development agreement with a Taiwan-based company for the development of a new generation of miniLEDs signage. This collaboration is expected to lead to the development of a roll-to-roll process for the manufacture of large format LED displays.

In 2023, we entered into a joint development agreement with a company in Taiwan for the development of a microLED-based display using our OTFT backplane.

In July 2023, we entered into a three-year technical services agreement with ITRI. Pursuant to this technical services agreement, ITRI is developing Gen 2.5 scale (370mm x 470mm) commercial manufacturing processes for a range of our OTFT materials. The goal of our agreement with ITRI is to develop robust commercial scale manufacturing processes that will enable potential customers to develop prototypes on ITRI's Gen2.5 line using our OTFT technology before transferring the manufacturing process to their own lines or to a third-party foundry, including ITRI. We believe that the successful development of commercial manufacturing processes will help to accelerate the adoption of our technology by display manufacturers in Taiwan and other areas of Asia. We have two employees supporting this work in Taiwan in addition to support from our staff in the UK.

In February 2024, we entered into a joint development agreement with Tianma Microelectronics, Co, Ltd. to integrate our organic thin-film transistor technology with Tianma's oxide transistors to develop OTFT-based microarray biochips.

Also in February 2024, we entered into a collaboration agreement with FlexiIC to develop low-cost, rapid turnaround custom circuits using organic transistor technology. A few months later we signed a multi-year agreement with FlexiIC to develop a new generation of CMOS for smart sensors.

In March 2024, we entered into a technology collaboration agreement with ITRI to enable product prototyping on ITRI's Gen 2.5 equipment using our technology.

In September 2024, we entered into a joint development agreement with Chip Foundation to co-develop a new generation of MicroLED backlight technology for Liquid Crystal Displays.

In November 2024, we partnered with AUO to develop a new generation of rollable, transparent MicroLED displays using our technology.

Intellectual Property

Our commercial success depends in part on our ability to obtain and maintain intellectual property protection for our active organic semiconductors, formulated OSC and passive dielectric interlayer inks, processes and know-how that collectively comprise our TRUFLEX® technology, to operate without infringing the proprietary rights of third parties, and to prevent others from infringing our proprietary rights. Over the past 11 years, we have been building and are continuing to build the intellectual property portfolio relating to our TRUFLEX® technology. Our policy is to seek to protect our proprietary position by, among other methods, filing U.S. and certain foreign patent applications related to our proprietary technology, inventions and improvements that are important to the development and implementation of our business. We also rely on trade secrets, know-how, and technological innovation to develop and maintain our proprietary position. We cannot be certain that patents will be granted with respect to any of our pending patent applications or with respect to any patent applications filed by us in the future, nor can we be sure that any of our existing patents or any patents that may be granted to us in the future will be commercially useful in protecting our technology.

Our strategy for the protection of our proprietary technology is to file international (Patent Cooperation Treaty) patent applications and pursue these in national jurisdictions that represent significant market opportunities. However, we assess on a case-by-case basis whether it is strategically more favorable to maintain trade secret protection for our inventions and “know-how” rather than pursue patent protection the latter of which documents will ultimately be in the public domain. Generally, patents have a term of twenty years from the earliest priority date, assuming that all maintenance fees are paid, no portion of the patent has been terminally disclaimed, and the patent has not been invalidated. In certain jurisdictions, and in certain circumstances, patent terms can be extended or reduced.

We believe that we are a technology leader in the design, development, and production of active and passive electronic materials for use in organic electronic applications. Excluding licensed-in IP, our patent portfolio comprises 17 patent families with 138 granted patents, 16 pending patents and 40 codified trade secrets. Our patents cover the active organic semiconductor materials, passive interlayer formulations, and deposition processes comprising our TRUFLEX® technology. We also have numerous patent claims and pending patent applications covering a variety of electronic devices including a novel dual gate application that enables enhanced Vto control and recent applications include MicroLED devices and improved processes. Because our patent portfolio covers all material aspects of our TRUFLEX® technology, we believe we have strong protection for our technology and a competitive advantage over potential competitors who may seek to duplicate our ability to create flexible transistors.

We also rely on trade-secret protection for our confidential and proprietary information, and we typically use non-disclosure agreements when commencing a relationship with a potential customer or partner. We have an internal program to document our trade secrets for each major area of our technology and operations. We cannot be sure that we can meaningfully protect our trade secrets on a continuing basis. Others may independently develop substantially equivalent confidential and proprietary information or otherwise gain access to our trade secrets. The TRUFLEX® trademark is granted and registered to the Company in its 10 commercially interesting jurisdictions including USA, China, Korea, Taiwan, Japan, and Europe.

We own substantive rights to the chemistry, process, and stack design rules necessary to implement our technology in all jurisdictions of commercial interest.

Manufacturing and Supply

We obtain strategic intermediates and final products from multiple sources who produce our active semiconductor materials to our specifications. Our TRUFLEX® materials fall into two main categories, “active” organic

semiconductor materials and "passive" interlayer materials. Our active materials generally require high levels of process and product control, and therefore these are synthesized from start to end by us or a third party that has met certain certification requirements and then formulated by us into organic semiconductor inks. We validate active components internally before use. Our passive interlayers inks use a range of commercially available intermediates, formulated to our specifications to meet differing end-use performance parameters depending on the intended use. Our active and passive inks are proprietary to us.

We synthesize the active materials either internally or using third-party suppliers that meet specific certification requirements. The raw materials used to produce the formulated passive interlayers are purchased from multiple suppliers and tested and validated internally before use. The passive and active interlayer inks are presently manufactured internally in our formulation facility located in Manchester in the U.K. We are also evaluating a base layer material manufactured on a larger scale by a third-party contractor. Initial results have been promising, and we are continuing our testing and evaluation.

We use our U.K.-based formulation activity to enable customers to validate our materials on their Gen 1- Gen 2.5 pilot lines. Our TRUFLEX® inks typically comprise between 1.2% up to 25% by weight of solids with the remainder being made up by electronic grade solvents. For commercial supply quantities, to avoid the shipping costs associated with large quantities of locally available solvents, we expect to supply fully formulated ink to customers from a formulation facility located close to the customer's manufacturing facility. We may also outsource the ink manufacture to an accredited third-party local formulator subject to our final QC testing of the formulated inks.

We have not experienced any supply shortages with respect to the materials used to formulate our proprietary inks.

Competition

We believe that competition in our targeted markets is based on a variety of factors, including capability, functionality, performance, reliability, ease of use and ability to supply in sufficient quantities. We believe we can, or will be able to, compete effectively based on these factors.

a-Si technology is an inorganic process widely used in the manufacture of backplanes for LCDs. More recent developments in inorganic semiconductors include use of the metal oxide IGZO for backplanes for large area OLED TVs and LTPS for high resolution cell phones. All these inorganic processes are operated at high temperatures and therefore require high-cost substrates, especially if they are to be processed on plastic. We believe that integration of TFTs with temperature sensitive devices will be made easier with our OTFT inks due to their lower temperature requirements. In addition, we believe all inorganic TFT based active-matrix technologies face challenges in bending compared with organic TFTs resulting in higher manufacturing costs.

A number of competitors have engaged in the development of organic inks. However, these competitors either opt to use polymeric semiconductors (BASF SE, Merck KGaA and Sumitomo Chemical Co., Ltd.) that process well but have a lower mobility than the polycrystalline organic materials in our TRUFLEX® materials, or polycrystalline semiconductors that have high mobility but relatively poor uniformity when processed. We believe our proprietary technology, which combines a polycrystalline molecule with a matched semiconducting polymer, provides higher mobility, particularly at short channel lengths and better processability over these technologies.

Many of our potential competitors could have substantial competitive advantages such as greater name recognition, longer operating histories, broader and deeper product portfolios, larger customer bases, substantially greater financial and other resources, and larger scale manufacturing operations. However, we believe our products have the potential to compete with many of our competitors' offerings through product performance, product reliability and satisfaction of customer qualifications and standards.

Government Regulation

In addition to customer specific requirements for safety health and the environment, our formulated materials may also be subject to government regulation during their use in the country of device manufacture and from regulations

covering the materials in the finished device. These could include the toxicity (potential for Carcinogenicity, Mutagenicity, and Teratogenicity) and restrictions from the environmental protection agencies in the countries of manufacture.

All new chemicals we obtain are evaluated at the time of order and a Control of Substances Hazardous to Health ("COSHH") assessment is performed prior to commencement of any practical work with these materials. The COSHH assessment considers chemical hazards associated with the material, its physical properties, the scale of the planned work and the nature of that work e.g., temperature and containment. This process provides the first opportunity to screen out any materials that may be prohibited by the ultimate customer. Any use of material in Health and Safety Executive COSHH hazard category E, all but gram scale uses of non-volatile material in hazard category D and use of material in hazard category C in quantities of more than 1kg would trigger a management review. While it is possible that management authorization may be given to conduct research using materials in categories D & E, their use in a potentially formulated product would be discouraged and an alternative sought at an early stage. Materials are also screened against lists of banned and restricted materials provided by display manufacturers. Any material present on the display manufacturers banned list would not be used in formulated product.

We work with a third-party service provider to create safety data sheets for our formulated products that are shipped to customers and other end users. Our formulated products contain no materials that are restricted in the U.K. and no permissions or exemptions are required.

Our OGI material is fluorinated and spun from a fluorosolvent listed under regulation (EC) No 428/2009 of 5 May 2009 under section 1C006d. Export of formulations may require a Standard individual export license to be applied for and end use declaration made by the customer. These can be obtained through the U.K.'s SPIRE system.

To the extent our products are or become subject to U.K. export controls and regulations, these regulations may limit the export of our products and technology, and provision of our services outside of the U.K., or may require export authorizations, including by license, a license exception, or other appropriate government authorizations and conditions, including annual or semi-annual reporting. Export control and economic sanctions laws may also include prohibitions on the sale or supply of certain of our products to embargoed or sanctioned countries, regions, governments, persons, and entities. In addition, various countries regulate the importation of certain products through import permitting and licensing requirements and have enacted laws that could limit our ability to distribute our products. The exportation, re-exportation, and importation of our products and technology and the provision of services, including by our partners, must comply with these laws or else we may be adversely affected, through reputational harm, government investigations, penalties, and a denial or curtailment of our ability to export our products and technology. Complying with export control and sanctions laws may be time-consuming and may result in the delay or loss of sales opportunities. Although we take precautions to prevent our products and technology from being provided in violation of such laws, our products and technology may have previously been, and could in the future be, provided inadvertently in violation of such laws, despite the precautions we take. If we are found to be in violation of U.K. sanctions or export control laws, it could result in substantial fines and penalties for us and for the individuals working for us. Export or import laws or sanctions policies are subject to rapid change and have been the subject of recent U.K. and non-U.K. government actions. Changes in export or import laws or sanctions policies may adversely impact our operations, delay the introduction and sale of our products in international markets, or, in some cases, prevent the export or import of our products and technology to certain countries, regions, governments, persons, or entities altogether, which could adversely affect our business, financial condition and results of operations.

Employees

As of December 31, 2024, we had 27 full-time employees and two part-time employees of which 23 are based in the United Kingdom. We believe that our scientists and technical experts are significant assets of our business, and we value and support hiring exceptional talent to further develop our TRUFLEX® technology and drive our business growth.

Corporate History

We were originally incorporated as Parasol Investments Corporation ("Parasol") in the State of Delaware in May 2020. Prior to the acquisition of SmartKem Limited in February 2021, we were a "shell" company registered under the Exchange Act, with no specific business plan or purpose. In accordance with "reverse merger" accounting treatment, our historical financial statements at period ends, and for periods ended, prior to our acquisition of SmartKem Limited were replaced with the historic financial statements of SmartKem Limited in our SEC filings made after the acquisition.

Our principal executive offices are located at Manchester Technology Centre, Hexagon Tower, Delaunays Road, Blackley Manchester, M9 8GQ U.K. Our telephone number is +44 161 721 1514.

Additional Information

We maintain a website at www.smartkem.com. On our website, investors can obtain, free of charge, a copy of our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, other reports and any amendments thereto filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act as soon as reasonably practicable after we file such material electronically with, or furnish it to, the SEC. None of the information posted on our website is incorporated by reference into this Report. The SEC also maintains a website at http://www.sec.gov that contains reports, proxy and information statements and other information regarding us and other companies that file materials with the SEC electronically.

Item 1A. Risk Factors

An investment in our securities is highly speculative and involves a high degree of risk. We face a variety of risks that may affect our operations or financial results and many of those risks are driven by factors that we cannot control or predict. You should carefully consider the risks described below together with all of the other information in this Report, including our consolidated financial statements and the related notes and the information described in the section entitled "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations," and in our other filings with the SEC. If any of the risks described below occur, our business, financial condition, results of operations and prospects could be materially adversely affected. In that case, the market price of our common stock would likely decline, and investors could lose all or a part of their investment. Only those investors who can bear the risk of loss of their entire investment should consider an investment in our securities. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also impair our operations.

Summary of Risk Factors

- We have a history of losses, anticipate continued operating losses in the future, and may not be able to achieve or maintain profitability. If we cannot achieve or maintain profitability, stockholders could lose all or part of their investment.
- Our quarterly results of operations are likely to vary from period to period, which could cause the market price of our common stock to fluctuate or decline.
- We may not be able to develop technologies and products to satisfy changes in customer demand or industry standards, and our competitors could develop products that decrease the demand for our products.
- If MicroLED technology is not widely adopted by display manufacturers, our business would be harmed.
- We compete in highly competitive markets characterized by rapid technological changes, and existing and new companies may introduce products that compete with ours, which may adversely affect our business and operating results.
- If we are unable to establish sales capabilities on our own or through third parties, we may not be able to market and sell our existing or future products - or generate product revenue.
- We rely on access to third-party facilities for prototyping and commercial process development and expect to enter into arrangements with third parties to fabricate our products at commercial scale. The loss of access to a third-party facility, or our inability to enter into agreements with third-party fabricators could have a material adverse effect on our business development.
- Because we will depend on third-party fabricators to manufacture products for us, we will be susceptible to manufacturing delays and pricing fluctuations that could prevent us from shipping customer orders on time, if at all, or on a cost-effective basis, which may result in the loss of sales, income and customers.
- We rely on our management team and other key employees and will need additional personnel to grow our business. The loss of one or more key employees or our inability to attract and retain qualified personnel could harm our business.
- Any failure by us to protect our proprietary technologies or maintain the right to use certain technologies may negatively affect our ability to compete.
- We incur significant costs as a result of operating as a public company.
- If we fail to maintain effective internal controls, we may not be able to report financial results accurately or on a timely basis, or to detect fraud, which could have a material adverse effect on our business or share price.
- An active trading market for our common stock may not develop or be sustained, which may make it difficult for investors to sell shares of our common stock and may make it difficult for us to raise capital.
- If our common stock were to be delisted from Nasdaq due to our failure to meet all applicable Nasdaq listing requirements the market liquidity of our common stock would be adversely affected, the market price of our common stock could decrease and our ability to access the capital markets could be negatively impacted.
- We do not anticipate paying dividends on our common stock, and investors may lose the entire amount of their investment.

Risks Related to our Business and the Industry in Which We Operate

We have a history of losses, anticipate continued operating losses in the future, and may not be able to achieve or maintain profitability. If we cannot achieve or maintain profitability, stockholders could lose all or part of their investment.

Since our inception, we have generated substantial net losses as we have devoted our resources to the development of our technology, and our business model has not been proven. As of December 31, 2024, we had an accumulated deficit of $114.6 million. For the years ended December 31, 2024 and December 31, 2023 our total comprehensive loss was $9.9 million and $9.6 million, respectively. We expect our operating losses to continue for the foreseeable future as we continue to invest in our infrastructure and research and development of our technologies. These efforts may be more costly than we expect, and we may not be able to generate revenue to offset our increased operating expenses. If we are unable to generate substantial revenue, we may never become profitable or be able to maintain any future profitability. If this were to occur, our stockholders could lose all or part of their investment.

Our recurring losses from operations have raised substantial doubt regarding our ability to continue as a going concern and will likely require additional capital to support our business and objectives.

We have incurred recurring losses since inception and, as of December 31, 2024, had an accumulated deficit of $114.6 million. We anticipate operating losses to continue for the foreseeable future due to, among other things, costs related to research funding, further development of our technology and products and expenses related to the commercialization of our products, and it is possible we will never achieve profitability.

These efforts may be more costly than we expect, and we may not be able to generate revenue to offset our increased operating expenses. We expect our cash and cash equivalents of $7.1 million as of December 31, 2024 to be insufficient to meet our operating expenses and capital expenditure requirements for at least 12 months from the filing of this Form 10-K. Our forecast of the period of time through which our current financial resources will be adequate to support our operations and the costs to support our general and administrative and research and development activities are forward-looking statements and involve risks and uncertainties. Our consolidated financial statements do not include any adjustments to the amounts and classification of assets and liabilities that may be necessary should we be unable to continue as a going concern. Our ability to continue as a going concern is dependent on our ability to raise additional working capital through public or private equity or debt financings or other sources, which may include collaborations with third parties. There can be no assurance, however, that such financing will be available, on acceptable terms and conditions, or at all. The precise amount and timing of the funding needs cannot be determined accurately at this time, and will depend on a number of factors, including our ability to generate significant revenue, the market demand for our products, the quality of product development efforts including potential joint collaborations, management of working capital, and the continuation of normal payment terms and conditions for purchase of services.

Until such time, if ever, as we can generate substantial product revenue, we expect to finance our working capital requirements through a combination of equity offerings, debt financings, collaborations, strategic alliances and marketing, distribution or licensing arrangements. To the extent that we raise additional capital through the sale of equity or convertible debt securities, your ownership interest will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect your rights as a common stockholder. Debt financing and preferred equity financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making acquisitions or capital expenditures or declaring dividends. If we raise additional funds through collaborations, strategic alliances or marketing, distribution or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams, research programs or products, or grant licenses on terms that may not be favorable to us. If we are unable to raise additional funds through equity or debt financings or other arrangements when needed, we may be required to delay, limit, reduce or terminate commercialization, our research and product development, or grant rights to develop and market our products that we would otherwise prefer to develop and market ourselves, it may also impact our ability to continue as a going concern. The perception that we may not be able to continue as a going

concern may cause others to choose not to deal with us due to concerns about our ability to meet our contractual obligations.

Our quarterly results of operations are likely to vary from period to period, which could cause the market price of our common stock to fluctuate or decline.

Our results of operations have varied from period to period, and we expect that our quarterly results of operations will continue to vary as a result of a number of factors, many of which are outside of our control and may be difficult to predict, including:

- our ability to attract existing customers, including due to our perceived or actual financial condition;
- the budgeting cycles and purchasing practices of customers;
- the timing and length of our sales cycles, including the ability of our customers to design-in successfully with our technology;
- changes in customer requirements or market needs, including market acceptance of our technology;
- the timing and impact of new product introductions by us or our competitors or any other change in the competitive landscape of the semiconductor industry, including consolidation among our customers or competitors;
- deferral of orders from customers in anticipation of new products or product enhancements announced by us or our competitors;
- our ability to execute our growth strategy and operating plans;
- our ability to successfully expand our business domestically and internationally;
- our ability to successfully compete with other companies in our market;
- changes in our pricing policies or those of our competitors;
- any disruption in, or termination of, our relationship with channel partners;
- insolvency or credit difficulties confronting our customers, affecting their ability to purchase or pay for our products, or confronting our key suppliers, which could disrupt our supply chain;
- the cost and potential outcomes of potential future litigation;
- general economic conditions; and
- the amount and timing of operating costs and capital expenditures related to the expansion of our business.

Any of the above factors, individually or in the aggregate, may result in significant fluctuations in our quarterly operating results. As a result of this variability, our historical results of operations should not be relied upon as an indication of future performance. Moreover, this variability and unpredictability could result in our failure to follow through on our operating plans or meet the expectations of investors for any period. If we fail to follow through on our operating plans or meet such expectations for these or other reasons, the market price of our common stock could fall substantially.

We may not be able to develop technologies and products to satisfy changes in customer demand or industry standards, and our competitors could develop products that decrease the demand for our products.

Rapidly changing technologies and industry standards, along with frequent new product introductions, characterize the industries of many of our customers and potential customers. Our financial performance depends, in part, on our ability to design, develop, manufacture, assemble, test, market and support new products and enhancements on a timely and cost-effective basis.

We have not sold our products at commercial scale. Our principal focus has been on research and development activities to improve our technology and make our product offerings more attractive to potential customers. These projects are subject to various risks and uncertainties we are not able to control, including changes in customer demand or industry standards and the introduction of new or superior technologies by others. Moreover, any failure by us in the future to develop new technologies or timely reaction to changes in existing technologies could materially delay our development of new products, which could result in product obsolescence, decreased revenues and a loss of our market share to our competitors. In addition, products or technologies developed by others may render our products or technologies obsolete or non-competitive. Further, if our products are not in compliance with prevailing industry

standards, such non-compliance could materially and adversely affect our financial condition, cash flows and results of operations.

If MicroLED technology is not widely adopted by display manufacturers, our business would be harmed.

A significant share of our growth is dependent on the adoption by display manufacturers of MicroLED technology. To date, MicroLED technology has not achieved widespread adoption because of the complexity and high cost of manufacturing MicroLED displays using existing materials, device architecture and processes. Given the high cost of manufacturing (resulting in approximately $100,000 sales price for a large high-definition display screen), it is unlikely that MicroLED technology will be adopted for use in consumer products unless significant efficiencies and fundamental process changes in the manufacturing of MicroLED displays occur. For example, in 2024 Apple Inc. abandoned a project to manufacture its own MicroLED displays for its Apple Watch products. While we believe our technology, including its use in chip-first architectures, has the potential to make manufacturing of MicroLED displays more efficient and cheaper, our technology has not been utilized commercially and there can be no assurance that our technology will reduce the cost and improve the efficiency of manufacturing MicroLEDs to the point where display manufacturers can profitably price MicroLED displays for mass market consumption. In addition, even if our technology achieves its goals, there may be technical delays in implementing our technology that could affect the willingness of display manufacturers to manufacture MicroLEDs at commercial scale or could affect the timing and extent of such manufacturing.

It is also possible that, despite the advantages of MicroLED displays, other technologies that, while not having all of benefits of MicroLEDs, are less expensive or easier to manufacture, will emerge and be adopted by display manufacturers for similar applications.

If the market for MicroLED technology does not develop as we expect or develops more slowly than we expect, our business, prospects, financial condition and operating results will be harmed.

We participate in highly competitive markets characterized by rapid technological changes, and existing and new companies may introduce products that compete with ours, which may adversely affect our business and operating results.

The markets in which we participate are highly competitive. We expect competition to intensify in the future as existing competitors and new market entrants introduce new products into our markets. This competition could result in increased pricing pressure, reduced profit margins, increased sales and marketing expenses, and the loss of market share, any of which could seriously harm our business, financial condition, and results of operations. Additionally, our competitors may develop technology that would make ours non-competitive or obsolete. If we do not keep pace with product and technology advances and otherwise keep our product offerings competitive, there could be a material and adverse effect on our competitive position, revenue and prospects for growth. Many of our existing competitors, have, and some of our potential competitors could have, substantial competitive advantages such as:

- greater name recognition, longer operating histories and larger customer bases;
- larger sales and marketing budgets and resources;
- broader distribution and established relationships with channel partners and customers;
- broader and deeper product lines;
- greater customer support resources;
- greater resources to make acquisitions;
- lower labor and research and development costs;
- substantially greater financial and other resources; and
- larger scale manufacturing operations.

Some of our larger competitors have substantially broader product offerings and may be able to leverage their relationships with channel partners and customers based on other products to gain business in a manner that discourages users from purchasing our products, including by selling at zero or negative margins or product bundling. Potential customers may also prefer to purchase from their existing suppliers rather than a new supplier regardless of

product performance or features. As a result, even if the features of our products are superior, customers may not purchase our products. In addition, innovative start-up companies, and larger companies that are making significant investments in research and development, may invent similar or superior products and technologies that compete with our products. Our current and potential competitors may also establish cooperative relationships among themselves or with third parties that may further enhance their resources. If we are unable to compete successfully, or if competing successfully requires us to take costly actions in response to the actions of our competitors, our business, financial condition, and results of operations could be adversely affected.

If we are unable to establish sales capabilities on our own or through third parties, we may not be able to market and sell our existing or future products or generate product revenue.

We do not currently have a fully staffed sales organization. We intend to commercialize our products with a direct sales force. To achieve this, we will be required to build a direct sales organization. We also will have to build our marketing, sales, managerial and other non-technical capabilities or make arrangements with third parties for distribution and to perform certain of these other services, and we may not be successful in doing so. Building an internal sales organization is time-consuming and expensive and will significantly increase our compensation expense. We may be unable to secure contracts with distributors on favorable terms or at all. We have no prior experience in the marketing, sale and distribution of our products and there are significant risks involved in building and managing a sales organization, including our ability to hire, retain and motivate qualified individuals, generate sufficient sales leads, provide adequate training to sales and marketing personnel, and effectively oversee a geographically dispersed sales and marketing team. If we are unable to build an effective sales organization and/or if we are unable to secure relationships with third-party distributors, we will not be able to successfully commercialize our products, our future product revenue will suffer, and we would incur significant additional losses.

We rely on access to third-party facilities for prototyping and commercial process development and expect to enter into arrangements with third parties to fabricate our products at commercial scale. The loss of access to a third-party facility, or our inability to enter into agreements with third-party fabricators could have a material adverse effect on our business development.

We do not have our own prototyping or fabrication facilities, and we rely on CPI for access to its facility for fabrication of prototypes and demonstration products. We also rely on access to ITRI's facilities for the development of commercial processes for the future commercial manufacturing of our products. The current agreement with CPIIS expires on March 31, 2025, but has been extended as described below. CPIIS is in the process of reviewing the operation of the clean room facility used by Smartkem and is seeking to reduce the facility's operating costs by, among other things, consolidating its clean rooms and seeking to pass more of its operating costs to users including us. On March 28, 2025, we entered into an agreement with CPIIS pursuant to which the term of the current CPIIS agreement was extended until May 31, 2025. We intend to use the extension period to complete negotiations with CPIIS regarding a longer-term agreement. Under the terms of the extension, we have agreed to an increase in our share of the costs of the CPI facility and to increased minimum usage obligations during the extension period. We expect that any longer-term agreement with CPIIS will require us to bear additional costs. If we are unable to reach a new agreement with CPIIS on terms that are satisfactory to us, we intend to find an alternative facility. We believe that there are adequate alternative sites available at which we could conduct our prototyping operations. In the event that we decide to move our prototyping operation to an alternative facility, we believe that the move would take between two and nine months, depending on equipment availability and any required facility modifications, during which time we would incur additional costs to prepare the new facility and install any necessary equipment. In such event, we intend to schedule our prototyping activities to minimize any disruption to those operations and would use ITRI's prototyping line as an interim facility for such work.

If we are unable to obtain access to another prototyping facility on similar terms to our arrangements with CPI, our business would be materially and adversely affected. We have approximately 11 employees located at CPI. Even if we are able to locate a suitable replacement facility on acceptable terms, we cannot assure investors that the key employees at CPI would accept positions at a new facility, particularly if it is located remotely from the CPI facility. Even if we locate a suitable replacement facility, it is possible that our ability to engage in product development,

prototyping of demonstration products and process improvement activities may be significantly delayed as a result of the relocation of those functions.

If we lost access to ITRI's fabrication facility, our ability to co-develop commercial scale manufacturing processes could also be significantly delayed until such time as we found a suitable replacement facility and completed the transfer of technology and know-how from ITRI to another fabricator. Accordingly, the loss of access to ITRI's facility could delay our commercialization efforts.

We expect to enter into arrangements with third-party fabricators to produce products for customer demonstration and for commercial product sale, other than for our formulated materials. The third-party fabricators are often located in Asia but could also be in the United States. No assurance can be given that we will be able to negotiate agreements with third-party fabricators on terms that are acceptable to us. Third-party fabricators may not have the ability to provide us with access to adequate capacity for our needs and our customers' needs. We will also have less control over delivery schedules and overall support compared to competitors who have commercial fabrication operations. If the fabricators we use are unable or unwilling to manufacture our products in our required volumes, or at specified times, we may have to identify and qualify acceptable additional or alternative fabricators. This qualification process could typically take three to six months, and we may not find sufficient capacity in a timely manner or at an acceptable cost to satisfy our production requirements. Some companies that supply products to our customers are similarly dependent on a limited number of suppliers. These other companies' products may represent important components of the displays into which our products are designed. If these companies are unable to produce the volumes demanded by our customers, our customers may be forced to slow down or halt production on the equipment for which our products are designed, which could materially impact our order levels and our results of operations.

The transfer of our technology and manufacturing know-how to a third-party commercial manufacturer may result in unanticipated costs and delays that could have a material and adverse effect our business, financial condition and results of operations.

We do not have the ability to produce our flexible transistors at commercial scale. We have engaged ITRI, a third-party foundry service in Taiwan, to assist us in developing a commercial manufacturing process for our products with the ultimate goal of enabling one or more third parties to manufacture our products at commercial scale for customers that do not have their own facilities. While we believe that display products utilizing our proprietary OTFTs can be made using existing commercial processes, we expect that transferring our technology and manufacturing know-how to a third-party manufacturer will be a time-intensive and costly process. We may also be required to adapt our manufacturing processes to enable our display products to be made at commercial scale. Any contract manufacturer will be required to manufacture products to our customers' specifications. We may be required to expend significant management and financial resources to enable contract manufacturers to meet those specifications. In addition, any contract manufacturer may not be able to manufacture products meeting the required specifications at the cost, in the volume or on the schedule that we expect. As a result, we may be subject to unanticipated costs and delays that could have a material adverse effect on our business, financial condition and results of operations

Because we will depend on third-party fabricators to manufacture products for us, we will be susceptible to manufacturing delays and pricing fluctuations that could prevent us from shipping customer orders on time, if at all, or on a cost-effective basis, which may result in the loss of sales, income and customers.

We expect to rely on third-party fabricators to manufacture products containing our proprietary inks for certain of our future customers. Our reliance on these third-party fabricators reduces our control over the manufacturing process and exposes us to risks, including reduced control over quality assurance, product costs, product supply and timing. Any manufacturing disruption by these third-party fabricators could severely impair our ability to fulfill orders. Our reliance on third-party fabricators also creates the potential for infringement or misappropriation of our intellectual property. If we are unable to manage our relationships with third-party fabricators effectively, or if our third-party fabricators experience delays or disruptions for any reason, increased manufacturing lead-times, capacity constraints or quality control problems in their fabrication operations, or if they otherwise fail to meet our future requirements for timely delivery, our ability to ship products to our customers would be severely impaired, and our business and results of operations would be seriously harmed.

We expect that our sales cycles will be long and unpredictable, and our sales efforts will require considerable time and expense. As a result, our revenue is difficult to predict and may vary substantially from period to period, which may cause our results of operations to fluctuate significantly.

Our results of operations may fluctuate, in part, because of the resource intensive nature of our sales efforts, the length and variability of our expected sales cycle and the short-term difficulty in adjusting our operating expenses. We provide reference designs and prototypes intended to demonstrate our ability to satisfy customer requirements and we expect that we will be required to continue to do so before receiving sales orders, which will result in a relatively long sales cycle. Because we expect that the length of time required to close a sale will vary substantially from customer to customer and each customer has its own requirements, it is difficult to predict exactly when, or even if, we will make a sale with a potential customer after significant work has been put in to create a model or prototype. As a result, we expect that individual sales will, in some cases, occur in quarters subsequent to or in advance of those we anticipated, or will not occur at all, which makes it difficult for us to forecast our revenue accurately in any quarter. Because a substantial portion of our expenses are relatively fixed in the short term, our results of operations will suffer if our revenue falls below expectations in a particular quarter, which could cause the market price of our common stock to decline. Additionally, to the extent our competitors develop products that our prospective customers view as equivalent or superior to ours, the average duration of our sales cycles may increase, and our sales efforts may be less successful.

Our current operations are concentrated, and in the event of an earthquake, terrorist attack or other disaster affecting these locations or those of our major suppliers, our operations may be interrupted, and our business may be harmed.

Our principal executive offices and primary operating facilities are situated in England and Asia, and most of our major suppliers, which are wafer foundries and assembly houses, are located in areas that have been subject to severe earthquakes and are susceptible to other disasters such as tropical storms, typhoons or tsunamis. In the event of a disaster, such as an earthquake and tsunami in Japan, we or one or more of our major suppliers may be temporarily unable to continue operations and may suffer significant property damage. Any interruption in our ability, or that of our major suppliers, to continue operations could delay the development and shipment of our products and have a substantial negative impact on our financial results. As part of our risk management policy, we maintain insurance coverage at levels that we believe are appropriate for our business. However, in the event of an accident or incident at these facilities, we cannot assure you that the amounts or coverage of insurance will be sufficient to satisfy any damages and losses.

Certain of our partners are and many of our potential customers will be located in Taiwan, which increases the risk that a natural disaster, epidemic, labor strike, war or political unrest could have a material adverse effect on our business, financial condition and results of operations.

Certain of our partners, including ITRI, are located in Taiwan. In addition, we expect that many of our potential customers will be located in Taiwan. From time to time, Taiwan has been impacted by significant seismic activity in the area, including earthquakes and related aftershocks, and it is expected that similar events will happen in the future. Because of the relatively small size of Taiwan and the proximity of our partners and future customers to each other, earthquakes, tsunamis, fires, floods, other natural disasters, epidemics such as the COVID-19 outbreak, political unrest or war, including as a result of current tensions with China, labor strikes or work stoppages could simultaneously affect our partners' production capability, our ability to supply our customers, and our customers' ability to produce products incorporating our technology. As a result, we may be subject to unanticipated costs and delays that could have a material adverse effect on our business, financial condition and results of operations.

We rely on our management team and other key employees and will need additional personnel to grow our business. The loss of one or more key employees or our inability to attract and retain qualified personnel could harm our business.

Our future success is substantially dependent on our ability to attract, retain and motivate the members of our management team and other key employees throughout our organization. The loss of one or more members of our management team or other key employees could materially impact our sales or our research and development programs and materially harm our business, financial condition, results of operations and prospects. We do not maintain key person life insurance policies on any of our management team members or key employees. Competition for highly skilled personnel is intense. We may not be successful in attracting or retaining qualified personnel to fulfill our current or future needs. Our competitors may be successful in recruiting and hiring members of our management team or other key employees, and it may be difficult for us to find suitable replacements on a timely basis, on competitive terms, or at all.

If we fail to effectively manage our growth, our business, financial condition and results of operations would be harmed.

We are a development stage company and are subject to the strains of ongoing development and growth, which has placed significant demands on our management and our operational and financial infrastructure. To manage any growth effectively, we must continue to improve our operational, financial and management systems and controls by, among other things:

- effectively attracting, training and integrating new employees, particularly members of our sales, applications and research and development teams;
- further improving our key business applications, processes and IT infrastructure to support our business needs;
- enhancing our information and communication systems to ensure that our employees and offices around the world are well coordinated and can effectively communicate with each other and our channel partners and customers; and
- appropriately documenting and testing our IT systems and business processes.

These and other improvements in our systems and controls will require significant capital expenditures and the allocation of valuable management and employee resources. If we fail to implement these improvements effectively, our ability to manage growth and ensure ongoing operation of key business systems would be impaired, and our business, financial condition and results of operations would be harmed.

Public health crises, such as pandemics, epidemics, or widespread outbreaks of infectious disease, have had, and could in the future have, an adverse effect on our business, financial condition and results of operations.

The occurrence of pandemics, epidemics, or widespread outbreaks of infectious diseases, as well as the imposition of related public health measures and travel and business restrictions or other actions that may be taken by governmental authorities in an effort to contain such pandemics, epidemics or outbreaks, have had, and could in the future have, a material adverse effect on our business. For example, the COVID-19 global pandemic adversely impacted us by disrupting our operations and increasing our costs as a result of, among other things, measures to address the health and safety of our employees, government work from home directives, quarantines, worker absenteeism as a result of illness, social distancing and travel restrictions that prevented face to face meetings with joint development partners, prospects and suppliers. Future pandemics and similar events could materially increase our costs, severely negatively impact business development and commercialization, net income, and other results of operations, and impact our liquidity position. The duration of any such impacts cannot be predicted, and such impacts may also have the effect of heightening many of the other material risks we face.

Disruptions in global supply chains have impacted, and may in the future, impact, our business, results of operations and financial condition.

An interruption within our supply chain may increase costs or otherwise impact our business, results of operations and financial condition. For example, the COVID-19 pandemic adversely impacted our operations and those of our customers, contract manufacturers, suppliers and logistics providers. At the same time, the global silicon semiconductor industry experienced a shortage in supply and difficulties in ability to meet customer demand and led to an increase in lead-times of the production of semiconductor chips and components. From 2020 - 2023, we experienced disruption to parts of our semiconductor supply chain, including procuring necessary components and inputs, such as wafers and substrates, in a timely fashion, with suppliers increasing lead times or placing products on allocation and raising prices. We also incurred higher costs to secure available inventory or had extended our purchase commitments or placed non-cancellable orders with suppliers, which introduced inventory risk if our forecasts and assumptions were inaccurate. The degree to which the future pandemics and similar events ultimately impact our business and results of operations will depend on future developments beyond our control.

We are subject to risks associated with international sales and operations.

We have operations in the United Kingdom and Asia and expect that most of our sales revenue will result from sales to customers in Asia. A number of risks inherent in international operations could have a material adverse effect on our results of operations, including:

- fluctuations in U.S. dollar/U.K. pound value arising from transactions denominated in foreign currencies and the translation of certain foreign currency subsidiaries balances;
- difficulties in staffing and managing multinational operations;
- adverse changes in economic and political conditions resulting from political instability, acts of terrorism, armed conflict, social unrest, and other circumstances impacting countries in which we or our customers operate, including as a result of any escalation of the current tensions between Taiwan and China;
- limitations on our ability to enforce legal rights and remedies;
- restrictions on the repatriation of funds;
- changes in trade policies, laws, regulations, political leadership and environment, and/or security risks;
- tariff regulations;
- difficulties in obtaining export and import licenses and compliance with export/import controls and regulations;
- the risk of government-financed competition;
- compliance with a variety of international laws as well as U.K. regulations, rules and practices affecting the activities of companies abroad; and
- difficulties in managing and staffing international operations and the required infrastructure costs, including legal, tax, accounting, and information technology.

In addition, we have small teams that are engaged in marketing, selling and supporting our products internationally. As a result, we must hire and train experienced personnel to staff and manage our foreign operations. To the extent that we experience difficulties in recruiting, training, managing and retaining international employees, particularly managers and other members of our international sales team, we may experience difficulties in sales productivity in, or market penetration of, foreign markets. We may enter into strategic distributor and reseller relationships with companies in certain international markets where we do not have a local presence. If we are not able to maintain successful strategic distributor and reseller relationships with our international channel partners or recruit additional channel partners, our future success in these international markets could be limited.

We are subject to economic, political and other risks that could have a materially adverse effect on our business, financial condition and results of operations.

Our operations and our financial results, including our ability to execute our business strategy, can be adversely affected by changes in global economic conditions as well as the potential impacts of geopolitical uncertainties and international conflicts.

We have operations in the United Kingdom and Asia and certain of our partners, including ITRI, are located in Taiwan. In addition, we expect that many of our potential customers will be located in Taiwan. As a result, the escalation of tensions between Taiwan and China could lead to embargoes, blockades, trade sanctions, military invasion and other risks that could significantly affect political or economic conditions in Taiwan. Any of these events could significantly disrupt our business operations and those of our partners and prospective customers, which would have a material adverse effect our business. Moreover, other conflicts around the world, including the Ukraine-Russia war and the conflict in the Middle East could escalate and expand, which in turn could negatively impact the global economy and financial markets. It is not possible to predict the broader consequences of these conflicts, which could include further sanctions, embargoes, regional instability, geopolitical shifts and adverse effects on macroeconomic conditions, the availability and cost of materials, supplies, labor, currency exchange rates and financial markets, all of which could negatively impact our business, financial condition and results of operations.

In addition, recently there has been a significant increase in the imposition of tariffs and other trade restrictions around the world. In many cases, the imposition of tariffs or other trade restrictions have resulted in retaliatory actions by governments in the affected countries. Uncertainty surrounding the length, severity, scope and timing of these trade actions may disrupt trade throughout the world which could result in the inability or unwillingness of customers to purchase our products. The escalation or broadening of these trade actions could also significantly increase our costs or make it more difficult for us to sell our products, which could materially and adversely affect our business.

Failure to comply with anti-bribery, anti-corruption and anti-money laundering laws as well as export control laws, import and customs laws, trade and economic sanctions laws and other laws governing our operations could subject us to penalties and other adverse consequences.

We are subject to anti-bribery, anti-corruption and anti-money laundering laws and regulations including the U.K. Bribery Act 2010 (“Bribery Act”), the U.S. Foreign Corrupt Practices Act (“FCPA”) and other anti-corruption, anti-bribery, and anti-money laundering laws in the jurisdictions in which we do business from time to time, both domestic and abroad. These laws generally prohibit us and our employees from improperly influencing government officials or commercial parties in order to obtain or retain business, direct business to any person or gain any improper advantage. The Bribery Act, FCPA and similar applicable anti-bribery and anti-corruption laws also prohibit our third-party business partners, representatives and agents from engaging in corruption and bribery. We and our third-party business partners, representatives and agents may have direct or indirect interactions with officials and employees of government agencies or state-owned or affiliated entities. We may be held liable for the corrupt or other illegal activities of these third-party business partners and intermediaries, our employees, representatives, contractors, channel partners and agents, even if we do not explicitly authorize such activities. These laws also require that we keep accurate books and records and maintain internal controls and compliance procedures designed to prevent any such actions.

We are also subject to other laws and regulations governing international operations, including regulations administered by the governments of the U.K and the U.S., and authorities in the European Union, including applicable export control regulations, economic sanctions and embargoes on certain countries and persons, anti-money laundering laws, import and customs requirements and currency exchange regulations, collectively referred to as the Trade Control laws.

Any violation of the Bribery Act, FCPA or other applicable anti-bribery, anti-corruption laws and anti-money laundering laws including Trade Control laws could result in whistleblower complaints, adverse media coverage, investigations, imposition of significant legal fees, loss of export privileges, severe criminal or civil sanctions or suspension or debarment from government contracts, substantial diversion of management’s attention, drop in stock

price or overall adverse consequences to our business, all of which may have an adverse effect on our reputation, business, financial condition, and results of operations.

In order to comply with environmental laws and regulations, we may need to modify our activities or incur substantial costs, and such laws and regulations, including any failure to comply with such laws and regulations, could subject us to substantial costs, liabilities, obligations and fines.

We must comply with federal, state, local and foreign governmental regulations related to the use, storage, discharge and disposal of materials used in our products and manufacturing processes. Our failure to comply with such regulations could result in significant fines, suspension of production, cessation of operations or future liabilities. Such regulations could also require us in the future to incur significant expenses to comply with such regulations. Our use of potentially hazardous materials could also restrict our ability to manufacture or sell our products to certain countries, require us to modify our logistics, or require us to incur other significant costs and expenses. For example, in February 2023 the Member States Committee of the European Chemicals Agency, or the ECHA, published a report and supporting annexes related to a proposal to ban the manufacturing, placing on the market, and use of per-and polyfluoroalkyl substances ("PFAS") in the European Union. In this regulatory process, more than 10,000 substances, including chemicals we use, are being considered for potential broad regulatory action. We submitted evidence in September 2023 supporting requests to be exempt from the ban for specific uses of PFAS, both in materials formulations and packaging materials for chemicals. If the PFAS ban in the EU is ultimately enacted, and our derogation requests are not granted, we will not be able to manufacture and sell our products in the EU as they are currently manufactured, and our business would be adversely affected. In addition, any exemptions may be limited in time, and in such case, we would eventually be required to eliminate the use of PFAS in our products, which may make it more expensive for us to manufacture, sell and ship our products. Environmental laws and regulations continue to expand with a focus on reducing or eliminating hazardous substances in electronic products and it may be difficult for us to timely comply with any future environmental laws applicable to us. In addition, we may have to write off inventory if we hold unsaleable inventory as a result of changes to regulations. These requirements may increase our own costs, as well as those passed on to us by our supply chain

Our business may be affected by litigation and government investigations.

We may from time to time receive inquiries and subpoenas and other types of information requests from government authorities and others and we may become subject to claims and other actions related to our business activities. While the ultimate outcome of investigations, inquiries, information requests and legal proceedings is difficult to predict, defense of litigation claims can be expensive, time-consuming, and distracting, and adverse resolutions or settlements of those matters may result in, among other things, modification of our business practices, costs and significant payments, any of which could have a material adverse effect on our business, financial condition, results of operations and prospects.

Security breaches, computer malware, computer hacking attacks and other security incidents could harm our business, reputation, brand and operating results.

Security incidents have become more prevalent across industries and may occur on our systems. Security incidents may be caused by, or result in but are not limited to, security breaches, computer malware or malicious software, computer hacking, unauthorized access to confidential information, denial of service attacks, security system control failures in our own systems or from vendors we use, email phishing, software vulnerabilities, social engineering, sabotage and drive-by downloads. Such security incidents, whether intentional or otherwise, may result from actions of hackers, criminals, nation states, vendors, employees or customers.

We rely on our internal technology systems for development, marketing, operational, support and sales activities. A disruption or failure of these systems or in those of our external service providers, in the event of a major storm, earthquake, fire, telecommunications failure, cyber-attack, terrorist attack or other catastrophic event could cause system interruptions, reputational harm, delays in our product development and loss of critical data and could materially and adversely affect our ability to operate our business.

We may experience disruptions, data loss, outages and other performance problems on our systems due to service attacks, unauthorized access or other security related incidents. Any security breach or loss of system control caused by hacking, which involves efforts to gain unauthorized access to information or systems, or to cause intentional malfunctions or loss, modification or corruption of data, software, hardware or other computer equipment and the inadvertent transmission of computer malware could harm our business.

In addition, our software stores and transmits customers' confidential business information in our facilities and on our equipment, networks, corporate systems and in the cloud. Security incidents could expose us to litigation, remediation costs, increased costs for security measures, loss of revenue, damage to our reputation and potential liability. Our customer data and corporate systems and security measures may be compromised due to the actions of outside parties, employee error, malfeasance, capacity constraints, a combination of these or otherwise and, as a result, an unauthorized party may obtain access to our data or our customers' data. Outside parties may attempt to fraudulently induce our employees to disclose sensitive information in order to gain access to our customers' data or our information. We must continuously examine and modify our security controls and business policies to address new threats, the use of new devices and technologies, and these efforts may be costly or distracting.

Because the techniques used to obtain unauthorized access, disable or degrade service, or sabotage systems change frequently or may be designed to remain dormant until a predetermined event and often are not recognized until launched against a target, we may be unable to anticipate these techniques or implement sufficient control measures to defend against these techniques. Though it is difficult to determine what harm may directly result from any specific incident or breach, any failure to maintain confidentiality, availability, integrity, performance and reliability of our systems and infrastructure may harm our reputation and our ability to retain existing customers and attract new customers. If an actual or perceived security incident occurs, the market perception of the effectiveness of our security controls could be harmed, our brand and reputation could be damaged, we could lose customers, and we could suffer financial exposure due to such events or in connection with remediation efforts, investigation costs, regulatory fines and changed security control, system architecture and system protection measures.

Risks Related to our Intellectual Property

Any failure by us to protect our proprietary technologies or maintain the right to use certain technologies may negatively affect our ability to compete.

To compete effectively, we must protect our intellectual property. We rely on a combination of patents, trademarks, copyrights, trade secret laws, confidentiality procedures and licensing arrangements to protect our intellectual property rights. We hold numerous patents and have a number of pending patent applications. However, our portfolio of patents evolves as new patents are issued and older patents expire, and the expiration of patents could have a negative effect on our ability to prevent competitors from duplicating certain or all of our products.

We might not succeed in obtaining patents from any of our pending applications. Even if we are awarded patents, they may not provide any meaningful protection or commercial advantage to us, as they may not be of sufficient scope or strength or may not be issued in all countries where our products can be sold. In addition, our competitors may be able to design around our patents.

There can be no assurance that an issued patent will remain valid and enforceable in a court of law through the entire patent term. Should the validity of a patent be challenged, the legal process associated with defending the patent can be costly and time consuming. Issued patents can be subject to oppositions, interferences and other third-party challenges that can result in the revocation of the patent or limit patent claims such that patent coverage lacks sufficient breadth to protect subject matter that is commercially relevant. Competitors may be able to circumvent our patents. In cases where market ramp of our products may encounter delays it is possible that some patents or licensed patents covering the product has expired or will be in force for only a short period of time following such market ramp. We cannot predict with any certainty if any third-party patent rights, or other proprietary rights, will be deemed infringed by the use of our technology. Nor can we predict with certainty which, if any, of these rights will or may be asserted against us by third parties.

To protect our product technology, documentation and other proprietary information, we enter into confidentiality agreements with our employees, customers, consultants and strategic partners. We require our employees to acknowledge their obligation to maintain confidentiality with respect to our products. Despite these efforts, we cannot guarantee that these parties will maintain the confidentiality of our proprietary information in the course of future employment or working with other business partners. We develop, manufacture and sell our products in Asia and other countries that may not protect our intellectual property rights to the same extent as the laws of the U.K. and the U.S. This makes piracy of our technology and products more likely. Steps we take to protect our proprietary information may not be adequate to prevent theft of our technology. We may not be able to prevent our competitors from independently developing technologies and products that are similar to or better than ours.

Vigorous protection and pursuit of intellectual property rights or positions characterize the semiconductor industry. This often results in expensive and lengthy litigation. We, and our customers or suppliers, may be accused of infringing patents or other intellectual property rights owned by third parties in the future. An adverse result in any litigation against us or a customer or supplier could force us to pay substantial damages, stop manufacturing, using, and selling the infringing products, spend significant resources to develop non-infringing technology, discontinue using certain processes or obtain licenses to use the infringing technology. In addition, we may not be able to develop non-infringing technology or find appropriate licenses on reasonable terms or at all.

Patent disputes in the semiconductor industry between industry participants are often settled through cross-licensing arrangements. Our portfolio of patents may not have the breadth to enable us to settle an alleged patent infringement claim through a cross-licensing arrangement, especially for patent disputes brought by non-practicing entities (patent holders who do not manufacture products but only seek to monetize patent rights) that cannot be settled through cross-licensing and cannot be avoided through cross-licensing with industry practitioners. We may therefore be more exposed to third-party claims than some of our larger competitors and customers.

Customers may make claims against us in connection with infringement claims made against them that are alleged to relate to our products or components included in our products, even where we obtain the components from a supplier. In such cases, we may incur monetary losses due to the cost of defense, settlement or damage award and non-monetary losses as a result of diverting valuable internal resources to litigation support. To the extent that claims against us, or our customers relate to third-party intellectual property integrated into our products, there is no assurance that we will be fully or even partially indemnified by our suppliers against any losses.

Furthermore, we may initiate claims or litigation against third parties for infringing our proprietary rights or to establish the validity of our proprietary rights. This could consume significant resources and divert the efforts of our technical and management personnel, regardless of the litigation's outcome.

Risks Related to our Financial Control Environment

We incur significant costs as a result of operating as a public company.

As a public company, we incur significant legal, accounting and other expenses. For example, we are subject to the information and reporting requirements of the Securities Act of 1933, as amended (the "Securities Act"), the Exchange Act and other federal securities laws, rules and regulations related thereto, including compliance with the Sarbanes-Oxley Act of 2002 (the "Sarbanes-Oxley Act"), and the Dodd-Frank Wall Street Reform and Consumer Protection Act. In addition, Nasdaq listing requirements and other applicable securities rules and regulations impose various requirements on public companies. Our management and other personnel are required to devote a substantial amount of time to these compliance initiatives. Moreover, these rules and regulations significantly increase our legal and

financial compliance costs and make some activities more time-consuming and costly. Among other things, we are required to:

- maintain and evaluate a system of internal controls over financial reporting in compliance with the requirements of Section 404(a) of the Sarbanes-Oxley Act and the related rules and regulations of the Securities and Exchange Commission (the "SEC") and the Public Company Accounting Oversight Board;
- maintain policies relating to disclosure controls and procedures;
- prepare and distribute periodic reports in compliance with our obligations under federal securities laws;
- institute a more comprehensive compliance function, including with respect to corporate governance; and
- involve, to a greater degree, our outside legal counsel, and accountants in the above activities.

The costs of preparing and filing annual and quarterly reports, proxy statements and other information with the SEC and furnishing audited reports to stockholders is expensive and compliance with these rules and regulations involves a material increase in regulatory, legal and accounting expenses and the attention of our board of directors and management. In addition, being a public company makes it more expensive for us to obtain director and officer liability insurance. In the future, we may be required to accept reduced coverage or incur substantially higher costs to obtain this coverage. These factors could also make it more difficult for us to attract and retain qualified executives and members of our board of directors. Furthermore, if we are unable to satisfy our obligations as a public company, we could be subject to fines, sanctions and other regulatory action and potentially civil litigation.

If we fail to maintain effective internal controls, we may not be able to report financial results accurately or on a timely basis, or to detect fraud, which could have a material adverse effect on our business or share price.

As a public company, we are required to maintain internal control over financial reporting and to report any material weaknesses in those controls. A material weakness is defined as a deficiency, or combination of deficiencies, in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of annual or interim financial statements will not be prevented or detected and corrected on a timely basis.

In connection with our preparation of our financial statements for the second quarter of 2023, a material weakness in our internal control over financial reporting was identified relating to the complex financial reporting and accounting associated with our private placement that closed in June of 2023. a non-cash item. None of our filed financial statements were impacted. Management implemented measures designed to ensure that the control deficiency contributing to the material weakness was remediated, such that the controls are designed, implemented, and operating effectively. The remediation actions included the enhancement of control activity evidence, improvement of management review controls, and recording of the fair value of the warrant liability.

In connection with the preparation of our financial statements for the first quarter of 2024, a material weakness in our internal control over financial reporting was identified relating to the complex financial reporting and accounting associated with the Consent, Conversion and Amendment Agreement we entered into on January 26, 2024, a non-cash item. None of the Company's filed financial statements were impacted. Management implemented measures designed to ensure that the control deficiency contributing to the material weakness was remediated, such that the controls are designed, implemented, and operating effectively. The remediation actions included the implementation of an additional step in the valuation process used to work with external consultants to review all equity-related activity and events that may have occurred since the prior fair value calculations were performed. Additionally, the Company's move to Nasdaq has facilitated a change in its approach to the stock price input used in its fair value models. Rather than using a calculated stock price in these models, the Company now uses the quoted stock price thereby reducing subjectivity and judgment in the fair value models and equity-based compensation calculations.

Our management evaluated the effectiveness of our disclosure controls and procedures as defined in Rule 13a-15 and 15d-15(e) under the Exchange Act, as of December 31, 2024. Based on this evaluation, our Chief Executive Officer and Chief Financial Officer have concluded that our disclosure controls and procedures were effective at a reasonable assurance level as of December 31, 2024. See "Item 9A Controls and Procedures."

Effective internal controls are necessary for us to provide reasonable assurance with respect to our financial reports and to effectively prevent financial fraud. Pursuant to the Sarbanes-Oxley Act, we are required to periodically evaluate the effectiveness of the design and operation of our internal controls. Internal controls over financial reporting may not prevent or detect misstatements because of inherent limitations, including the possibility of human error or collusion, the circumvention or overriding of controls, or fraud. If we fail to maintain an effective system of internal controls, our business and operating results could be harmed, and we could fail to meet our reporting obligations, which could have a material adverse effect on our business and our share price. Additionally, for as long as we are a "smaller reporting company" under the U.S. securities laws, our independent registered public accounting firm will not be required to attest to the effectiveness of our internal control over financial reporting pursuant to Section 404 of the Sarbanes-Oxley Act. An independent assessment of the effectiveness of internal control over financial reporting could detect problems that management's assessment might not. Undetected material weaknesses in our internal control over financial reporting could lead to further financial statement restatements and require us to incur the expense of remediation.

If we fail to maintain proper disclosure controls and procedures or have additional material weaknesses in our internal control over financial reporting, we may be unable to accurately report our financial results or report them within the timeframes required by law or any stock exchange regulations, and we could lose investor confidence in the accuracy and completeness of our financial reports, which would cause the price of our common stock to decline. Failure to maintain effective internal control over financial reporting also could potentially subject us to sanctions or investigations by the SEC or other regulatory authorities or stockholder lawsuits, which could require additional financial and management resources.

If our estimates or judgments relating to our critical accounting policies are based on assumptions that change or prove to be incorrect, our results of operations could fall below the expectations of investors, resulting in a decline in the market price of our common stock.

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America ("US GAAP") requires management to make estimates and assumptions that affect the amounts reported in our financial statements. Significant assumptions and estimates used in preparing our financial statements include those related to assets, liabilities, revenue, expenses, and related disclosures. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets, liabilities, equity, revenue and expenses that are not readily apparent from other sources. Our results of operations may be adversely affected if our assumptions change or if actual circumstances differ from those in our assumptions, which could cause our results of operations to fall below the expectations of investors, resulting in a decline in the market price of our common stock.

Changes in accounting rules and regulations, or interpretations thereof, could result in unfavorable accounting charges or require us to change our compensation policies.

Accounting methods and policies for companies such as ours, including policies governing revenue recognition, leases, research and development and related expenses, and accounting for stock-based compensation, are subject to review, interpretation and guidance from our auditors and relevant accounting authorities, including the SEC. Changes to accounting methods or policies, or interpretations thereof, may require us to reclassify, restate or otherwise change or revise our historical financial statements, including those contained in this Report.

Risks Related to Our Common Stock

We are an "emerging growth company" and we cannot be certain if the reduced reporting requirements applicable to emerging growth companies will make our common stock less attractive to investors.

We are an "emerging growth company" as defined in the JOBS Act. For as long as we continue to be an emerging growth company, we may take advantage of exemptions from various reporting requirements that are applicable to other public companies that are not emerging growth companies, including (1) not being required to comply with the

auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act, (2) reduced disclosure obligations regarding executive compensation in this Report and our periodic reports and proxy statements, and (3) exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved. In addition, as a smaller reporting company, we are only required to provide two years of audited financial statements and two years of selected financial data in this Report. We could be an emerging growth company until the fifth anniversary of the first sale of our common stock pursuant to a registration statement occurs, although circumstances could cause us to lose that status earlier, including if the market value of our common stock held by non-affiliates exceeds $700.0 million as of June 30 of any year or if we have total annual gross revenue of $1.235 billion or more during any fiscal year, in which cases we would no longer be an emerging growth company as of the following December 31, or if we issue more than $1.0 billion in nonconvertible debt during any three-year period, in which case we would no longer be an emerging growth company immediately. Even after we no longer qualify as an emerging growth company, we may still qualify as a "smaller reporting company" which would allow us to take advantage of many of the same exemptions from disclosure requirements including not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act and reduced disclosure obligations regarding executive compensation in this Report and our periodic reports and proxy statements. We cannot predict if investors will find our common stock less attractive because we may rely on these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our share price may be more volatile.

Under the JOBS Act, emerging growth companies can also delay adopting new or revised accounting standards until such time as those standards apply to private companies. We have elected to use the extended transition period under the JOBS Act until the earlier of the date we (i) are no longer an emerging growth company or (ii) affirmatively and irrevocably opt out of the extended transition period provided in the JOBS Act. As a result, our financial statements may not be comparable to companies that comply with new or revised accounting pronouncements as of public company effective dates.

We are a smaller reporting company, and we cannot be certain if the reduced disclosure requirements applicable to smaller reporting companies will make our common stock less attractive to investors.

We are currently a "smaller reporting company," meaning that we are not an investment company, an asset-backed issuer, or a majority-owned subsidiary of a parent company that is not a smaller reporting company, and we have a public float of less than $250 million and annual revenues of less than $100 million during our most recently completed fiscal year. In the event that we are still considered a smaller reporting company at such time as we cease being an "emerging growth company," we will be required to provide additional disclosure in our SEC filings. However, similar to emerging growth companies, smaller reporting companies are able to provide simplified executive compensation disclosures in their filings; are exempt from the provisions of Section 404(b) of the Sarbanes-Oxley Act requiring that independent registered public accounting firms provide an attestation report on the effectiveness of internal control over financial reporting; and have certain other decreased disclosure obligations in their SEC filings, including, among other things, only being required to provide two years of audited financial statements in annual reports and in a registration statement under the Exchange Act on Form 10. Decreased disclosures in our SEC filings due to our status as a smaller reporting company may make it harder for investors to analyze our results of our operations and financial prospects.

An active trading market for our common stock may not develop or be sustained, which may make it difficult for investors to sell shares of our common stock and may make it difficult for us to raise capital.

An active trading market for our common stock may not develop or be sustained. Because of the lack of an active trading market, shares of our common stock trade infrequently and in low volumes, meaning that the number of persons interested in purchasing our common stock at or near bid prices at any given time may be relatively small or non-existent and the trading price of our common stock may be extremely volatile. The lack of an active market for our common stock may impair investors' ability to sell their common stock at the time they wish to sell them or at a price that they consider reasonable, may reduce the fair market value of their shares of common stock and may impair our ability to raise capital to continue to fund operations by selling securities. No assurance can be given that an active

trading market for our common stock will develop or be sustained. The lack of an active market for our common stock may make it difficult for investors to sell shares of our common stock and may make it difficult for us to raise capital.

If we fail to meet all applicable Nasdaq listing requirements our common stock would be subject to delisting from Nasdaq which could negatively affect the trading price of our common stock, reduce the liquidity of our common stock and restrict our ability to access the capital markets.

Our common stock is listed on The Nasdaq Capital Market. We must satisfy the continued listing requirements of Nasdaq to maintain the listing of our common stock on The Nasdaq Capital Market.

On November 15, 2024, we received a letter (the "Letter") from the Listing Qualifications Department of Nasdaq indicating that we were not in compliance with the minimum stockholders' equity requirement for continued listing on the Nasdaq Capital Market, under Listing Rule 5550(b)(1) (the "Minimum Stockholders' Equity Requirement"), because our stockholders' equity of $2.3 million as reported in our Quarterly Report on Form 10-Q for the period ended September 30, 2024 was below the required minimum of $2.5 million, and because, as of November 15, 2024, we did not meet the alternative compliance standards relating to the market value of listed securities of $35 million or net income from continuing operations of $500,000 in the most recently completed fiscal year or in two of the last three most recently completed fiscal years. Pursuant to the Letter, Nasdaq gave us 45 calendar days, or until December 30, 2024, to submit to Nasdaq a plan to regain compliance. As a result of the closing of the December 2025 Offering (as defined below), our stockholders' equity increased above the $2.5 million requirement, and Nasdaq informed us that we were not required to submit a plan to regain compliance.

There can be no assurance that we will be able to maintain compliance with the Nasdaq continued listing requirements, and if we are unable to maintain compliance with the continued listing requirements, including the $1.00 minimum bid price requirement set forth in Nasdaq Listing Rule 5550(a)(2) and the Minimum Stockholders' Equity Requirement, our shares may be delisted from Nasdaq, which could reduce the liquidity of our common stock materially and result in a corresponding material reduction in the price of our common stock.

In addition, delisting could harm our ability to raise capital through alternative financing sources on terms acceptable to us, or at all, and may result in the potential loss of confidence by investors, employees, suppliers, customers and business development opportunities. Such a delisting likely would impair your ability to sell or purchase our common stock when you wish to do so. Further, if we were to be delisted from Nasdaq, our common stock may no longer be recognized as a "covered security," and we would be subject to regulation in each state in which we offer our securities. Delisting can also lead a termination that our common stock is stock is a "penny stock" which will require brokers trading in our common stock to adhere to more stringent rules and possibly result in a reduced level of trading activity in the secondary trading market for our common stock. Thus, delisting from Nasdaq could adversely affect our ability to raise additional financing through the public or private sale of equity securities, would significantly impact the ability of investors to trade our securities and would negatively impact the value and liquidity of our common stock.

We do not anticipate paying dividends on our common stock, and investors may lose the entire amount of their investment.

Cash dividends have never been declared or paid on our common stock, and we do not anticipate such a declaration or payment for the foreseeable future. Any future determination about the payment of dividends will be made at the discretion of our board of directors and will depend upon our earnings, if any, capital requirements, operating and financial conditions, contractual restrictions, including any loan or debt financing agreements, and on such other factors as our board of directors deems relevant. In addition, we may enter into agreements in the future that could contain restrictions on payments of cash dividends. We expect to use future earnings, if any, to fund business growth. Therefore, stockholders will not receive any funds absent a sale of their shares of our common stock. If we do not pay dividends, our common stock may be less valuable because a return on your investment will only occur if our stock price appreciates. We cannot assure stockholders of a positive return on their investment when they sell their shares of our common stock, nor can we assure that stockholders will not lose the entire amount of their investment.

FINRA sales practice requirements may limit a stockholder's ability to buy and sell our stock.

The Financial Industry Regulatory Authority ("FINRA") has adopted rules requiring that, in recommending an investment to a customer, a broker-dealer must have reasonable grounds for believing that the investment is suitable for that customer. Prior to recommending speculative or low-priced securities to their non-institutional customers, broker-dealers must make reasonable efforts to obtain information about the customer's financial status, tax status, investment objectives and other information. Under interpretations of these rules, FINRA has indicated its belief that there is a high probability that speculative or low-priced securities will not be suitable for at least some customers. If these FINRA requirements are applicable to us or our securities, they may make it more difficult for broker-dealers to recommend that at least some of their customers buy our common stock, which may limit the ability of our stockholders to buy and sell our common stock and could have an adverse effect on the market for and price of our common stock.

Substantial future sales of shares of our common stock could cause the market price of our common stock to decline.

A substantial portion of outstanding shares of our common stock has been registered for resale by the holders thereof. The resale, or expected or potential resale, of a substantial number of shares of our common stock in the public market could adversely affect the market price for our common stock and make it more difficult for you to sell shares of our common stock at times and prices that you feel are appropriate. Furthermore, we expect that selling stockholders holding shares that have been registered by us for resale will continue to offer such shares of our common stock for a significant period of time, the precise duration of which cannot be predicted. Accordingly, the adverse market and price pressures resulting from these sales may continue for an extended period of time and continued negative pressure on the market price of our common stock could have a material adverse effect on our ability to raise additional equity capital.

If securities or industry analysts do not publish research or reports about our business, or if they issue an adverse or misleading opinion regarding our stock, our stock price and trading volume could decline.

The trading market for our common stock will be influenced by the research and reports that industry or securities analysts publish about us or our business. We do not currently have and may never obtain research coverage by securities and industry analysts. We cannot assure you that brokerage firms will provide analyst coverage of our company in the future or continue such coverage if started. In addition, investment banks may be less likely to agree to underwrite secondary offerings on our behalf than they might if we became a public reporting company by means of an underwritten initial public offering, because they may be less familiar with our company as a result of more limited coverage by analysts and the media, which could harm our ability to raise additional funding in the future. The failure to receive research coverage or support in the market for shares of our common stock will have an adverse effect on our ability to develop a liquid market for our common stock, which will negatively impact the trading price of our common stock.

In the event we obtain securities or industry analyst coverage, if any of the analysts who cover us issue an adverse or misleading opinion regarding us, or if our operating results fail to meet the expectations of analysts, our stock price would likely decline. If one or more of these analysts cease coverage of us or fail to publish reports on us regularly, we could lose visibility in the financial markets, which in turn could cause our stock price or trading volume to decline.

Our principal stockholders and management have substantial control over us and could delay or prevent a change in corporate control.

Our executive officers and directors, together with holders of 5% or more of our outstanding common stock and their respective affiliates, beneficially own 62.1% of our common stock. As a result, these stockholders, acting together have the ability to significantly impact the outcome of matters submitted to our stockholders for approval, including the election of directors and any merger, consolidation, or sale of all or substantially all of our assets. In addition, these stockholders, acting together, have the ability to significantly impact the management and affairs of our

company. The interests of these stockholders may not be the same as or may even conflict with your interests. The concentration of ownership might decrease the market price of our common stock by:

- delaying, deferring, or preventing a change in control of the Company, which could deprive our stockholders of an opportunity to receive a premium for their common stock as part of a sale of our company or our assets and might affect the prevailing market price of our common stock;
- impeding a merger, consolidation, takeover, or other business combination involving us; or
- discouraging a potential acquirer from making a tender offer or otherwise attempting to obtain control of the Company.

The significant concentration of stock ownership may also adversely affect the trading price of our common stock due to investors' perception that conflicts of interest may exist or arise.

Provisions in our amended and restated certificate of incorporation and bylaws and Delaware law might discourage, delay or prevent a change of control of our company or changes in our management and, therefore, depress the trading price of our common stock.

Our amended and restated certificate of incorporation and bylaws contain provisions that could depress the trading price of our common stock by acting to discourage, delay or prevent a change in control of our company or changes in our management that the stockholders of our company may deem advantageous. These provisions:

- establish a classified board of directors so that not all members of our board are elected at one time;
- provide that directors may only be removed "for cause";
- authorize the issuance of "blank check" preferred stock that our board of directors could issue from time to time to increase the number of outstanding shares and discourage a takeover attempt;
- eliminate the ability of our stockholders to call special meetings of stockholders;
- prohibit stockholder action by written consent, which has the effect of requiring all stockholder actions to be taken at a meeting of stockholders;
- provide that the board of directors is expressly authorized to make, alter, or repeal our bylaws;
- establish advance notice requirements for nominations for election to our board of directors or for proposing matters that can be acted upon by stockholders at stockholder meetings; and
- require supermajority approvals to remove the protective provisions in our certificate of incorporation and bylaws listed above or to amend our bylaws.

Such provisions could impede any merger, consolidation, takeover or other business combination involving the Company or discourage a potential acquirer from making a tender offer or otherwise attempting to obtain control of the Company.

Our amended and restated certificate of incorporation designates the Court of Chancery of the State of Delaware as the sole and exclusive forum for certain types of actions and proceedings that may be initiated by our stockholders, which could limit the ability of our stockholders to obtain a favorable judicial forum for disputes with us or our directors, officers or other employees.

Our amended and restated certificate of incorporation requires that, unless we consent in writing to the selection of an alternative forum:

- any derivative action or proceeding brought on our behalf;
- any action asserting a claim of breach of any fiduciary duty owed by any current or former director, officer, other employee, or stockholder of ours to our company or our stockholders;
- any action asserting a claim arising pursuant to any provision of the Delaware General Corporate Law (the "DGCL"), our certificate of incorporation or bylaws or as to which the DGCL confers jurisdiction on the Court of Chancery of the State of Delaware; or
- any action asserting a claim governed by the internal affairs doctrine;

The Court of Chancery of the State of Delaware will, to the fullest extent permitted by law, be the exclusive forum or if the Court of Chancery of the State of Delaware does not have subject matter jurisdiction thereof, the federal district court of the State of Delaware.

Furthermore, Section 22 of the Securities Act creates concurrent jurisdiction for federal and state courts over all such Securities Act actions. Accordingly, both state and federal courts have jurisdiction to entertain such claims. To prevent having to litigate claims in multiple jurisdictions and the threat of inconsistent or contrary rulings by different courts, among other considerations, our amended and restated certificate of incorporation provides that the federal district courts of the United States of America are the exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act.

The exclusive forum provisions described above do not apply to claims arising under the Exchange Act.

While the Delaware courts have determined that such choice of forum provisions are facially valid, a stockholder may nevertheless seek to bring such a claim arising under the Securities Act against us, our directors, officers, or other employees in a venue other than in the federal district courts of the United States of America. In such an instance, we would expect to vigorously assert the validity and enforceability of the exclusive forum provisions of our certificate of incorporation. Although we believe this provision benefits us by providing increased consistency in the application of Delaware law in the types of lawsuits to which it applies, this provision may limit or discourage a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers, or other employees, which may discourage such lawsuits against us and our directors, officers and other employees. Alternatively, if a court were to find the choice of forum provision contained in the amended and restated certificate of incorporation to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions, which could adversely affect our business and financial condition.

We note that there is uncertainty as to whether a court would enforce the provision and that investors cannot waive compliance with the federal securities laws and the rules and regulations thereunder. Although we believe this provision will benefit us by providing increased consistency in the application of Delaware law in the types of lawsuits to which it applies, the provision may have the effect of discouraging lawsuits against our directors and officers.

Because we became a reporting company under the Exchange Act by means other than a traditional underwritten initial public offering, we may not be able to attract the attention of research analysts at major brokerage firms.

Because we did not become a reporting company by conducting an underwritten initial public offering of our common stock, security analysts of brokerage firms may not provide coverage of our company. In addition, investment banks may be less likely to agree to underwrite secondary offerings on our behalf than they might if we became a public reporting company by means of an underwritten initial public offering, because they may be less familiar with our company as a result of more limited coverage by analysts and the media, and because we became public at an early stage in our development. The failure to receive research coverage or support in the market for shares of our common stock will have an adverse effect on our ability to develop a liquid market for our common stock.

Item 1B. Unresolved Staff Comments

Not Applicable.

Item 1C. Cybersecurity

We rely on our information technology to operate our business. As such, we have policies and processes designed to protect our information technology systems, some of which are managed by third parties, and resolve issues in a timely manner in the event of a cybersecurity threat or incident.

We have designed our business applications and hosting services to minimize the impact that cybersecurity incidents could have on our business and have identified back-up systems where appropriate. We seek to further mitigate

cybersecurity risks through a combination of monitoring and detection activities, use of anti-malware applications, employee training, quality audits and communication and reporting structures, among other processes. We engage a third-party consultant to assist us with our cybersecurity risk management framework, including the monitoring and detection of cybersecurity threats and responding to any cybersecurity threats or incidents. . Our third-party consultant team is managed by our Chief Financial Officer who reports to the Audit Committee at the board level, as appropriate.

As of December 31, 2024, we have not identified an indication of a cybersecurity incident that would have a material impact on our business and consolidated financial statements.

Item 2. Properties

Our headquarters are located in Manchester, England, where we lease approximately 10,000 square feet of commercial space for research and development, engineering, testing and corporate offices pursuant to a lease that expires in April 2025. We also have a leased office in Hsinchu City Taiwan where we lease approximately 1,000 square feet of office space pursuant to a lease which expires in July 2025. We use the CPI facility in Sedgefield, England for virtually all of our fabrication activities. In addition, we lease office space at CPI pursuant to a license of office space which expires on March 31, 2026 and two offices at NetPark, Sedgefield pursuant to leases which expire in January and August 2027. CPIIS is in the process of reviewing the operation of the clean room facility used by Smartkem and is seeking to reduce the facility's operating costs by, among other things, consolidating its clean rooms and seeking to pass more of its operating costs to users including us. On March 28, 2025, we entered into an agreement with CPIIS pursuant to which the term of the current CPIIS agreement was extended until May 31, 2025. We intend to use the extension period to complete negotiations with CPIIS regarding a longer-term agreement. Under the terms of the extension, we have agreed to an increase in our share of the costs of the CPI facility and to increased minimum usage obligations during the extension period. We expect that any longer-term agreement with CPIIS will require us to bear additional costs. If we are unable to reach a new agreement with CPIIS on terms that are satisfactory to us, we intend to find an alternative facility. We believe that there are adequate alternative sites available at which we could conduct our prototyping operations. In the event that we decide to move our prototyping operation to an alternative facility, we believe that the move would take between two and nine months, depending on equipment availability and any required facility modifications, during which time we would incur additional costs to prepare the new facility and install any necessary equipment. In such event, we intend to schedule our prototyping activities to minimize any disruption to those operations and would use ITRI's prototyping line as an interim facility for such work.

Item 3. Legal Proceedings

From time to time, we may become involved in litigation or other legal proceedings. We are not currently a party to any litigation or legal proceedings that, in the opinion of our management, are likely to have a material adverse effect on our business. Regardless of outcome, litigation can have an adverse impact on us because of defense and settlement costs, diversion of management resources and other factors.

Item 4. Mine Safety Disclosures

Not Applicable.

PART II

Item 5. Market For Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases Of Equity Securities

Market Information

Our common stock has been trading on the Nasdaq Stock Market LLC under the symbol "SMTK" since May 31, 2024.

Holders of Record

As of March 26, 2025, there were 3,620,217 shares of our common stock outstanding which were held by 215 stockholders of record as reported by our transfer agent. This number does not include beneficial owners whose shares are held in street name. The actual number of holders of our common stock is greater than this number of record holders and includes stockholders who are beneficial owners, but whose shares are held in street name by brokers or held by other nominees.

Dividend Policy

Cash dividends have never been declared or paid on our common stock, and we do not anticipate such a declaration or payment for the foreseeable future. Any future determination about the payment of dividends will be made at the discretion of our board of directors and will depend upon our earnings, if any, capital requirements, operating and financial conditions, contractual restrictions, including any loan or debt financing agreements, and on such other factors as our board of directors deems relevant. In addition, we may enter into agreements in the future that could contain restrictions on payments of cash dividends. We expect to use future earnings, if any, to fund business growth.

Item 6. [Reserved]

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

Our Management's Discussion and Analysis of Financial Condition and Results of Operations (MD&A) is provided in addition to the accompanying consolidated financial statements and notes to assist readers in understanding our results of operations, financial condition, and cash flows. The following discussion and analysis of our financial condition and results of operations should be read together with our consolidated financial statements and the related notes and other financial information included in this Report. Some of the information contained in this discussion and analysis or set forth elsewhere in this Report, including information with respect to our plans and strategy for our business, includes forward-looking statements that involve risks and uncertainties as described under the heading "Cautionary Note on Forward-Looking Statements" above. You should review the disclosure under the heading "Item1A. Risk Factors" in this Report for a discussion of important factors that could cause actual results to differ materially from the results described in or implied by the forward-looking statement.

Overview

We are seeking to change the world of electronics with a new class of transistor developed using our proprietary advanced semiconductor materials that we believe has the potential to revolutionize the display industry. Our TRUFLEX® semiconductor polymers enable low temperature printing processes that are compatible with existing manufacturing infrastructure to deliver low-cost, high-performance displays. Our semiconductor platform can be used in a range of display technologies including MicroLED, miniLED and AMOLED, as well as in applications in advanced chip packaging, sensors, and logic.

We design and develop our materials at our research and development facility in Manchester, UK and provide prototyping services at the Centre for Process Innovation ("CPI") in Sedgefield, UK. We also operate a field application office in Hsinchu, Taiwan, close to our collaboration partner, The Industrial Technology Research Institute of Taiwan ("ITRI"), where we demonstrate the scalability of our technology using ITRI's equipment. With our collaboration partners, we are developing a commercial-scale production process and EDA tools for our materials to demonstrate the commercial viability of manufacturing a new generation of displays using our materials. We have an extensive IP portfolio including 138 granted patents across 17 patent families, 17 pending patents and 40 codified trade secrets.

Key Factors Affecting Our Performance

There are a number of industry factors that affect our business which include, among others:

Overall Demand for Products and Applications using Organic thin film transistors

Our potential for growth depends significantly on the adoption of OTFT materials in the display and sensor markets and our ability to capture a significant share of any market that does develop. We expect that demand for our technology will also fluctuate based on various market cycles, continuously evolving industry supply chains, trade and tariff terms, as well as evolving competitive dynamics in each of the respective markets. These uncertainties make demand difficult to forecast for us and our customers.

Intense and Constantly Evolving Competitive Environment

Competition in the industries we serve is intense. Many companies have made significant investments in product development and production equipment. To remain competitive, market participants must continuously increase product performance, reduce costs, and develop improved ways to serve their customers. To address these competitive pressures, we have invested in research and development activities to support new product development, improve ease of use, lower product costs and deliver higher levels of performance to differentiate our products in the market.

Governmental Trade and Regulatory Conditions

Our potential for growth depends on a balanced and stable trade, political, economic and regulatory environment among the countries where we do business. Changes in trade policy such as the imposition of tariffs or export bans to specific customers or countries could reduce or limit demand for our products in certain markets.

Technological Innovation and Advancement

Innovations and advancements in organic materials continue to expand the potential commercial application for our products. However, new technologies or standards could emerge, or improvements could be made in existing technologies that could reduce or limit the demand for our products in certain markets.

Intellectual Property Issues

We rely on patented and non-patented proprietary information relating to product development, manufacturing capabilities and other core competencies of our business. Protection of intellectual property is critical. Therefore, steps such as additional patent applications, confidentiality, and non-disclosure agreements, as well as other security measures are important. While we believe we have a strong patent portfolio and there is no actual or, to our knowledge, threatened litigation against us for patent-related matters, litigation or threatened litigation is a common method to effectively enforce or protect intellectual property rights. Such action may be initiated by or against us and would require significant management time and expenses.

Components of Results of Operations

Revenue

Revenue. Our revenue consists of revenue from the sale of TRUFLEX® inks and demonstration products.

Cost of Revenues. Cost of revenues consists of (1) direct product costs incurred for the raw materials and manufacturing services for our products, (2) fixed product costs primarily relating to production, manufacturing and personnel and (3) depreciation consisting primarily of expenses related to our fixed assets. We expect our cost of goods sold attributable to direct product costs to increase proportionately with increases in revenue, and our cost of goods sold attributable to fixed product costs to remain substantially flat or moderately increase in connection with increases in revenue.

Other Operating Income. Our Other Operating Income includes government grants received for qualifying research and development projects, and research and development tax credits related to the United Kingdom's Research and Development tax relief for small and medium-sized enterprises, which is a government tax incentive designed to reward innovative companies for investing in research and development. The income associated with these items is recognized in the period which the research and development expenses occurred.

Operating Expenses

Research and Development. Research and development expenses consist primarily of compensation and related costs for personnel, including share-based compensation and employee benefits as well as costs associated with design, fabrication and testing of OTFT devices. In addition, research and development expenses include depreciation expenses related to our fixed assets. We expense research and development expenses as incurred. As we continue to invest in developing our technology for new products, we expect research and development expenses to remain flat or moderately increase in absolute dollars but to decline as a percentage of revenue. We do not believe that it is possible at this time to accurately project total program-specific expenses through commercialization. There are numerous factors associated with the successful commercialization of our technology, many of which cannot be determined with accuracy at this time based on our stage of development. Additionally, future commercial and other factors beyond our control will impact our development programs and plans.

General and Administrative. General and administrative expenses consist primarily of allocated compensation and related costs for personnel, including share-based compensation, employee benefits and travel. In addition, general and administrative expenses include third-party consulting, legal, audit, accounting services, allocations of overhead costs, such as rent, facilities and information technology. We expect general and administrative expenses to increase in absolute dollars in future periods due to additional legal, accounting, insurance, investor relations and other costs associated with being a public company, as well as other costs associated with growing our business.

Non-Operating Income (Expense)

Non-operating income/expense aggregates the following amounts:

Foreign Currency Translation. Foreign currency translation reflects adjustments made due to currency fluctuations.

Transaction Costs. Costs for equity contracts that are classified as a liability.

Fair Value of Warrant Liability. The fair value of equity contracts that are classified as a liability.

Interest Income. Interest income is interest on our cash deposits.

Income Tax Expense. Income tax expense consists primarily of income taxes in jurisdictions in which we conduct business.

Results of Operations

Twelve months ended December 31, 2024 compared with the twelve months ended December 31, 2023

Revenue and Cost of Revenue

Our revenue and cost of revenue reflects sales of TRUFLEX® inks and demonstration products, and the direct costs associated with those sales.

Revenues were $82.0 thousand for the year ended December 31, 2024, compared to $27.0 thousand for the same period of 2023. The increase in revenues resulted primarily from an increase in the sale of demonstrator products to potential partners, as we sought to expand our marketing efforts. Cost of revenue was $32.0 thousand for the twelve months ended December 31, 2024, compared to $23.0 thousand for the same period of 2023, primarily as a result of a unit increase in the number of products sold during 2024.

Other Operating Income

Other operating income was $1.0 million and $0.8 million for the years ended December 31, 2024 and 2023, respectively, and is comprised primarily of research grants and research and development tax credits. The increase in other operating income during 2024 was largely attributable to additional grant revenue recognized in 2024.

Operating Expenses

Operating expenses increased by $0.7 million to $11.5 million for the year ended December 31, 2024, compared to $10.8 million for the comparable period of 2023.

Research and development expenses, which represented 44.3% and 51.3% of our total operating expenses for the twelve months ended December 31, 2024 and 2023, respectively, decreased by $0.5 million to $5.1 million for the year ended December 31, 2024, compared to $5.6 million for the same period of 2023. The decrease in research and development expenses was mainly due to lower personnel costs resulting from a reduction in force effected in September 2023, as well as lower technical research and development costs, including consulting, testing and lab supplies. We expect that our research and development expense will increase in 2025 as a result of an expected increase in the cost of our prototyping activities. See “Item 1. Business – CPI Agreement” for additional information.

General and administrative expense, which represented 55.0% and 47.9% of our total operating expenses for the twelve months ended December 31, 2024 and 2023, respectively, increased by $1.1 million to $6.3 million for year ended December 31, 2024 as compared to $5.2 million for the same period in 2023. This increase was mainly due to increased professional service fees.

Non-Operating Income/(Expenses)

Total non-operating income/(expense) was $0.1 million for the year ended December 31, 2024, compared to $1.5 million for the year ended December 31, 2023. The decrease in non-operating income resulted primarily from a loss on foreign currency transactions of $0.5 million in 2024, compared to a gain of $1.2 million for the comparable period of 2023. The increase in loss on foreign currency transactions resulted from fluctuations in U.S. dollar/British pound value affecting transactions denominated in foreign currencies and the translation of foreign currency denominated balances on intra-group loans. There was an increase of $0.2 million in non-operating income resulting from the change in the valuation of the warrant liability.

Net Loss

Net loss was $10.3 million for the year ended December 31, 2024, an increase of $1.8 million, compared to a net loss of $8.5 million for the year ended December 31, 2023. The increase in net loss in the 2024 period was attributable to the factors described in the preceding paragraphs.

Liquidity and Capital Resources

As of December 31, 2024, our cash and cash equivalents were $7.1 million compared with $8.8 million as of December 31, 2023. We anticipate operating losses to continue for the foreseeable future due to, among other things, costs related to research and development of our technology and products and expenses related to the marketing and commercialization of our products.

We expect that our cash and cash equivalents of $7.1 million as of December 31, 2024 will not be sufficient to fund our operating expenses and capital expenditure requirements for the next 12 months and that we will require additional capital funding to continue our operations and research development activity thereafter.

Our expected cash payments over the next twelve months include (a) $1.8 million to satisfy accounts payable and accrued expenses and (b) $47 thousand to satisfy the lease liabilities. Additional expected cash payments beyond the next twelve months include $25 thousand of lease liabilities.

Our future viability is dependent on our ability to raise additional capital to fund our operations. We will need to obtain additional funds to satisfy our operational needs and to fund our sales and marketing efforts, research and development expenditures, and business development activities. Until such time, if ever, as we can generate sufficient cash through revenue, management's plans are to finance our working capital requirements through a combination of equity offerings, debt financings, collaborations, strategic alliances and marketing, distribution or licensing arrangements. If we raise additional funds by issuing equity securities, our existing security holders will likely experience dilution. If we borrow money, the incurrence of indebtedness would result in increased debt service obligations and could require us to agree to operating and financial covenants that could restrict its operations. If we enter into a collaboration, strategic alliance or other similar arrangement, it may be forced to give up valuable rights. There can be no assurance however that such financing will be available in sufficient amounts, when and if needed, on acceptable terms or at all. The precise amount and timing of the funding needs cannot be determined accurately at this time, and will depend on a number of factors, including the market demand for the Company's products and services, the quality of product development efforts, management of working capital, and continuation of normal payment terms and conditions for purchase of services. If the Company is unable to substantially increase revenues, reduce expenditures, or otherwise generate cash flows for operations, then the Company will need to raise additional funding.

There is substantial doubt that we will be able to pay our obligations as they fall due, and this substantial doubt is not alleviated by management plans.

Cash Flow from Operating Activities

Net cash used in operating activities was $8.1 million for the year ended December 31, 2024 and $8.0 million for the year ended December 31, 2023. While our net loss increased by $1.8 million for the year ended December 31, 2024, the non-cash expenses decreased by $1.8 million.

Cash Flow from Investing Activities

Net cash used in investing activities was $75.4 thousand for the year ended December 31, 2024, compared to $18.0 thousand for the year ended December 31, 2023, an increase of $57.4 thousand. The increase resulted from additional purchases of laboratory and capital equipment in 2024.

Cash Flow from Financing Activities

Net cash flows provided by financing activities was $6.5 million for the year ended December 31, 2024, compared to $12.7 million for the year ended December 31, 2023, a decrease of $6.2 million. The decrease in net cash provided by financing activities resulted primarily from lower proceeds from offering activities in 2024 compared to 2023.

Contractual Payment Obligations

Our principal commitments primarily consist of obligations under leases for office space and purchase commitments in the normal course of business for research & development facilities and services, communications infrastructure, and administrative services. We expect to fund these commitments from our cash balances and working capital.

Recently Issued Accounting Pronouncements

For recently issued accounting announcements, see "Recently Issued Accounting Pronouncements" in Note 2, "Significant Accounting Policies and Recent Accounting Pronouncements" in the Notes to our Consolidated Financial Statements included in this Annual Report on Form 10-K.

Critical Accounting Estimates

We prepare our consolidated financial statements in accordance with U.S. generally accepted accounting principles, which require our management to make estimates that affect the reported amounts of assets, liabilities and disclosures of contingent assets and liabilities at the balance sheet dates, as well as the reported amounts of revenues and expenses during the reporting periods. To the extent that there are material differences between these estimates and actual results, our financial condition or results of operations would be affected. We base our estimates on our own historical experience and other assumptions that we believe are reasonable after taking account of our circumstances and expectations for the future based on available information. We evaluate these estimates on an ongoing basis.

We consider an accounting estimate to be critical if: (i) the accounting estimate requires us to make assumptions about matters that were highly uncertain at the time the accounting estimate was made, and (ii) changes in the estimate that are reasonably likely to occur from period to period or use of different estimates that we reasonably could have used in the current period, would have a material impact on our financial condition or results of operations.

Although there are items within our financial statements that require management to make accounting estimates, we do not believe them to be critical, as defined above.

JOBS Act Accounting Election

We are an emerging growth company, as defined in the JOBS Act. The JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. This provision allows an emerging growth company to either early adopt or delay the adoption of some accounting standards until those standards would otherwise apply to private companies. We have elected to use the extended transition period under the JOBS Act until the earlier of the date we (i) are no longer an emerging growth company or (ii) affirmatively and irrevocably opt out of the extended transition period provided in the JOBS Act. As a result, our consolidated financial statements may not be comparable to companies that comply with new or revised accounting pronouncements as of public company effective dates.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk.

We are a smaller reporting company as defined in Rule 12b-2 of the Exchange Act; therefore, pursuant to Item 301(c) of Regulation S-K, we are not required to provide the information required by this Item.

Item 8. Financial Statements and Supplementary Data

SmartKem, Inc.
Index to Consolidated Financial Statements

Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors of
SmartKem, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of SmartKem, Inc. and Subsidiaries (the "Company") as of December 31, 2024 and 2023, the related consolidated statements of operations and comprehensive loss, stockholders' equity, and cash flows for each of the two years in the period ended December 31, 2024 , and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2024 and 2023, and the results of its operations and its cash flows for each of the two years in the period ended December 31, 2024, in conformity with accounting principles generally accepted in the United States of America.

Explanatory Paragraph – Going Concern

The accompanying financial statements have been prepared assuming that the Company will continue as a going concern. As more fully described in Note 2, the Company has incurred recurring losses and needs to raise additional funds to meet its obligations and sustain its operations. These conditions raise substantial doubt about the Company's ability to continue as a going concern. Management's plans in regard to these matters are also described in Note 2. The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) ("PCAOB") and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits, we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ Marcum LLP

Marcum LLP

We have served as the Company's auditor since 2023.

New York, NY
March 31, 2025

SMARTKEM, INC. AND SUBSIDIARIES
Consolidated Balance Sheets
(in thousands, except number of shares and per share data)

	December 31, 2024	December 31, 2023
Assets		
Current assets		
Cash and cash equivalents	$ 7,141	$ 8,836
Accounts receivable	—	268
Research and development tax credit receivable	519	610
Prepaid expenses and other current assets	849	811
Total current assets	8,509	10,525
Property, plant and equipment, net	269	455
Right-of-use assets, net	120	285
Other assets, non-current	6	7
Total assets	$ 8,904	$ 11,272
Liabilities and stockholders' equity		
Current liabilities		
Accounts payable and accrued expenses	$ 1,791	$ 1,178
Lease liabilities, current	47	230
Other current liabilities	450	360
Total current liabilities	2,288	1,768
Lease liabilities, non-current	25	19
Warrant liability	—	1,372
Total liabilities	2,313	3,159
Commitments and contingencies (Note 7)	—	—
Stockholders' equity:		
Preferred stock, par value $0.0001 per share, 10,000,000 shares authorized, 856 and 13,765 shares issued and outstanding, at December 31, 2024 and December 31, 2023, respectively	—	—
Common stock, par value $0.0001 per share, 300,000,000 shares authorized, 3,590,217 and 889,668 shares issued and outstanding, at December 31, 2024 and December 31, 2023, respectively	—	—
Additional paid-in capital	122,316	104,757
Accumulated other comprehensive loss	(1,105)	(1,578)
Accumulated deficit	(114,620)	(95,066)
Total stockholders' equity	6,591	8,113
Total liabilities and stockholders' equity	$ 8,904	$ 11,272

The accompanying notes are an integral part of these consolidated financial statements.

SMARTKEM, INC. AND SUBSIDIARIES
Consolidated Statements of Operations and Comprehensive Loss
(in thousands, except number of shares and per share data)

	Year Ended December 31,	
	2024	**2023**
Revenue	$ 82	$ 27
Cost of revenue	32	23
Gross profit	50	4
Other operating income	1,017	836
Operating expenses		
Research and development	5,111	5,556
General and administrative	6,342	5,188
(Gain)/loss on foreign currency transactions	78	87
Total operating expenses	11,531	10,831
Loss from operations	(10,464)	(9,991)
Non-operating income/(expense)		
Gain/(loss) on foreign currency transactions	(544)	1,213
Transaction costs allocable to warrants	—	(198)
Change in fair value of the warrant liability	672	465
Interest income/(expense)	7	12
Total non-operating income/(expense)	135	1,492
Loss before income taxes	(10,329)	(8,499)
Income tax expense	(1)	—
Net loss	$ (10,330)	$ (8,499)
Preferred stock deemed dividends	(9,224)	—
Net loss attributed to common stockholders	$ (19,554)	$ (8,499)
Weighted average shares outstanding - basic and diluted	3,260,127	1,344,892
Basic and diluted net loss per common share attributed to common stockholders	$ (6.00)	$ (6.32)
Net loss	$ (10,330)	$ (8,499)
Other comprehensive loss:		
Foreign currency translation	473	(1,095)
Total comprehensive loss	$ (9,857)	$ (9,594)

The accompanying notes are an integral part of these consolidated financial statements.

SMARTKEM, INC. AND SUBSIDIARIES
Consolidated Statements of Stockholders' Equity
(in thousands, except share data)

	Preferred Stock $0.0001 par value		Common stock $0.0001 par value		Additional paid-in capital	Accumulated other comprehensive income / (loss)	Accumulated deficit	Total Stockholders' equity
	Shares	Amount	Shares	Amount				
Balance at January 1, 2024	13,765	$ —	889,668	$ —	$ 104,757	$ (1,578)	$ (95,066)	$ 8,113
Stock-based compensation expense	—	—	—	—	829	—	—	829
Issuance of stock awards	—	—	3,400	—	21	—	—	21
Issuance of common stock to vendor	—	—	130,000	—	253	—	—	253
Exchange of Preferred stock into common stock warrants	(6,356)	—	—	—	—	—	—	—
Deemed dividend on extinguishment of Preferred stock	—	—	—	—	7,094	—	(7,094)	—
Cashless exercise of warrants into common stock	—	—	388	—	—	—	—	—
Fair value of warrants reclassified from liability to equity	—	—	—	—	700	—	—	700
Issuance of common stock and warrants, net of issuance costs	—	—	1,619,781	—	6,508	—	—	6,508
Deemed dividend on general release and amendment of Preferred stock	—	—	—	—	2,130	—	(2,130)	—
Conversion of preferred stock into common stock	(6,553)	—	749,016	—	—	—	—	—
Exercise of warrants into common stock	—	—	197,964	—	24	—	—	24
Foreign currency translation adjustment	—	—	—	—	—	473	—	473
Net loss	—	—	—	—	—	—	(10,330)	(10,330)
Balance at December 31, 2024	856	$ —	3,590,217	$ —	$ 122,316	$ (1,105)	$ (114,620)	$ 6,591

	Preferred Stock $0.0001 par value		Common stock $0.0001 par value		Additional paid-in capital	Accumulated other comprehensive income / (loss)	Accumulated deficit	Total Stockholders' equity
	Shares	Amount	Shares	Amount				
Balance at January 1, 2023	—	$ —	771,054	$ —	$ 92,933	$ (483)	$ (86,567)	$ 5,883
Stock-based compensation expense	—	—	—	—	717	—	—	717
Issuance of common stock to vendor	—	—	2,937	—	55	—	—	55
Issuance of preferred stock, net of issuance costs	14,149	—	—	—	11,027	—	—	11,027
Conversion of preferred stock into common stock	(384)	—	43,891	—	—	—	—	—
Exercise of warrants into common stock	—	—	71,786	—	25	—	—	25
Foreign currency translation adjustment	—	—	—	—	—	(1,095)	—	(1,095)
Net loss	—	—	—	—	—	—	(8,499)	(8,499)
Balance at December 31, 2023	13,765	$ —	889,668	$ —	$ 104,757	$ (1,578)	$ (95,066)	$ 8,113

The accompanying notes are an integral part of these consolidated financial statements.

SMARTKEM, INC. AND SUBSIDIARIES
Consolidated Statements of Cash Flows
(in thousands)

	Year Ended December 31,	
	2024	**2023**
Cash flow from operating activities:		
Net loss	$ (10,330)	$ (8,499)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation	258	145
Stock-based compensation expense	850	717
Issuance of common stock to vendor	253	55
Right-of-use asset amortization	268	263
Gain/(loss) on foreign currency transactions	647	(1,120)
Transaction costs allocable to warrants	—	198
Change in fair value of the warrant liability	(672)	(465)
Change in operating assets and liabilities:		
Accounts receivable	269	(231)
Research and development tax credit receivable	84	562
Prepaid expenses and other assets	(33)	70
Accounts payable and accrued expenses	504	459
Lease liabilities	(281)	(266)
Income tax payable	—	(23)
Other current liabilities	87	98
Net cash used in operating activities	(8,096)	(8,037)
Cash flows from investing activities:		
Purchases of property, plant and equipment	(75)	(18)
Net cash used by investing activities	(75)	(18)
Cash flow from financing activities:		
Proceeds from the issuance of preferred stock in private placement	—	12,386
Proceeds from the issuance of warrants in private placement	—	1,763
Proceeds from the issuance of common stock and warrants in private placement	3,300	—
Proceeds from the issuance of common stock and warrants in public offering	4,350	—
Payment of issuance costs	(1,142)	(1,483)
Proceeds from the exercise of warrants	24	25
Net cash provided by financing activities	6,532	12,691
Effect of exchange rate changes on cash	(56)	(35)
Net change in cash	(1,695)	4,601
Cash, beginning of period	8,836	4,235
Cash, end of period	$ 7,141	$ 8,836
Supplemental disclosure of cash and non-cash investing and financing activities		
Issuance of common shares for consulting services	$ 253	$ 55
Initial classification of fair value of warrants	$ —	$ 1,837
Right-of-use asset and lease liability additions	$ 82	$ 50

The accompanying notes are an integral part of these consolidated financial statements.

SMARTKEM, INC. AND SUBSIDIARIES
Notes to Consolidated Financial Statements

1. ORGANIZATION & BUSINESS

Organization & Reverse Recapitalization

SmartKem, Inc. ("SmartKem" or the "Company") a Delaware corporation, formerly known as Parasol Investments Corporation ("Parasol"), was formed on May 13, 2020, and is the successor, as discussed below, of SmartKem Limited, which was formed under the Laws of England and Wales. The Company was founded as a "shell" company registered under the Exchange Act, with no specific business plan or purpose until it began operating the business of SmartKem Limited following the closing of the Exchange described below.

On February 23, 2021, Parasol entered into a Securities Exchange Agreement ("the Exchange Agreement"), with SmartKem Limited. Pursuant to the Exchange Agreement all of the equity interests in SmartKem Limited, except certain deferred shares which had no economic or voting rights (the "Deferred Shares") and which were purchased by Parasol for an aggregate purchase price of $1.40, were exchanged for shares of Parasol common stock, par value $0.0001 per share ("common stock"), and SmartKem Limited became a wholly owned subsidiary of Parasol (the "Exchange").

As a result of the Exchange, Parasol legally acquired the business of SmartKem Limited, and continues as the existing business operations of SmartKem Limited as a public reporting company under the name SmartKem, Inc.

Business

We are seeking to change the world of electronics with a new class of transistor developed using our proprietary advanced semiconductor materials that we believe has the potential to revolutionize the display industry. Our TRUFLEX® semiconductor polymers enable low temperature printing processes that are compatible with existing manufacturing infrastructure to deliver low-cost, high-performance displays. Our semiconductor platform can be used in a range of display technologies including MicroLED, miniLED and AMOLED, as well as in applications in advanced chip packaging, sensors and logic.

The consolidated entity presented is referred to herein as "SmartKem", "we", "us", "our", or the "Company", as the context requires and unless otherwise noted.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES:

Basis for Presentation

These consolidated financial statements have been prepared in accordance with the rules and regulations of the Securities and Exchange Commission and accounting principles generally accepted in the United States of America ("US GAAP") as defined by the Financial Accounting Standards Board (FASB) within the FASB Accounting Standards Codification ("ASC") and are presented in thousands, except number of shares and per share data.

Going Concern

As of December 31, 2024, we have incurred recurring losses including net losses of $10.3 million and $8.5 million for the years ended December 31, 2024, and 2023, respectively. We anticipate operating losses to continue for the foreseeable future due to, among other things, costs related to research funding, further development of our technology and products and expenses related to the commercialization of our products.

In December 2024, the Company raised $7.7 million through an offering of common stock and warrants. Net proceeds after related expenses were $6.5 million.

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The Company expects that its cash and cash equivalents of $7.1 million as of December 31, 2024, will not be sufficient to fund its operating expenses and capital expenditure requirements for the 12 months from the issuance of these financial statements and that the Company will require additional capital funding to continue its operations and research development activity thereafter. It is possible this period could be shortened if there are any significant increases in spending or more rapid progress of development programs than anticipated.

Our future viability is dependent on our ability to raise additional capital to fund our operations. We will need to obtain additional funds to satisfy our operational needs and to fund our sales and marketing efforts, research and development expenditures, and business development activities. Until such time, if ever, as we can generate sufficient cash through revenue, management's plans are to finance our working capital requirements through a combination of equity offerings, debt financings, collaborations, strategic alliances and marketing, distribution or licensing arrangements. If we raise additional funds by issuing equity securities, our existing security holders will likely experience dilution. If we borrow money, the incurrence of indebtedness would result in increased debt service obligations and could require us to agree to operating and financial covenants that could restrict our operations. If we enter into a collaboration, strategic alliance or other similar arrangement, we may be forced to give up valuable rights. There can be no assurance however that such financing will be available in sufficient amounts, when and if needed, on acceptable terms or at all. The precise amount and timing of the funding needs cannot be determined accurately at this time, and will depend on a number of factors, including the market demand for the Company's products and services, the quality of product development efforts, management of working capital, and continuation of normal payment terms and conditions for purchase of services. If the Company is unable to substantially increase revenues, reduce expenditures, or otherwise generate cash flows for operations, then the Company will need to raise additional funding.

There is substantial doubt that the Company will be able to pay its obligations as they fall due, and this substantial doubt is not alleviated by management plans. The consolidated financial statements as of December 31, 2024 have been prepared assuming that the Company will continue as a going concern. Accordingly, the consolidated financial statements do not include any adjustments to the amounts and classification of assets and liabilities that may be necessary should the Company be unable to continue as a going concern

Basis of Consolidation

The consolidated financial statements include the accounts of SmartKem, Inc. and its wholly-owned subsidiary, SmartKem Limited. The Company does not have any non-consolidated subsidiaries. All intercompany balances and transactions have been eliminated on consolidation, including unrealized gains and losses on transactions between the companies.

Comprehensive loss

Comprehensive loss of all periods presented is comprised primarily of net loss and foreign currency translation adjustments.

Management's Use of Estimates

The preparation of consolidated financial statements in conformity with US GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, including disclosure of contingent assets and liabilities, at the date of the consolidated financial statements, and the reported amounts of revenues and expenses during the reporting period. The most significant estimates in the Company's consolidated financial statements relates to the fair value of share options and the fair value of warrant liability. These estimates and assumptions are based on current facts, historical experience and various other factors believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities and the recording of expenses that are not readily apparent from other sources. Due to the uncertainty of

factors surrounding the estimates or judgments used in the preparation of the consolidated financial statements, actual results may materially vary from these estimates.

Certain Risk and Uncertainties

The Company's activities are subject to significant risks and uncertainties including the risk of failure to secure additional funding to properly execute the Company's business plan. The Company is subject to risks that are common to companies in the growth stage, including, but not limited to, development by the Company or its competitors of new technological innovations, dependence on key personnel, reliance on third party manufacturers, protection of proprietary technology, and compliance with regulatory requirements.

The Company has access under a framework agreement to equipment which is used in the manufacturing of demonstrator products employing the Company's inks. If the Company lost access to this fabrication facility, it would materially and adversely affect the Company's ability to manufacture prototypes and demonstrate products for potential customers. The loss of this access could significantly impede the Company's ability to engage in product development and process improvement activities. Alternative providers of similar services exist but would take effort and time to bring into the Company's operations.

Cash and Cash Equivalents

The Company considers all highly liquid investments purchased with original maturities of 90 days or less at acquisition to be cash equivalents. As of December 31, 2024 and 2023, the Company did not have any cash equivalents.

Accounts Receivable

Accounts receivable are stated at the amount the Company expects to collect and do not bear interest. The Company considers the following factors when determining the collectability of specific customer accounts: customer creditworthiness, past transaction history with the customer, current economic industry trends, and changes in customer payment terms. These receivables have historically been paid timely. Due to the nature of the accounts receivable balance, the Company believes there is no significant risk of non-collection. If the financial condition of the Company's customers were to deteriorate, adversely affecting their ability to make payments, allowances for credit losses would be required. There was no allowance for credit losses recorded as of December 31, 2024 and 2023.

Concentrations of Credit Risk

Financial instruments that potentially subject the Company to significant concentration of credit risk consist primarily of cash and cash equivalents and accounts receivable. Periodically, the Company maintains deposits in financial institutions in excess of government insured limits.

Property, Plant and Equipment

Property, plant and equipment is stated at cost, less accumulated depreciation. Maintenance and repairs are expensed when incurred. Additions and improvements that extend the economic useful life of the asset are capitalized and depreciated over the remaining useful lives of the assets. The cost and accumulated depreciation of assets sold or retired are removed from the respective accounts, and any resulting gain or loss is reflected in current earnings. Depreciation and amortization are provided using the accelerated declining balance method in amounts considered to be sufficient to amortize the cost of the assets to operations over their estimated useful lives. Property, plant and equipment is depreciated over an estimated useful life of approximately 4 years.

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Impairment of Long-Lived Assets

Management continually evaluates whether events or changes in circumstances might indicate that the remaining estimated useful life of long-lived assets may warrant revision, or that the remaining balance may not be recoverable. When factors indicate that long-lived assets should be evaluated for possible impairment, the Company uses an estimate of the related undiscounted cash flows in measuring whether the long-lived asset should be written down to fair value. Measurement of the amount of impairment would be based on generally accepted valuation methodologies, as deemed appropriate. If the carrying amount is greater than the undiscounted cash flows, the carrying amount of the asset is reduced to the asset's fair value. An impairment loss is recognized immediately as an operating expense in the consolidated statements of operations. Reversal of previously recorded impairment losses are prohibited. As of December 31, 2024, and 2023, Company's management believed that no revision to the remaining useful lives or impairment of the Company's long-lived assets was required.

Fair Value of Financial Instruments

ASC 820, *Fair Value Measurements*, provides guidance on the development and disclosure of fair value measurements. Under this accounting guidance, fair value is defined as an exit price, representing the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. As such, fair value is a market-based measurement that should be determined based on assumptions that market participants would use in pricing an asset or a liability.

The accounting guidance classifies fair value measurements in one of the following three categories for disclosure purposes:

Level 1: Quoted prices in active markets for identical assets or liabilities.

Level 2: Inputs other than Level 1 prices for similar assets or liabilities that are directly or indirectly observable in the marketplace.

Level 3: Unobservable inputs which are supported by little, or no market activity and values determined using pricing models, discounted cash flow methodologies, or similar techniques, as well as instruments for which the determination of fair value requires significant judgment or estimation.

Fair value measurements discussed herein are based upon certain market assumptions and pertinent information available to management as of and during the years ended December 31, 2024, and 2023. The carrying value of the Company's cash, accounts receivable, other receivables, and accounts payable approximate fair value because of the short-term maturity of these financial instruments.

Warrants

The accounting treatment of warrants issued is determined pursuant to the guidance provided by ASC 480, *Distinguishing Liabilities from Equity*, and ASC 815-40, *Contracts in Entity's Own Equity*, as applicable. Each feature of a freestanding financial instrument including, without limitation, any rights relating to subsequent dilutive issuance, dividend issuances, equity sales, rights offerings, forced conversions, dividends, and exercise are assessed with determinations made regarding the proper classification in the Company's consolidated financial statements. The Company assessed its warrants in accordance with this guidance, under which warrants that do not meet the criteria for equity treatment and must be recorded as liabilities. Accordingly, the Company will classify those warrants as liabilities at their fair value and adjusts the warrants to fair value in respect of each reporting period. This liability is subject to re-measurement at each balance sheet date and any change in fair value is recognized in the statements of operations.

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Issuance Costs

The Company assessed the issuance cost in connection with the issuance of an equity offering. ASC 340-10-S99-1 and SEC Staff Accounting Bulletin ("SAB") Topic 5A, *Expenses of Offering,* states that specific incremental costs directly attributable to a proposed or actual offering of equity securities may properly be deferred and charged against the gross proceeds of the offering. Analogizing to that guidance, specific incremental costs directly attributable to the issuance of an equity contract to be classified in equity should generally be recorded as a reduction in equity. However, issuance costs for equity contracts that are classified as a liability should be expensed immediately. The issuance costs are allocated to the equity and liability components of the underlying transaction on a basis of the allocated fair value of the gross proceeds in the overall transactions.

Direct and incremental legal and accounting costs associated with the Company's issuance of common stock, preferred stock and warrants are deferred and classified as a component of other assets on the consolidated balance sheet until completion of the issuance. Upon completion of the issuance, deferred offering costs are reclassified from other assets to equity in additional paid-in capital and recorded against the net proceeds received in the issuance. For the year ended December 31, 2023, we recorded $1.5 million of offering costs of which $1.3 million were recorded in additional paid-in capital and $0.2 million were recorded as non-operating expenses and for the year ended December 31, 2022, $170 thousand of offering costs were recorded in additional paid-in capital.

Non-retirement Post-employment Benefits

The company records employee severance benefits as non-retirement post-employment benefits that are accounted for under the guidance of ASC 712-10 *Compensation - Nonretirement Postemployment Benefits*. A liability is accrued when it becomes probable that a payment will be made, and the amount is estimable. In most cases, a payment is not deemed probable until the employer makes the decision to terminate the employee. All severance payments identified were paid and expensed in the period incurred.

Leases

Operating lease assets are included within operating lease right-of-use assets, and the corresponding operating lease obligation on the consolidated balance sheets as of December 31, 2024 and 2023. The Company has elected not to present short-term leases as these leases have a lease term of 12 months or less at lease inception and do not contain purchase options or renewal terms that the Company is reasonably certain to exercise. All other lease assets and lease liabilities are recognized based on the present value of lease payments over the lease term at commencement date. Because most of the Company's leases do not provide an implicit rate of return, the Company used an incremental borrowing rate based on inception date of the lease agreement in determining the present value of lease payments.

Revenue

The Company applies the provisions of ASC 606, *Revenue from Contracts with Customers*. The Company recognizes revenue under the core principle to depict the transfer of control to the Company's customers in an amount reflecting the consideration the Company expects to be entitled to. In order to achieve that core principle, the Company applies the following five step approach: (1) identify the contract with a customer, (2) identify the performance obligations in the contract, (3) determine the transaction price, (4) allocate the transaction price to the performance obligations in the contact and (5) recognize revenue when a performance obligation is satisfied.

The Company's current contracts with customers do not contain significant estimates or judgments. All of the Company's revenue contains a single performance obligation that is recognized upon fulfilment of the sales order.

The Company derives its revenues primarily from sales of TRUFLEX® inks and of demonstrator units to customers evaluating organic semiconductor technology. The transaction price is stated in each customer agreement and is

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allocated to a single performance obligation. Revenue is recognized upon shipment of each TRULFEX® ink or demonstrator, at a point in time. The Company does not have any significant financing components as payment is received at or shortly after the point of sale. Costs incurred to obtain a contract will be expensed as incurred when the amortization period is less than a year.

Collaboration Arrangements

The Company entered into several collaboration agreements during 2024. The business arrangements between the two parties are not accounted for as a Collaborative Arrangement, as defined within the guidance under ASC 808, *Collaborative Arrangement*, as both parties are not exposed to significant risks and rewards depending on the commercial success of the activity.

It has also determined that other parties are a vendor and not a customer, as defined within the guidance under ASC 606, as the other parties did not primarily contract with SmartKem to obtain goods or services that are an output of the entity's ordinary activities in exchange for consideration. It was SmartKem that contracted with the other parties to obtain design services from it.

These agreements are accounted for under the guidance of ASC 705, *Cost of Sales and Service.* Within ASC 705–20, *Accounting for Consideration Received from a Vendor*, the section discusses the accounting for consideration received by an entity from a vendor or supplier. Consideration from a vendor includes cash amounts that an entity receives or expects to receive from a vendor (or from other parties that sell the goods or services to the vendor). Consideration from a vendor also includes credit or other items (e.g., a coupon or voucher) that the entity can apply against amounts owed to the vendor (or to other parties that sell the goods or services to the vendor). Consideration from a vendor should be accounted for as a reduction of the purchase price of the goods or services acquired from the vendor unless the consideration from the vendor is one of the following, a) in exchange for a distinct good or service; b) a reimbursement of costs incurred by the entity to sell the vendor's products; or c) consideration for sales incentives offered to customers by manufacturers.

Contract Liability

As of December 31, 2024, the Company has recognized contract liabilities of $0.5 million, primarily related to advance payments received from collaboration agreements for services to be performed in future periods. These contract liabilities are expected to be recognized as revenue within the next 12 months.

Research and Development Expenses

The Company expenses research and development costs as incurred. Research and development costs include salaries, employee benefit costs, direct project costs, supplies and other related costs. Advance payments for goods and services that will be used in future research and development activities are expensed when the activity has been performed or when the goods have been received.

Patent and Licensing Costs

Patent and licensing costs are expensed as incurred because their realization is uncertain. These costs are classified as research and development expenses in the accompanying consolidated statements of operations and comprehensive loss.

Other Operating Income

The Company's other operating income includes government grants received for qualifying research and development projects, and research and development tax credits related to the United Kingdom's Research and Development tax

relief for small and medium-sized enterprises, which is a government tax incentive designed to reward innovative companies for investing in research and development. Such incentives are recorded as other income when it is probable the amounts are collectible and can be reasonably estimated.

The Company has applied the guidance of IAS 20, *Accounting for Government Grants and Disclosure of Government Assistance* to account for grants and recognition of the other operating income related to the grant. The government grant is recognized only when there is reasonable assurance that a) the Company will comply with any conditions attached to the grant and, (b) the grant will be received. The grant is recognized as income over the period necessary to match the related costs, for which the grant is intended to compensated, on a systematic basis. A grant receivable as compensation for costs already incurred or for immediate financial support, with no future related costs, is recognized as other operating income in the period in which it is receivable.

For the year ended December 31, 2024 and 2023, the Company recorded grant income and research & development tax credits of $1.0 million and $0.8 million, respectively, which are recorded as other operating income in the accompanying consolidated statements of operations. As of December 31, 2024 and 2023, the Company had receivables related to research & development tax credits for payments not yet received of $0.5 million and $0.6 million, respectively and receivables related to a government grants of $62 thousand as of December 31, 2024 and $160 thousand as of December 31, 2023.

Share-based compensation

All share-based payments, including grants of stock options, are measured based on the fair value of the share-based awards at the grant date and recognized over their respective vesting periods. Outstanding options generally expire 10 years after the grant date. The Company has issued options that vest based on service requirements and issued options that vest based on performance requirements. Options become exercisable when service requirements are met. In the case of performance-based options, options become exercisable when there is a liquidity event, such as a change in control, sale, or admission (listing as a public company or initial public offering ("IPO")), and the employee, or consultant, must be providing services to the Company at the time of the event. Due to the Exchange, all options outstanding immediately prior to the event with a performance obligation requirement became vested and exercisable. Non-cash stock-based compensation expense for the year ended December 31, 2024 and 2023 were $0.9 million and $0.7 million, respectively (see also Note 9).

The estimated fair value of stock options at the grant date is determined using the Black-Scholes pricing model. The Black-Scholes option pricing model requires inputs such as the fair value of common stock on date of grant, expected term using a simplified method, expected volatility, dividend yield, and risk-free interest rate. The assumptions used in calculating the fair value of stock-based awards represent management's best estimates and involve inherent uncertainties and the application of management's judgment. As a result, if factors change and management uses different assumptions, stock-based compensation expense could be materially different for future awards. The Company records forfeitures when they occur.

Functional Currency and Operations

Prior to the Exchange, SmartKem Limited's ("the predecessor's") functional currency was the British Pound Sterling ("GBP"), and the consolidated financial statements were presented in United States dollars ("USD"). The predecessor's functional currency was the respective local currency of the primary economic environment in which an entity's operations are conducted. The predecessor translated the consolidated financial statements into the presentation currency using exchange rates in effect on the balance sheet date for assets and liabilities and average exchanges rates for the period for statement of operations accounts, with the difference recognized in accumulated other comprehensive loss.

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The Company's functional currency is USD. The functional currency of the Company's foreign operation is the respective local currency. Assets and liabilities of foreign operations denominated in local currencies are translated at the spot rate in effect at the applicable reporting date. The consolidated statements of operations and comprehensive loss are translated at the weighted average rate of exchange during the applicable period. The resulting unrealized gain/loss is recognized as foreign currency translation as a component of other comprehensive income.

Income Taxes

Valuation allowance of deferred tax assets

Income taxes are recorded in accordance with ASC 740, *Income Taxes*, which provides for deferred taxes using an asset and liability approach. The Company recognizes deferred tax assets and liabilities for the expected future tax consequences of events that have been included in the consolidated financial statements or tax returns. Deferred tax assets and liabilities are determined based on the difference between the financial statement and tax basis of assets and liabilities using enacted tax rates in effect for the year in which the differences are expected to reverse. Valuation allowances are provided, if based upon the weight of available evidence, it is more likely than not that some or all of the deferred tax assets will not be realized.

We considered the positive and negative evidence bearing upon its ability to realize the deferred tax assets. In addition to the Company's history of cumulative losses, the Company cannot be certain that future taxable income will be sufficient to realize its deferred tax assets. Accordingly, a full valuation allowance has been provided against its net deferred tax assets at both December 31, 2024 and 2023. Should the Company change its determination, based on the evidence available as to the amount of its deferred tax assets that can be realized, the valuation allowance will be adjusted with a corresponding impact to the provision for income taxes in the period in which such determination is made and which may be material.

As of December 31, 2024, and 2023, there were no material uncertain tax positions.

Contingent Liabilities

A provision for contingent liabilities is recorded when it is both probable that a liability has been incurred and the amount of the loss can be reasonably estimated. With respect to legal matters, provisions are reviewed and adjusted to reflect the impact of negotiations, estimated settlements, legal rulings, advice of legal counsel and other information and events pertaining to a particular matter. From time to time, the Company may be party to certain litigation and disputes arising in the normal course of business. As of December 31, 2024, the Company is not a party to any litigation or disputes.

Segment Information

Operating segments are defined as components of an enterprise about which separate discrete information is available for evaluation by the chief operating decision-maker, or decision-making group, in deciding how to allocate resources and in assessing performance. The Company views its operations and manages its business as one operating segment: Semiconductor materials.

Basic and Diluted Loss Per Share

Basic net loss per share is determined by dividing net loss by the weighted average shares of common stock outstanding during the period, without consideration of potentially dilutive securities, except for those shares that are issuable for little or no cash consideration. Diluted net loss per share is determined by dividing net loss by diluted weighted average shares outstanding. Diluted weighted average shares reflects the dilutive effect, if any, of potentially dilutive common shares, such as stock options and warrants calculated using the treasury stock method. In periods

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with reported net operating losses, all common stock options and warrants are generally deemed anti-dilutive such that basic net loss per share and diluted net loss per share are equal.
The following potentially dilutive securities were excluded from the computation of earnings per share as of December 31, 2024 and 2023 because their effects would be anti-dilutive:

	December 31,	
	2024	**2023**
Common stock warrants	4,450,324	1,772,829
Assumed conversion of preferred stock	1,973,200	1,573,226
Stock options	619,910	70,412
Total	7,043,434	3,416,467

Recent Accounting Pronouncements

In November 2023, the FASB issued Accounting Standards Update (ASU) No. 2023-07, *Segment Reporting* (Topic 280), *Improvements to Reportable Segment Disclosures* which will require companies to disclose significant segment expenses that are regularly provided to the CODM. The pronouncement is effective for annual filings for the year ended December 31, 2024. The adoption of this guidance did not have a material impact in the consolidated financial statements of the Company. See Note 14 – Segment Reporting for further information.

In December 2023, the FASB issued Accounting Standards Update (ASU) No. 2023-09, Income Taxes (Topic 740), Improvements to Income Tax Disclosures which will require companies to make additional income tax disclosures. The pronouncement is effective for annual filings for the year ended December 31, 2025. The Company is still assessing the impact of the adoption of this standard but does not expect it to have a material impact on its results of operations, financial position or cash flows.

On November 2024, the FASB issued Accounting Standards Update (ASU) No. 2024-03, Income Statement (Topic 220): Reporting Comprehensive Income - Expense Disaggregation Disclosures, Disaggregation of Income Statement Expenses, which requires public companies to disclose, in interim and annual reporting periods, additional information about certain expenses in the financial statements. The amendments in this pronouncement will be effective for annual periods beginning after December 15, 2026, and interim reporting periods beginning after December 15, 2027. Early adoption is permitted and is effective on either a prospective basis or retrospective basis. The Company is currently assessing the potential impacts of adoption on its consolidated financial statements and related disclosures.

The Organization for Economic Co-operation and Development (OECD) reached an agreement among various countries to implement a minimum 15% tax rate on certain multinational enterprises, commonly referred to as Pillar Two. Many countries continue to announce changes in their tax laws and regulations based on Pillar Two Proposals. We are continuing to evaluate the impact of these proposed and enacted legislative changes as new guidance becomes available. Given the numerous proposed changes in law and uncertainty regarding such proposed changes, the impact cannot be determined at this time. As the Company is U.S. headquartered and subject to the controlled foreign corporation regime in the United States, we expect the impact would be minimal.

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3. PREPAID EXPENSES AND OTHER CURRENT ASSETS:

Prepaid expenses and other current assets consist of the following:

(in thousands)	December 31, 2024	December 31, 2023
Prepaid insurance	$ 194	$ 274
Deferred research & development costs	138	—
Research grant receivable	62	160
Prepaid facility costs	67	101
VAT receivable	319	104
Prepaid software licenses	66	24
Prepaid professional service fees	—	68
Other receivable and other prepaid expenses	3	80
Total prepaid expenses and other current assets	$ 849	$ 811

4. PROPERTY, PLANT AND EQUIPMENT:

Property, plant and equipment consist of the following:

(in thousands)	December 31, 2024	December 31, 2023
Plant and equipment	$ 1,562	$ 1,584
Furniture and fixtures	106	108
Computer hardware and software	98	24
	1,766	1,716
Less: Accumulated depreciation	(1,497)	(1,261)
Property, plant and equipment, net	$ 269	$ 455

Depreciation expense was $0.3 million and $0.1 million for the year ended December 31, 2024 and 2023, respectively, and is classified as research and development expense.

5. ACCOUNTS PAYABLE AND ACCRUED EXPENSES:

Accounts payable and accrued expenses consist of the following:

(in thousands)	December 31, 2024	December 31, 2023
Accounts payable - trade	$ 843	$ 355
Payroll liabilities	397	375
VAT payable	287	—
Accrued expenses – audit & accounting fees	106	182
Accrued expenses – technical fees	—	91
Accrued expenses – other	158	175
Total accounts payable and accrued expenses	$ 1,791	$ 1,178

6. LEASES:

The Company has operating leases consisting of office space, lab space, and equipment with remaining lease terms of 1 to 3 years, subject to certain renewal options as applicable.

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The table below presents certain information related to the lease costs for the Company's operating leases for the periods ended:

	Year Ended December 31,	
(in thousands)	**2024**	**2023**
Operating lease cost	$ 293	$ 276
Short-term lease cost	29	7
Variable lease cost	—	162
Total lease cost	$ 322	$ 445

The total lease cost is included in the consolidated statements of operations as follows:

	Year Ended December 31,	
(in thousands)	**2024**	**2023**
Research and development	$ 293	$ 419
General and administrative	29	26
Total lease cost	$ 322	$ 445

Right of use lease assets and lease liabilities for our operating leases were recorded in the consolidated balance sheets as follows:

(in thousands)	**December 31, 2024**	**December 31, 2023**
Assets		
Right of use assets - Operating Leases	$ 120	$ 285
Total lease assets	$ 120	$ 285
Liabilities		
Current liabilities:		
Lease liability, current - Operating Leases	$ 47	$ 230
Noncurrent liabilities:		
Lease liability, non-current - Operating Leases	25	19
Total lease liabilities	$ 72	$ 249

The Company had no right of use lease assets or lease liabilities classified financing leases as of December 31, 2024 and 2023.

The table below presents certain information related to the cash flows for the Company's operating leases for the periods ended:

	Year Ended December 31,	
(in thousands)	**2024**	**2023**
Operating cash outflows from operating leases	$ 281	$ 266
Supplemental non-cash amounts of operating lease liabilities arising from obtaining right of use assets	$ 82	$ 50

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The table below presents certain information related to the weighted average remaining lease term and the weighted average discount rate for the Company's operating leases as of the period ended:

	Year Ended December 31,	
	2024	**2023**
Weighted average remaining lease term (in years) – operating leases	1.47	1.31
Weighted average discount rate – operating leases	10.31%	7.88%

Undiscounted operating lease liabilities as of December 31, 2024, by year and in the aggregate, having non-cancelable lease terms in excess of one year were as follows:

(in thousands)	**December 31, 2024**
2025	$ 51
2026	22
2027	5
Total undiscounted lease payments	78
Less imputed interest	(6)
Total net lease liabilities	$ 72

7. COMMITMENTS AND CONTINGENCIES:

Legal proceedings

In the normal course of business, the Company may become involved in legal disputes regarding various litigation matters. In the opinion of management, any potential liabilities resulting from such claims would not have a material effect on the consolidated financial statements.

8. STOCKHOLDERS' EQUITY:

Preferred Stock

The board of directors has the authority, without further action by the stockholders, to issue up to 10,000,000 shares of preferred stock in one or more series and to fix the rights, preferences, privileges and restrictions thereof. These rights, preferences, and privileges could include dividend rights, conversion rights, voting rights, redemption rights, liquidation preferences, sinking fund terms, and the number of shares constituting any series or the designation of such series, any or all of which may be greater than the rights of common stock.

Series A-1 Preferred Stock

On June 14, 2023, the Company filed a Certificate of Designation of Preferences, Rights and Limitations with the Secretary of State of the State of Delaware designating 18,000 shares out of the authorized but unissued shares of its preferred stock as Series A-1 Preferred Stock with a stated value of $1,000 per share (the "Series A-1 Certificate of Designation"). On January 29, 2024, the Company filed an Amended and Restated Certificate of Designation of Preferences, Rights and Limitation with the Secretary of the State of Delaware designating 11,100 shares of Series A-1 Preferred Stock, and on December 20, 2024, the Company filed a Second Amended and Restated Certificate of Designation of Preferences, Rights and Limitation with the Secretary of the State of

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Delaware designating 11,100 shares of Series A-1 Preferred Stock. The following is a summary of the principal amended and restated terms of the Series A-1 Preferred Stock as set forth in the Second Amended and Restated Series A-1 Certificate of Designation:

Dividends

The holders of Series A-1 Preferred Stock will be entitled to dividends, on an as-if converted basis, equal to and in the same form as dividends actually paid on shares of common stock, when and if actually paid.

Voting Rights

The shares of Series A-1 Preferred Stock have no voting rights, except to the extent required by the Delaware General Corporation Law.

As long as any shares of Series A-1 Preferred Stock are outstanding, the Company may not, without the approval of a majority of the then outstanding shares of Series A-1 Preferred Stock which must include AIGH Investment Partners LP and its affiliates ("AIGH") for so long as AIGH is holding at least $1,500,000 in aggregate stated value of Series A-1 Preferred Stock acquired pursuant to the Purchase Agreement (a) alter or change the powers, preferences or rights given to the Series A-1 Preferred Stock, (b) alter or amend the Amended and Restated Certificate of Incorporation (the "Charter"), the Series A-1 Certificate of Designation or the or the bylaws of the Company (the "Bylaws") in such a manner so as to materially adversely affect any rights given to the Series A-1 Preferred Stock, (c) increase the number of authorized shares of Series A-1 Preferred Stock, (d) issue any Series A-1 Preferred Stock except pursuant to the Purchase Agreement, or (e) enter into any agreement to do any of the foregoing.

Liquidation

Upon any liquidation, dissolution or winding-up of the Company, whether voluntary or involuntary (a "Liquidation"), the then holders of the Series A-1 Preferred Stock are entitled to receive, *pari passu* with holders of the common stock, out of the assets available for distribution to stockholders of the Company an amount equal to the amount that would otherwise be payable to them if all of the shares of Series A-1 Preferred Stock had converted into shares of common stock immediately prior to such Liquidation.

Conversion

The Series A-1 Preferred Stock is convertible into common stock at a conversion price of $4.34.

Conversion at the Option of the Holder

From and after the earlier of (i) the date on which the registration statement covering the resale or other disposition of the additional shares of common stock that are issuable as a result of the Second Amended and Restated Certificate of Designation of the Series A-1 Preferred Stock is declared effective by the SEC (the "Effective Date") and (ii) the six-month anniversary of December 20, 2024, the Series A-1 Preferred Stock is convertible at the then-effective Series A-1 Conversion Price at the option of the holder at any time and from time to time.

Mandatory Conversion

All outstanding shares of Series A-1 Preferred Stock shall automatically be converted into shares of common stock upon the earlier of (i) the Effective Date and (ii) the date and time, or upon the occurrence of an event, specified by vote or written consent of the holders of a majority of the then outstanding

shares of the Series A-1 Preferred Stock which must include AIGH for so long as AIGH is holding at least $1,500,000 in aggregate Stated Value of Series A-1 Preferred Stock (a "Mandatory Conversion"). In the case of a Mandatory Conversion, the holders of Series A-1 Preferred Stock shall receive (i) shares of shares in an amount that would not cause such holder to exceed its Beneficial Ownership Limitation (as defined below) (after giving effect to the Mandatory Conversion of shares of Series A-1 Preferred Stock held by the other holders), and (ii) Class C Warrants exercisable for the remaining shares which the holder would otherwise be entitled to receive.

Beneficial Ownership Limitation

The Series A-1 Preferred Stock cannot be converted to common stock if the holder and its affiliates would beneficially own more than 4.99% (or 9.99% at the election of the holder) of the outstanding common stock. However, any holder may increase or decrease such percentage to any other percentage not in excess of 9.99% upon notice to us, provided that any increase in this limitation will not be effective until 61 days after such notice from the holder to us and such increase or decrease will apply only to the holder providing such notice.

Preemptive Rights

No holders of Series A-1 Preferred Stock will, as holders of Series A-1 Preferred Stock, have any preemptive rights to purchase or subscribe for common stock or any of our other securities.

Redemption

The shares of Series A-1 Preferred Stock are not redeemable by the Company.

Trading Market

There is no established trading market for any of the Series A-1 Preferred Stock, and we do not expect a market to develop. We do not intend to apply for a listing for any of the Series A-1 Preferred Stock on any securities exchange or other nationally recognized trading system. Without an active trading market, the liquidity of the Series A-1 Preferred Stock will be limited.

Series A-2 Preferred Stock

On June 14, 2023, the Company filed a Certificate of Designation of Preferences, Rights and Limitations with the Secretary of State of the State of Delaware designating 18,000 shares out of the authorized but unissued shares of its preferred stock as Series A-2 Preferred Stock with a stated value of $1,000 per share (the "Series A-2 Certificate of Designation").

Pursuant to the terms of the Series A -2 Certificate of Designation, on May 30, 2024, the trading day immediately prior to the listing of the common stock on the Nasdaq Capital Market, the 2,411 then outstanding shares of Series A-2 Preferred Stock automatically converted into an aggregate of 275,576 shares of common stock. The Company filed a Certificate of Elimination with respect to the Series A-2 Certificate of Designation, pursuant to which, effective June 18, 2024, all matters set forth in the Series A-2 Certificate of Designation were eliminated from the Company's Amended and Restated Certificate of Incorporation.

Series A-1 and A-2 Preferred Stock and Class A and Class B Warrant Issuances and related Amendments

On June 14, 2023, the Company and certain investors entered into a securities purchase agreement (the "Purchase Agreement") pursuant to which the Company sold an aggregate of (i) 9,229 shares of Series A-1 Convertible Preferred Stock at a price of $1,000 per share (the "Series A-1 Preferred Stock"), (ii) 2,950 shares of the Company's

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Series A-2 Convertible Preferred Stock at a price of $1,000 per share ("Series A-2 Preferred Stock" and together with the Series A-1 Preferred Stock, the "Preferred Stock"), (iii) Class A Warrants to purchase up to an aggregate of 1,391,927 shares of common stock (the "Class A Warrant"), and (iv) Class B Warrants to purchase up to an aggregate of 798,396 shares of common stock (the "Class B Warrant" and together with the Class A Warrant, the "Warrants") for aggregate gross proceeds of $12.2 million (the "June 2023 PIPE"). In addition, 34,286 Class B Warrants were issued in lieu of cash payments for consulting services related to the offering. The fair value of the service provided was $59 thousand.

On June 22, 2023, in a second closing of the June 2023 PIPE, the Company sold an aggregate of (i) 1,870.36596 Series A-1 Preferred Stock, (ii) 100 shares of Series A-2 Preferred Stock, and (iii) Class A Warrants to purchase up to an aggregate of 225,190 shares of common stock pursuant to the Purchase Agreement for aggregate gross proceeds of $2.0 million. In addition, 8,572 Class B Warrants were issued in lieu of cash payments for consulting services related to the offering. The fair value of the service provided was $15 thousand.

Each Class A Warrant has an exercise price of $8.75 and each Class B Warrant has an exercise price of $0.35, both subject to adjustments in accordance with the terms of the Warrants. The Warrants expire five years from the issuance date.

There were an additional 127,551 warrants issued related to a placement agent fee. The fair value of this fee is $31 thousand.

The Company accounted for the Class A and Class B Warrants as derivative instruments in accordance with ASC 815, Derivatives and Hedging. The Company classified the Warrants as a liability because they could not be considered indexed to the Company's stock due to provisions that, in certain circumstances, adjust the number of shares to be issued if the exercise price is adjusted and the existence of a pre-specified volatility input to the Black-Scholes calculation which could be used to calculate consideration in the event of a Fundamental Transaction, as defined in the agreements. Upon the Company's May 31, 2024 uplisting to the Nasdaq Capital Market, the provisions relating to the adjustment in the number of shares were no longer in effect. Additionally, the Company re-evaluated the pre-specified volatility input and determined that this did not preclude the Warrants from being considered indexed to the Company's stock. As a result, the Warrants are accounted for as an equity instrument beginning on May 31, 2024.

The Company received net proceeds after expenses of $12.7 million. Of the net proceeds, the Company initially allocated an estimated fair value of $1.8 million to the derivative instrument liability related to the Warrants. The Company also expensed $0.2 million of issuance costs that were allocated to the warrant liability.

January 2024 Consent, Conversion and Amendment Agreement

On January 26, 2024, the Company entered into a Consent, Conversion and Amendment Agreement (the "Consent Agreement") with each holder of the Series A-1 Preferred Stock (each a "Holder" and together, the "Holders"). Pursuant to the Consent Agreement, each Holder converted, subject to the terms and conditions of the Consent Agreement, 90% of its Series A-1 Preferred Stock (the "Conversion Commitment") into shares of common stock or Class C Warrants (each a "Class C Warrant") covering the shares of common stock that would have been issued to such Holder but for the Beneficial Ownership Limitation (the "Exchange"). The Class C Warrants have an exercise price of $0.0001, were exercisable upon issuance and will expire when exercised in full.

Under the Consent Agreement, the Company issued (i) 412,293 shares of common stock and (ii) Class C Warrants to purchase up to 726,344 shares of common stock upon the conversion or exchange of an aggregate of 9,963 shares of Series A-1 Preferred Stock. 1,106 shares of Series A-1 Preferred Stock remained outstanding after giving effect to the transactions contemplated by the Consent Agreement.

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Pursuant to the Consent Agreement, the Company and the Holders agreed to amend and restate the Certificate of Designation of Preferences, Rights and Limitations for the Series A-1 Preferred Stock to (i) make certain adjustments to reflect the Company's one-for-thirty-five (1:35) reverse stock split effected on September 21, 2023, (ii) remove all voting rights, except as required by applicable law, (iii) increase the stated value of the Series A-1 Preferred Stock to $10,000 from $1,000, and (iv) adjust the conversion price of the Series A-1 Preferred Stock to $87.50 as a result of the increase in stated value.

The Company credited additional paid in capital $7.1 million for deemed dividends as a result of (i) the exchange of Series A-1 Preferred Shares for Series C Warrants, based on the fair value of the Series C Warrants in excess of the carrying value of the preferred shares and (ii) the amendment of Series A-1 Preferred Stock accounted for as an extinguishment, based on the fair value of the Series A-1 Preferred Stock immediately before and after the amendments. The Company estimated the fair value of the deemed dividend related to the exchange of Series A-1 Preferred Stock for Series C Warrants as part of the fair value model utilized to value all the securities issued in the transaction with the stock price input estimated as of the January 26, 2024, transaction date. The Company estimated the fair value of the deemed dividend related to the amendment of preferred stock using an option pricing model based on the following assumptions: (1) dividend yield of 19.99%, (2) expected volatility of 50.0%, (3) risk-free interest rate of 4.15%, and (4) expected life of 10.0 years.

December 2024 Consent and Amendment Agreement and Hewlett Release

On December 17, 2024, the Company entered into a Consent and Amendment Agreement (the "December 2024 Consent and Amendment Agreement") with certain holders of securities issued in the Company's June 2023 PIPE pursuant to which, among other things, such holders agreed to (i) amend certain of the terms of the Purchase Agreement, dated June 14, 2023 and (ii) amend and restate certain of the provisions of the Company's Series A-1 Preferred Stock effective immediately prior to the closing of the December 2024 Registered Direct Financing and Concurrent Private Placement discussed further below (the "Effective Time").

In the December 2024 Consent and Amendment Agreement, the such holders agreed to further amend and restate the Amended and Restated Series A-1 Certificate of Designation to, among other things: (i) remove the obligation of the Company to pay dividends on shares of the Series A-1 Preferred Stock in certain circumstances; (ii) remove the provisions of the Amended and Restated Series A-1 Certificate of Designation that required the Company to obtain the consent of the holders of a majority of the outstanding shares of Series A-1 Preferred Stock to take certain actions, such as the incurrence of certain indebtedness, the granting of liens and the purchase or redemption of outstanding equity securities; (iii) remove the liquidation preference applicable to the Series A-1 Preferred Stock; (iv) reduce the conversion price of the Series A-1 Preferred Stock to $4.34; (v) prevent the conversion of the Series A-1 Preferred Stock for a period ending on the earlier of (A) the effective date of a resale registration statement covering the additional shares of common stock issuable upon the conversion of the Series A-1 Preferred Stock as a result of the reduction in the conversion price and (B) the six-month anniversary of the Effective Time; (vi) provide for the automatic conversion of the Series A-1 Preferred Stock into either shares of common stock or the Company's Class C Warrants at the conversion price upon the earlier of (A) the Effective Date or (B) as determined by the written consent of the holders of at least a majority of the outstanding shares of Series A-1 Preferred Stock which must include AIGH for so long as AIGH holds at least $1,500,000 in aggregate Stated Value of Series A-1 Preferred Stock acquired pursuant to the Purchase Agreement; and (vii) remove certain price protection provisions which had expired pursuant to their terms.

The Company also entered into a General Release with the Hewlett Fund LP pursuant to which the Hewlett Fund LP agreed on its own behalf and on behalf of certain of its related parties to release the Company and certain of its related parties from any claims, including claims arising out of the transactions contemplated by the Purchase Agreement, effective as of the Effective Time, in exchange for Class C Warrants to purchase 750,000 shares of common stock.

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The Company credited additional paid in capital $2.0 million for deemed dividends as a result of (i) the amendment of Series A-1 Preferred Stock accounted for as an extinguishment, based on the fair value of the Series A-1 Preferred Stock immediately before and after the amendments and (ii) the issuance of Class C Warrants to purchase 750,000 shares of common stock. The Company estimated the fair value immediately prior to the amendment of preferred stock using an option pricing model based on the following assumptions: (1) dividend yield of 19.99%, (2) expected volatility of 50.0%, (3) risk-free interest rate of 4.15%, and (4) expected life of 10.0 years.

As of December 31, 2024, there were an aggregate of 856 shares of Series A-1 Preferred Stock outstanding. Pursuant to the terms of the Series A-2 Certificate of Designation, on May 30, 2024, the trading day immediately prior to the listing of the common stock on the Nasdaq Capital Market, the 2,411 then outstanding shares of Series A-2 Preferred Stock automatically converted into an aggregate of 275,576 shares of common stock. The Company filed a Certificate of Elimination with respect to the Series A-2 Certificate of Designation, pursuant to which, effective June 18, 2024, all matters set forth in the Series A-2 Certificate of Designation were eliminated from the Company's Amended and Restated Certificate of Incorporation.

Common Stock

Voting Rights

Each holder of common stock is entitled to one vote for each share on all matters submitted to a vote of the stockholders, including the election of directors. The Company's amended and restated certificate of incorporation and the Company's amended and restated bylaws do not provide for cumulative voting rights. The holders of one-third of the stock issued and outstanding and entitled to vote, present in person or represented by proxy, shall constitute a quorum for the transaction of business at all meetings of the stockholders.

Dividends

The Company has never paid any cash dividends to shareholders and does not anticipate paying any cash dividends to shareholders in the foreseeable future. Any future determination to pay cash dividends will be at the discretion of our board of directors and will be dependent upon financial condition, results of operations, capital requirements and such other factors as the board of directors deems relevant.

Market Information

The Company's common stock has been trading on the Nasdaq Stock Market LLC under the symbol "SMTK" since May 31, 2024.

December 2024 Registered Direct Financing and Concurrent Private Placement

On December 18, 2024, the Company entered into a securities purchase agreement with certain institutional investors pursuant to which the Company agreed to issue and sell: (i) in a registered direct public offering 1,449,997 shares of common stock; and (ii) in a concurrent private placement Class D Common Stock Purchase Warrants (the "Class D Warrants") to purchase up to 1,449,997 shares of common stock. The purchase price for each share of common stock sold in the Public Offering was $3.00.

Concurrently, the Company entered into a securities purchase agreement with certain institutional investors pursuant to which the Company agreed to issue and sell in a private placement: (i) 169,784 shares of common stock; (ii) Pre-funded Warrants to purchase up to 930,215 shares of common stock; and (iii) Class D Warrants to purchase up to 1,099,999 shares of common stock. The purchase price for each share of common stock sold in the Private Placement was $3.00. The purchase price for each Pre-funded Warrant sold in the Private Placement was $2.9999.

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Pre-funded Warrants

The Pre-funded Warrants may be exercised at any time until all of the Pre-funded Warrants are exercised in full. Each Pre-funded Warrant is exercisable for one share of common stock at an exercise price of $0.0001 per share of common stock.

Class D Warrants

The Class D Warrants have an exercise price of $3.00 per share of common stock. The Class D Warrants were exercisable upon issuance and will expire on December 31, 2025. If at the time of exercise more than six months after the issuance date there is no effective registration statement registering, or the prospectus contained therein is not available for the resale or other disposition of the shares of common stock underlying the Class D Warrants, then the Class D Warrants may be exercised, in whole or in part, at such time by means of a cashless exercise, in which case the holder would receive upon such exercise the net number of shares of common stock determined according to the formula set forth in the Class D Warrant.

The Company issued an additional 127,499 warrants to the placement agent.

The Company received gross proceeds of $7.7 million, before deducting offering expenses payable by the Company.

Common Stock Issued to Vendors for Services

On March 7, 2024, the Company issued 50,000 shares of common stock, as payment for consulting services.

On May 2, 2024, the Company issued 50,000 shares of common stock, as payment for consulting services.

On September 10, 2024, the Company issued 30,000 shares of common stock, as payment for consulting services.

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Common Stock Warrants

A summary of the Company's warrants to purchase common stock activity is as follows:

	Number of Shares	Exercise Price per Share	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term (Years)
Warrants outstanding at January 1, 2024	2,542,655	$0.35 - $70.00	$ 6.89	4.43
Issued	2,677,495		3.00	
Exercised	(48,720)		0.35	
Expired	—		—	
Warrants outstanding at December 31, 2024	5,171,430	$0.35 - $70.00	$ 4.94	2.26

A summary of the Company's pre-funded warrants to purchase common stock activity is as follows:

	Number of Shares	Weighted-Average Exercise Price
Pre-funded warrants outstanding at January 1, 2024	61,587	$ 0.3500
Issued	2,406,559	0.0001
Exercised	(149,644)	0.0460
Expired	—	
Pre-funded warrants outstanding at December 31, 2024	2,318,502	$ 0.0064

The Company's pre-funded warrants have no expiration date and may be exercised at any time until all of the pre-funded warrants are exercised in full.

August 2024 Shelf Registration Statement

On August 18, 2024, the Company filed a universal shelf registration statement on Form S-3 (the "August 2024 Shelf Registration Statement") with the SEC, pursuant to which the Company may offer, issue and sell any combination of shares of the Company's common stock, shares of the Company's preferred stock, debt securities, subscription rights, warrants, and units consisting of any combination of the other types of securities registered under such August 2024 Shelf Registration Statement in an aggregate amount of up to $100 million, in each case, to the public in one or more registered offerings. The August 2024 Shelf Registration Statement was declared effective on August 22, 2024.

9. SHARE-BASED COMPENSATION:

On February 23, 2021, the Company approved the 2021 Equity Incentive Plan ("2021 Plan"), in which a maximum aggregate number of shares of common stock that may be issued under the 2021 Plan is 65,000 shares. Subject to the adjustment provisions of the 2021 Plan, the number of shares of the Company's common stock available for issuance under the 2021 Plan will also include an annual increase on the first day of each fiscal year beginning with 2022 fiscal year and ending on the Company's 2031 fiscal year in an amount equal to the least of: 1) 65,000 shares of the Company's common stock; 2) four percent (4%) of the outstanding shares of the Company's common stock on the last day of the immediately preceding fiscal year; or 3) such number of shares of the Company's common stock as the administrator may determine.

At the 2023 Annual Meeting, the Company's stockholders approved an amendment (the "2021 Plan Amendment") to the Company's 2021 Plan, increasing the number of the shares of common stock reserved for issuance under the 2021

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Plan from 125,045 shares to 743,106 shares. The Company's Board of Directors (the "Board") had previously approved the 2021 Plan Amendment, subject to stockholder approval.

Determining the appropriate fair value of share-based awards requires the input of subjective assumptions, including the fair value of the Company's common stock, and for share options, the expected life of the option, and expected share price volatility. The Company uses the Black-Scholes option pricing model to value its share option awards. The assumptions used in calculating the fair value of share-based awards represent management's best estimates and involve inherent uncertainties and the application of management's judgment. As a result, if factors change and management uses different assumptions, the share-based compensation expense could be materially different for future awards.

	For Year Ended December 31, 2024
Expected term (years)	5.73
Risk-free interest rate	4.21%
Expected volatility	50%
Expected dividend yield	0%

The Company estimates its expected volatility by using a combination of historical share price volatilities of similar companies within our industry. The risk-free interest rate assumption is based on observed interest rates for the appropriate term of the Company's options on a grant date. The contractual term is 10 years, and the expected option term is lower.

The following table reflects share activity under the share option plans for the year ended December 31, 2024:

	Number of Shares	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term (Years)	Weighted-Average Fair Value at Grant Date	Aggregate Intrinsic Value *(in thousands)*
Options outstanding at January 1, 2024	70,411	$ 63.07	7.28	$ 33.98	
Granted	568,000	6.50			
Exercised	—	—			
Cancelled/Forfeited	(18,501)	70.00			
Expired	—	—			
Options outstanding at December 31, 2024	619,910	$ 12.31	9.06	$ 3.54	
Options exercisable at December 31, 2024	279,809	$ 17.65	8.49		$ 19.99

The aggregate intrinsic value of options is calculated as the difference between the exercise price of the options and the fair value of our common stock at the end of the year for those options that had exercise prices lower than the fair value of our common stock.

Stock-based compensation, including stock options is included in the consolidated statements of operations as follows:

	Year Ended December 31,	
(in thousands)	2024	2023
Research and development	$ 268	$ 254
General and administration	582	463
Total	$ 850	$ 717

As of December 31, 2024, there was $1.7 million of compensation cost related to non-vested stock option awards not yet recognized that will be recognized on a straight-line basis through the end of the vesting periods in June 2027. The

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amount of future stock option compensation expense could be affected by any future option grants or by any forfeitures.

10. INCOME TAXES:

United States and foreign profit/(loss) from operations before income taxes was as follows:

	December 31,	
	2024	**2023**
United States	(1,294)	(2,299)
Foreign	(9,035)	(6,200)
Loss before income taxes	$ (10,329)	$ (8,499)

A reconciliation of the statutory income tax rate to the Company's effective tax rate consists of the following:

	For the Years Ended December 31,	
	2024	**2023**
Taxes at domestic rate	21.0 %	21.0 %
State and local income taxes	- %	(1.4)%
Non-US statutory rates	3.5 %	1.8 %
Permanent items	(2.4)%	(1.6)%
Nondeductible Research Expense	(6.1)%	(7.4)%
Change in valuation allowance	(17.2)%	(16.9)%
Warrant revaluation	1.4 %	1.1 %
Prior year true-up	(0.2)%	3.4 %
Effective tax rate	— %	— %

The components of income tax provision/(benefit) are as follows:

	December 31,	
	2024	**2023**
Current		
Federal	$ —	$ —
State	1	—
Foreign	—	—
Total Current	$ 1	$ —
Deferred		
Federal	—	—
State	—	—
Foreign	—	—
Total Deferred	—	—
Total	$ 1	$ —

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Deferred income taxes reflect the net tax effects of temporary differences between the carrying value of assets and liabilities for financial reporting purposes and amounts used for income tax purposes. The temporary differences that give rise to deferred tax assets and liabilities are as follows:

	December 31,	
	2024	**2023**
Deferred tax assets/(liabilities):		
Net operating loss carryforwards	$ 12,356	$ 10,874
Stock Compensation	263	207
Property plant and equipment	(67)	(114)
Other	79	45
	12,631	11,012
Valuation allowance	(12,631)	(11,012)
Deferred tax assets, net of allowance	$ —	$ —

The Company recorded a full valuation allowance against its net deferred tax assets as of December 31, 2024, and 2023. The Company considered the positive and negative evidence bearing upon its ability to realize the deferred tax assets. In addition to the Company's history of cumulative losses, the Company cannot be certain that future taxable income will be sufficient to realize its deferred tax assets. Accordingly, a full valuation allowance has been provided against its net deferred tax assets. When the Company changes its determination as to the amount of its deferred tax assets that can be realized, the valuation allowance is adjusted with a corresponding impact to the provision for income taxes in the period in which such determination is made.

As of December 31, 2024, and 2023, the Company had United Kingdom net operating loss carry-forwards of approximately $43.3 million and $38.4 million, respectively. The United Kingdom net operating loss carry-forwards were generated in the tax years from 2009 to 2024 with an unlimited carry-forward period.

As of December 31, 2024, and 2023, the Company had United States federal net operating loss carry-forwards of approximately $6.4 million and $5.4 million, respectively. The United States federal net operating loss carry-forwards were generated in the tax years from 2020 to 2024 with an unlimited carry-forward period. As of December 31, 2024, and 2023, the Company had U.S. state net operating loss carry-forwards of approximately $1.8 million and $1.8 million, respectively. The U.S. state net operating loss carry-forwards were generated in the tax years from 2021 to 2022 expiring at various dates through 2042.

The Company has no uncertain tax positions, or penalties and interest accrued, that if recognized would reduce net operating loss carry-forwards or affect tax expense.

The Company files tax returns as prescribed by the tax laws in the Unites States and United Kingdom in which they operate. In the normal course of business, the Company is subject to examination by the federal jurisdiction based on the statute of limitations. As of December 31, 2024, open years related to the United States and United Kingdom are 2021 to 2023.

The Company has no open tax audits with any taxing authority as of December 31, 2024. As of December 31, 2024 and December 31, 2023, the Company had no accrued interest and penalties related to uncertain tax positions and no amounts have been recognized in the Company's statements of operations.

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11. DEFINED CONTRIBUTION PENSION:

The Company operates a defined contribution pension scheme. The assets of the scheme are held separately from those of the Company in an independently administered fund. The pension cost charge represents contributions payable by the Company to the fund. Pension cost is included in the consolidated statements of operations as follows:

	Year Ended December 31,	
(in thousands)	**2024**	**2023**
Research and development	$ 83	$ 90
General and administration	71	65
Total	$ 154	$ 155

As of December 31, 2024, there was $16 thousand owed to the pension scheme that is recorded under accounts payable and accrued expenses on the consolidated balances sheets. As of December 31, 2023, there was $5 thousand owed to the pension scheme.

12. FAIR VALUE MEASUREMENTS:

The table below presents activity within Level 3 of the fair value hierarchy, our liabilities carried at fair value for the year ended December 31, 2024:

(in thousands)	**Warrant Liability**
Balance at January 1,2024	$ 1,372
Total change in the liability included in earnings	(672)
Reclass from liability to equity	(700)
Balance at December 31, 2024	$ —

As disclosed in Note 8 of the Company's consolidated financial statements, the Company allocated part of the proceeds of private placement of the Company's Series A-1 Preferred Stock and Series A-2 Preferred Stock to warrant liability issued in connection with the transaction. The valuations of the warrants were determined using option pricing models. These models use inputs such as the underlying price of the shares issued at the measurement date, expected volatility, risk free interest rate and expected life of the instrument. Since our common stock was not publicly traded until February 2022 there has been insufficient volatility data available. Accordingly, we used an expected volatility based on historical common stock volatility of our peers. The Company initially accounted for the warrants as derivative instruments in accordance with ASC 815, adjusting the fair value at the end of each reporting period. Upon the Company's uplisting to the Nasdaq Capital Market on May 31, 2024, certain provisions within the warrant agreements were no longer in effect. As a result, the warrants are accounted for as an equity instrument, with the balance of the derivative liability on May 31, 2024 being transferred to Additional Paid-In Capital.

The fair value of the common stock warrants at May 30, 2024 and December 31, 2023 was determined by using option pricing models assuming the following:

	May 30 2024	**December 31 2023**
Expected term (years)	4.05	4.46
Risk-free interest rate	4.55%	3.81%
Expected volatility	50.0%	50.0%
Expected dividend yield	0.0%	0.0%

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Additionally, the Company had determined that the warrant liability should be classified within Level 3 of the fair-value hierarchy by evaluating each input for the option pricing models against the fair-value hierarchy criteria and using the lowest level of input as the basis for the fair-value classification as called for in ASC 820. There are six inputs: closing price of SmartKem stock on the day of evaluation; the exercise price of the warrants; the remaining term of the warrants; the volatility of the Company's stock over that term; annual rate of dividends; and the risk-free rate of return. Of those inputs, the exercise price of the warrants and the remaining term are readily observable in the warrant agreements. The annual rate of dividends is based on the Company's historical practice of not granting dividends. The closing price of SmartKem stock would fall under Level 1 of the fair-value hierarchy as it is a quoted price in an active market (ASC 820-10). The risk-free rate of return is a Level 2 input as defined in ASC 820-10, while the historical volatility is a Level 3 input as defined in ASC 820. Since the lowest level input is a Level 3, the Company determined the warrant liability is most appropriately classified within Level 3 of the fair value hierarchy.

There were no assets or liabilities measured at fair value as of December 31, 2024. The following tables present information about the Company's financial assets and liabilities that have been measured at fair value as of December 31, 2023 and indicate the fair value hierarchy of the valuation inputs utilized to determine such fair value.

Description	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	December 31, 2023
Liabilities:				
Warrant liability	$ —	$ —	$ 1,372	$ 1,372
Total liabilities	$ —	$ —	$ 1,372	$ 1,372

13. RELATED PARTY TRANSACTIONS:

The were no related party transaction during the year ended December 31, 2024.

14. SEGMENT REPORTING:

We manage our business activities on a consolidated basis and operate as a single operating segment: Semiconductor materials. Our revenue is mostly generated from R&D grants and R&D tax credits. The accounting policies of the semiconductor materials are the same as those described in Note 2 – Summary of Significant Accounting Policies.

Our CODM is our Chief Executive Officer and President, Ian Jenks. The CODM uses Net income, as reported on our Consolidated Statements of Comprehensive Income, in evaluating performance of the Semiconductor materials segment and determining how to allocate resources of the Company as a whole and making decisions on perspective joint development and collaboration agreements. The CODM does not review assets in evaluating the results of the Semiconductor materials segment, and therefore, such information is not presented.

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The following table provides the net losses of the Semiconductor materials segment:

	Year Ended December 31,	
	2024	**2023**
Revenue	$ 82	$ 27
Cost of revenue	32	23
Gross profit	50	4
Other operating income	1,017	836
Operating expenses		
Research and development	5,111	5,556
General and administrative	6,342	5,188
(Gain)/loss on foreign currency transactions	78	87
Total operating expenses	11,531	10,831
Loss from operations	(10,464)	(9,991)
Total non-operating income/(expense)	135	1,492
Loss before income taxes	(10,329)	(8,499)
Income tax expense	(1)	-
Net loss	$ (10,330)	$ (8,499)

15. SUBSEQUENT EVENTS:

2021 Plan

Under the evergreen adjustment provisions of the 2021 Plan, on January 1, 2025, the number of shares of the Company's common stock available for issuance under the 2021 Plan was increased by 65,000. After giving effect to the increase, the total number of shares of common stock that may be issued under the 2021 Plan is 843,692.

Consultant Shares

On January 1, 2025, 10,000 shares of our common stock were issued to a vendor in consideration for services to be provided.

On February 3, 2025, 10,000 shares of our common stock were issued to a vendor in consideration for services to be provided.

On March 3, 2025, 10,000 shares of our common stock were issued to a vendor in consideration for services to be provided.

New CPIIS Framework Agreement

On March 28, 2025 we executed a two-month extension of the Framework Agreement with CPIIS commencing on April 1, 2025.

New CPIIS License of Office Space Agreement

On March 28, 2025, we executed a twelve-month agreement for the lease of office space at CPIIS commencing on April 1, 2025.

ITEM 9. Changes In And Disagreements With Accountants On Accounting And Financial Disclosure

None.

Item 9A. Controls and Procedures.

Inherent Limitations on Effectiveness of Controls

Our management, including our Chief Executive Officer and Chief Financial Officer, does not expect that our disclosure controls and procedures or our internal control over financial reporting will prevent or detect all errors and all fraud. A control system, no matter how well-designed and operated, can provide only reasonable, not absolute, assurance that the control system's objectives will be met. The design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Further, because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that misstatements due to error or fraud will not occur or that all control issues and instances of fraud, if any, have been detected.

Evaluation of Disclosure Controls and Procedures

We maintain disclosure controls and procedures that are designed to ensure that information required to be disclosed in reports filed or submitted under the Exchange Act, is recorded, processed, summarized and reported within the time periods specified in SEC rules and forms and that such information is accumulated and communicated to management, including our Chief Executive Officer and Chief Financial Officer, to allow timely decisions regarding required disclosures.

As of the end of the year covered by this Report, we carried out an evaluation, under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, of the effectiveness of our disclosure controls and procedures (as defined in Rule 13a-15(e) of the Exchange Act) pursuant to Rule 13a-15 of the Exchange Act. Based upon, and as of the date of this evaluation, our Chief Executive Officer and our Chief Financial Officer concluded that our disclosure controls and procedures as of December 31, 2024, were effective.

Management's Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rule 13a-15(f) and Rule 15d-15(f) under the Exchange Act). Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of our internal control over financial reporting as of the end of the period covered by this Report, based on the criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this assessment, management concluded that, as of December 31, 2024, our internal control over financial reporting was effective.

Changes in Internal Control over Financial Reporting

In connection with the preparation of our financial statements for the first quarter of 2024, a material weakness in our internal control over financial reporting was identified relating to the complex financial reporting and accounting associated with the Consent, Conversion and Amendment Agreement the Company entered into on January 26, 2024, a non-cash item. None of the Company's filed financial statements were impacted. Management implemented measures designed to ensure that the control deficiency contributing to the material weakness was remediated, such that the controls are designed, implemented, and operating effectively. The remediation actions included the implementation of an additional step in the valuation process used to work with external consultants to review all equity-related activity and events that may have occurred since the prior fair value calculations were performed. Additionally, the Company's move to Nasdaq has facilitated a change in its approach to the stock price input used in its fair value models. Rather than using a calculated stock price in these models, the Company now uses the quoted

stock price thereby reducing subjectivity and judgment in the fair value models and equity-based compensation calculations.

Other than the changes to remediate the material weaknesses noted above, there was no change in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) during the fiscal quarter ended December 31, 2024, that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

This Annual Report on Form 10-K does not include an attestation report of our registered public accounting firm regarding internal control over financial reporting. Management’s report was not subject to attestation by our registered public accounting firm pursuant to an exemption for nonaccelerated filers and emerging growth companies from the internal control audit requirements of Section 404(b) of the Sarbanes-Oxley Act.

Item 9B. Other Information.

None of the Company's directors and officers adopted, modified, or terminated a Rule 10b5-1 trading arrangement or a non-Rule 10b5-1 trading arrangement during the Company's fiscal quarter ended December 31, 2024 (each as defined in Item 408 of Regulation S-K under the Securities Exchange Act of 1934, as amended).

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections.

Not Applicable.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

The following table sets forth the names, positions and ages of our executive officers and directors as of March 31, 2025:

Name	Position	Age
Ian Jenks	Chairman of the Board, Chief Executive Officer and President	70
Jonathan Watkins	Chief Operating Officer	55
Barbra C. Keck	Chief Financial Officer	47
Beverley Brown, Ph.D.	Chief Scientist	63
Simon Ogier, Ph.D.	Chief Technology Officer	50
Klaas de Boer [(1) (2) (3)]	Director	59
Steven DenBaars, Ph.D. [(1) (2) (3)]	Director	62
Melisa Denis [(1) (2) (3)]	Director	61
Sriram Peruvemba	Director	59

(1) Member of the Audit Committee.
(2) Member of the Compensation Committee.
(3) Member of the Corporate Governance and Nominating Committee.

Executive Officers

Ian Jenks has served as our Chief Executive Officer and President since December 2017 and as a member of our board of directors since February 2021. Mr. Jenks has more than 30 years of board-level experience in the industrial technology industry and has served as chief executive officer of companies operating in the United States and Europe. Mr. Jenks founded and since August 2010 has acted as the chief executive officer of Ian Jenks Limited, a consulting company providing consulting services to companies in the industrial technology industry. Mr. Jenks's past directorships include Techstep ASA, a provider of managed mobile services in the Nordics, Paysafe plc., an international provider of payment processing services, and Brady plc, a provider of commodity trading software. Mr. Jenks has also served and continues to serve as a director of a number of private companies. Mr. Jenks received a B.Sc. in Aeronautical Engineering from Bristol University.

Jonathan Watkins has served as our Chief Operating Officer since March 2025. From July 2024 until his appointment as the Company's Chief Operating Officer, Mr. Watkins served as a consultant to our company. Since September 2024, Mr. Watkins has served as the Executive Chairman of HFQ Technology Associates, a materials technology company. He also has served as the founder and chairman of DITEVEN Limited, a technology consulting services company ("DITEVEN") since November 2015. From August 2016 through June 2024, Mr. Watkins served as the chief executive officer of Impression Technologies Limited ("ITL"), where he led the development, licensing and scaling of a novel aluminum light-weighting technology for automotive, aerospace and consumer electronics markets, as well as securing manufacturing partners in Europe, China and North America. ITL entered voluntary liquidation in June 2024. Prior thereto, Mr. Watkins served as an advisor to government agencies on cleantech business models, including commercializing novel technologies. From 2008 to 2015, Mr. Watkins held roles as chief operating officer and commercial director of Ceres Power plc, a leading developer of fuel cell technology having responsibilities for manufacturing, supply chain management and business development. Mr. Watkins has a Postgraduate Certificate in Design Manufacture, and Management Masters in Manufacturing, Design & Management from University of Cambridge and a BEng degree in Materials Science & Technology from University of Birmingham. He is also a Chartered Engineer and holds a Certified Diploma in Accounting and Finance.

Barbra C. Keck has served as our Chief Financial Officer since December 2022 and has served as a member of our board of directors from February 2021 to November 2022. From February 2021 to December 2022, Ms. Keck served as the chief financial officer of Deverra Therapeutics, Inc., a developer of cell therapies. From January 2009 until May 2020, she held positions of increasing responsibility at Delcath Systems, Inc., an interventional oncology company, starting as controller and ultimately becoming a senior vice president in March 2015 and chief financial

officer in February 2017. Ms. Keck received an M.B.A. in Accountancy from Baruch College and a Bachelor of Music in Music Education from the University of Dayton. We believe that Ms. Keck's significant management experience, including as our Chief Financial Officer, qualifies her to serve on our board of directors.

Beverley Brown, Ph.D. has served as our Chief Scientist since July 2014. She provides services to us through her consulting company, B Brown Consultants Ltd. Prior to joining our company, she held a number of research and development positions with increasing responsibilities at Imperial Chemical Industries Ltd., Zeneca Group PLC and at the Avecia Group PLC. She formed BAB Consultants Ltd in 2006 and for approximately eight years provided consulting services to a number of chemical companies, as well as to the U.K. government and CPI. Dr. Brown has worked in the field of organic semiconductor technology and in the area of printable electronics for almost 20 years. Dr. Brown holds a Ph.D. in Organic Chemistry from the University of Glasgow.

Simon Ogier, Ph.D. has served as our Chief Technology Officer since June 2019. From August 2015 to June 2019 Dr. Ogier was CTO at NeuDrive Limited, a developer of organic semiconductor materials for sensor and other electronic applications, where he was responsible for the development of processes to fabricate OTFTs and to integrate them into biosensor devices. From April 2007 to July 2015, Dr. Ogier was Head of Research and Development within the U.K.'s Printable Electronics Technology Centre ("PETEC") at CPI. He was responsible for the establishment of the PETEC facility and for developing the technical programs of work to build a capability within the U.K. for printed/plastic electronics processing. Dr. Ogier is a member of the IEC TC119 standards committee for Printed Electronics, leading the development of international standard IEC62899-203 (Semiconductor Ink) and is a Fellow of the Institute of Physics. Dr. Ogier has over 19 years of experience developing high performance organic semiconductors for transistor applications. Dr. Ogier has co-authored a number of journal articles and is a co-inventor on a number of patents families. He received a bachelor's degree and Ph.D. in Physics from the University of Leeds.

Non-Employee Directors

Klaas de Boer has served as a member of our board of directors since February 2021 and has served as a member of the board of directors of SmartKem Limited since 2017. From January 2008 until June 2021, Mr. de Boer served as the managing partner of Entrepreneurs Fund Management LLP, a venture capital firm. Mr. de Boer served as a director of Lifeline Scientific Inc., Heliocentris Energy Solutions AG and serves as chair of AIM listed Xeros Technology Group plc. Mr. de Boer has been a venture capitalist for more than 20 years. Mr. de Boer received his M.Sc. degree in Applied Physics from Delft University of Technology and his M.B.A. from INSEAD.

Steven DenBaars has served as a member of our board of directors since June 2022. Professor DenBaars is a Distinguished Professor of Materials and Co-Director of the Solid-State Lighting and Energy Electronics Center at University of California, Santa Barbara. Professor DenBaars joined UCSB in February 1991 and currently holds the Mitsubishi Chemical Chair in Solid State Lighting and Displays. He has been a member of the board of directors of Aeluma, Inc. (NASDAQ:ALMU), a company engaged in the manufacture high performance sensors for mobile devices and vehicles since June 2021. Professor DenBaars served on the board of directors of Akoustis Technologies, Inc. (NASDAQ:AKTS), a developer and manufacturer of radio frequency filters for mobile devices from May 2015 to November 2024. Professor DenBaars was formerly a co-founder and board member of privately held technology start-up companies, Soraa Inc. and Soraa Laser Diode Inc. Professor DenBaars has a Bachelor of Science in Metallurgical Engineering from the University of Arizona and a Master of Science and a Ph.D. in Material Science and Electrical Engineering from the University of Southern California. Professor DenBaars is a member of the National Academy of Engineering, and a Fellow of IEEE and National Academy of Inventors.

Melisa A. Denis has served as a member of our board of directors since November 2023. Since November 20, 2020, she has served as a member of the audit committee and mergers and acquisitions committee of the board of directors of Hydrofarm Holdings Group, Inc. (NASDAQ: HYFM). Ms. Denis previously served as a partner at KPMG from 1998 to October 2020, including as National Tax Leader for Consumer Goods and as the leader of the Consumer and Industrial Market for Dallas. Ms. Denis has served as a member of the Board of Regents and chair of the audit committee for the University of North Texas System since January 2020, an advisory board member of Women Corporate Directors since 2011, and a board member of Enactus, a global non-profit, since 2019. Ms. Denis is a

Certified Public Accountant and received her degree in accounting and her Bachelor of Science and Master of Science from the University of North Texas.

Sriram Peruvemba has served as a member of our board of directors since July 2023. From September 2019 until his appointment to the Board, Mr. Peruvemba served as a consultant to the Company. Since July 2014, he has served as the chief executive officer of Marketer International Inc., a consulting services firm specializing in the global high-tech industry. Prior to that, from December 2009 to April 2013, Mr. Peruvemba was the chief marketing officer for E Ink Holdings, a company specializing in electronic paper displays. Since June 2020, Mr. Peruvemba has served on the board of directors of Datavault AI Inc. (previously WiSA Technologies, Inc.) (NASDAQ: DVLT), a data technology company. He has also served as a board member of Visionect d.o.o, an electronics company in Slovenia since September 2017. Mr. Peruvemba has also served as chairman of the board of Omniply, a Montreal-based electronics and display company since May 2020 and as board member of Edgehog Advanced Technologies an anti-reflective technology company in Canada since January 2023. Mr. Peruvemba has a B.S. from R. V. College of Engineering, Bangalore, an M.B.A. from Barton School of Business, WSU and a post-graduate diploma in management from Indira Gandhi National University.

Code of Business Conduct and Ethics

We have adopted a written code of business conduct and ethics that applies to our directors, officers and employees, including our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions. A current copy of our code is posted on our website, which is located www.smartkem.com. We intend to disclose future amendments to certain provisions of our code of business conduct and ethics, or waivers of such provisions applicable to any principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions, and our directors, on our website identified above or in filings with the SEC.

Insider Trading Policy

The Company has an insider trading policy governing the purchase, sale and other dispositions of the Company's securities and certain other securities that applies to all Company personnel, including directors, officers, and employees. The Company believes that its insider trading policy is reasonably designed to promote compliance with insider trading laws, rules and regulations, and listing standards applicable to the Company. A copy of the Company's insider trading policy is filed as Exhibit 19.1 to this Form 10-K.

Director Independence

Pursuant to the rules of Nasdaq, a director will only qualify as an "independent director" if, in the opinion of that company's board of directors, that person does not have a relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director.

Under such rules, our board of directors has determined that all current members of the board of directors are independent, except Mr. Jenks and Mr. Peruvemba . Mr. Jenks is not an independent director under these rules because he is an executive officers of the Company. Mr. Peruvemba is not an independent director under these rules, because, prior to his appointment to the board of directors, he served as a consultant to the Company and had earned compensation from the Company in excess of $120,000 during any period of twelve consecutive months within the last three years. In making such independence determination, our board of directors considered the relationships that each non-employee director has with us and all other facts and circumstances that our board of directors deemed relevant in determining their independence, including the beneficial ownership of our capital stock by each non-employee director. In considering the independence of the directors listed above, our board of directors considered the association of our directors with the holders of more than 5% of our common stock. There are no family relationships among any of our directors and executive officers.

Classified Board of Directors

In accordance with the terms of our amended and restated certificate of incorporation, our board of directors is divided into three staggered classes of directors as follows:

- Class I director is Mr. DenBaars;
- Class II director is Mr. de Boer and Mr. Peruvemba; and
- Class III directors are Mr. Jenks and Ms. Denis.

At each annual meeting of the stockholders, a class of directors will be elected for a three-year term to succeed the directors of the same class whose terms are then expiring. The terms of the directors will expire upon the election and qualification of successor directors at the annual meeting of stockholders to be held during the years 2025 for the Class I director, 2026 for the Class II directors and 2027 for Class III directors.

Our amended and restated certificate of incorporation and amended and restated bylaws provide that the number of directors will be fixed from time to time by a resolution of a majority vote of the directors then in office. Any increase or decrease in the number of directors will be distributed among the three classes so that, as nearly as possible, each class will consist of one-third of the total number of our directors.

The division of our board of directors into three classes with staggered three-year terms may delay or prevent stockholder efforts to effect a change of our management or a change in control.

Board Committees

Our board of directors has established an audit committee, a compensation committee and a nominating and corporate governance committee, each of which operates pursuant to a charter adopted by the board of directors. Members serve on these committees until their resignation or until otherwise determined by the board of directors. The composition and functioning of all of our committees complies with all applicable requirements of the Sarbanes-Oxley Act and SEC and Nasdaq rules and regulations.

Audit Committee

Ms. Denis, Mr. de Boer and Mr. DenBaars serve on the audit committee, which is chaired by Ms. Denis. Our board of directors has determined that each has sufficient knowledge in financial and auditing matters to serve on the audit committee and that each are "independent" for audit committee purposes as that term is defined under SEC and Nasdaq Marketplace Rules. The board of directors has designated Ms. Denis as an "audit committee financial expert," as defined under the applicable rules of the SEC.

The audit committee's responsibilities include, but are not limited to:

- appointing, approving the compensation of, and assessing the independence of our independent registered public accounting firm;
- pre-approving auditing and permissible non-audit services, and the terms of such services, to be provided by our independent registered public accounting firm;
- obtaining and reviewing the overall audit plan with our independent registered public accounting firm and members of management responsible for preparing our financial statements;
- reviewing and discussing with management and our independent registered public accounting firm our annual and quarterly financial statements and related disclosures as well as critical accounting policies and practices used by us;
- discussing with our independent registered public accounting firm our understanding of our relationships and transactions with related parties that are significant to us and the auditor's evaluation of our identification of and disclosure of our relationships and transactions with related parties;

- coordinating the oversight and reviewing the adequacy of our internal control over financial reporting;
- establishing policies and procedures for the receipt and retention of accounting-related complaints and concerns;
- discussing guidelines and policies with respect to risk assessment and risk management and the steps that our management takes to monitor and control financial risk exposure;
- recommending, based upon the audit committee's review and discussions with management and our independent registered public accounting firm, whether our audited financial statements will be included in our Annual Report on Form 10-K;
- conducting activities relating to our code of business conduct and ethics;
- monitoring the integrity of our financial statements and our compliance with legal and regulatory requirements as they relate to our financial statements and accounting matters;
- preparing the audit committee report required by SEC rules to be included in our annual proxy statement;
- reviewing with legal counsel legal and regulatory matters;
- annually evaluating the performance of the audit committee and reviewing and reassessing the audit committee charter;
- reviewing all related person transactions for potential conflict of interest situations and making recommendations to our board of directors regarding all such transactions; and
- reviewing earnings releases.

Compensation Committee

Mr. DenBaars, Mr. de Boer and Ms. Denis serve on the compensation committee, which is chaired by Mr. DenBaars. Our board of directors has determined that each member of the compensation committee is "independent" as defined under the Nasdaq Marketplace Rules. The compensation committee's responsibilities include, but are not limited to:

- annually reviewing and approving the corporate goals and objectives to be considered in determining the compensation of our Chief Executive Officer;
- evaluating the performance of our Chief Executive Officer in light of such corporate goals and objectives and based on such evaluation: (i) recommending to the board of directors the cash compensation of our Chief Executive Officer and (ii) reviewing and recommending to the independent directors on the board of directors regarding grants and awards to our Chief Executive Officer under equity-based plans;
- determining bases for and fix compensation levels for all executive officers;
- reviewing and approving the cash compensation of our other executive officers;
- reviewing and establishing our overall management compensation, philosophy and policy;
- supervising, administering, and evaluating our compensation and similar plans and making grants and awards thereunder;
- reviewing and approving, subject to stockholder approval, the creating or amendment of any incentive, equity-based and other compensatory plans in which executive officers and key employees participate;
- reviewing and approving any employment agreements, severance agreements, change-in-control arrangements or special employee benefits;
- reporting to the board of directors significant matters arising from the work of the compensation committee;
- to the extent applicable under federal securities law, reviewing and discussing the Compensation and Discussion and Analysis disclosure;
- evaluating and assessing potential and current compensation advisors in accordance with the independence standards identified in the Nasdaq Marketplace Rules;
- reviewing and approving our policies and procedures for the grant of equity-based awards;
  reviewing and recommending to the board of directors the compensation of our directors;
  annually evaluating the performance of the compensation committee;
  annually evaluating the adequacy of the director's fees and the composition of the director's fees;
- preparing the compensation committee report required by SEC rules, if and when required, to be included in our annual proxy statement; and

- reviewing and approving the retention, termination or compensation of any consulting firm or outside advisor to assist in the evaluation of compensation matters.

Nominating and Corporate Governance Committee

Mr. de Boer, Mr. DenBaars, and Ms. Denis serve on the nominating and corporate governance committee, which is chaired by Mr. de Boer. Our board of directors has determined that each member of the nominating and corporate governance committee is "independent" under the Nasdaq Marketplace Rules.

The nominating and corporate governance committee's responsibilities include, but are not limited to:

- recommending to the board of directors the size of the board, composition of the board, process for filing vacancies and tenure of the board members;
- developing and recommending to the board of directors criteria for board and committee membership;
- establishing procedures for identifying and evaluating board of director candidates, including nominees recommended by stockholders;
- Recommending that the board select director nominees for election at each annual meeting of stockholders;
- Reviewing stockholder proposals and proposed responses;
- Developing and recommending to the board a set of corporate governance guidelines applicable to the Company, reviewing the guidelines at least once a year and recommending changes, and overseeing corporate governance practices and procedures;
- reviewing the composition of the board of directors to ensure that it is composed of members containing the appropriate skills and expertise to advise us;
- identifying individuals qualified to become members of the board of directors;
- recommending to the board of directors the persons to be nominated for election as directors and to each of the board's committees;
- reviewing and discussing with management the disclosure regarding the operations of the nominating and corporate governance committee and director independence;
- reviewing the adequacy of the committee charter and recommending changes;
- annually conducting and presenting to the board a performance evaluation of the nominating and corporate governance committee; and
- overseeing the evaluation of our board of directors and management.

Our board of directors may, from time to time, establish other committees.

Delinquent Section 16(a) Reports

Section 16(a) of the Exchange Act requires our directors, executive officers and persons who beneficially own more than 10% of our outstanding common shares to file reports with the SEC regarding their share ownership and changes in their ownership of our common shares. Based on our records and representations from our directors and executive officers, we believe that all Section 16(a) filing requirements applicable to our directors and executive officers were complied with during the fiscal year ended December 31, 2024, except for the following: due to administrative error, Klaas de Boer filed a late Form 4 on June 5, 2024 to report the automatic conversion of shares of Series A-2 Preferred Stock held by his spouse into shares of common stock on May 30, 2024.

Item 11. Executive Compensation

Summary Compensation Table

The following table shows the compensation awarded to or earned by our principal executive officer during the fiscal year ended December 31, 2024 and December 31, 2023, our two other most highly compensated executive officers who were serving as executive officers as of December 31, 2024 and December 31, 2023, and up to two additional individuals for whom disclosure would have been provided but for the fact that the individual was not serving as an

executive officer as of December 31, 2024. The persons listed in the following table are referred to herein as the "named executive officers."

Officer Name and Principle Position	Year	Salary	Bonus	Stock Awards [1]	Option Awards [2]	All Other Compensation [3]	Total
		$	$	$	$	$	$
Ian Jenks	2024	400,574	76,767	600	604,800	28,550	1,111,291
Chief Executive Officer	2023	342,333	50,000	—	—	17,117	409,450
Barbra Keck	2024	329,169	82,500	600	336,000	19,600	767,869
Chief Financial Officer	2023	314,773	37,500	—	—	19,800	372,073
Simon Ogier, Ph.D.	2024	196,624	32,110	600	164,640	12,621	406,595
Chief Technology Officer	2023	160,626	—	—	—	9,638	170,264

(1) The amounts reported represent the aggregate grant-date fair value of the stock awards awarded to the named executive officer, calculated in accordance with ASC 718.
(2) The amounts reported represent the aggregate grant-date fair value of the stock options awarded to the named executive officer, calculated in accordance with ASC 718. Such grant-date fair value does not take into account any estimated forfeitures related to service-based vesting conditions.
(3) Represents our contributions to our workplace pension scheme, the 401(k) Plan (as defined below) and private healthcare insurance.

In accordance with the U.K. Pensions Act 2008 (the "Pensions Act"), we have established a workplace pensions scheme available for all our employees in the UK, which is equivalent to a defined contribution plan. In accordance with the Pensions Act, all eligible employees are automatically enrolled upon joining our company unless they advise they wish to opt out. As defined by the Pensions Act, the current required contributions are 5% employee and 3% employer. We match employee contributions to a maximum of 6% of base salary. Contributions made by us vest immediately.

We sponsor a 401(k) savings plan (the "401(k) Plan") for all eligible employees. Under the 401(k) Plan, we do make matching contributions into the 401(k) Plan including the annual required safe harbor match.

Employment and Change in Control Agreements

We have entered into an employment agreement with Mr. Jenks (the "Jenks Employment Agreement") dated as of February 23, 2021 (the "Commencement Time") setting forth the terms and conditions of his employment and his expectations as our Chief Executive Officer and President. The Jenks Employment Agreement provides, among other things, for: (i) a term of three years beginning from the Commencement Time, subject to automatic renewal for successive one year terms unless either party provides sixty (60) days prior written notice of its intent not to renew; (ii) an annual base salary of $300,000; (iii) eligibility for an annual bonus having a target of 30% of his then base salary; and (iv) in the event that Mr. Jenks' employment is terminated without "cause" or he resigns "for good reason" (each as defined in the Jenks Employment Agreement), or his employment is terminated at the end of the any term, as the result of our company providing notice of non-renewal, subject to execution and non-revocation of a release of claims in our favor, Mr. Jenks' will be eligible for: (a) payments equal to six (6) months of Mr. Jenks' base salary (at the rate in effect immediately prior to the date of termination), less applicable withholdings and authorized deductions, to be paid in equal installments in accordance with our customary payroll practices), (b) a pro-rata bonus for the year of termination and (c) in the event Mr. Jenks timely elects to continue his health insurance employee benefits pursuant to COBRA, monthly payments equal to the applicable COBRA costs for a period of six (6) months. Mr. Jenks is subject to non-compete and non-solicit provisions, which applies during the term of his employment and for a period of 12 months following termination of his employment for any reason. The Jenks Employment Agreement also contains customary confidentiality and assignment of inventions provisions. In September 2023, the compensation committee approved an increase to Mr. Jenks' annual base salary to $400,000 from $300,000, effective September 1, 2023, and increased Mr. Jenks' annual target bonus percentage to 50% of his base salary from 30% of his base salary.

On March 29, 2023, we entered into an employment agreement with Ms. Keck (the "Keck Employment Agreement") setting forth the terms and conditions of her employment and her expectations as Chief Financial Officer. The Keck Employment Agreement provides, among other things, for: (i) a term of three years beginning from December 14, 2022, the date of Ms. Keck's appointment as Chief Financial Officer, subject to automatic renewal for successive one year terms unless either party provides sixty (60) days prior written notice of its intent not to renew; (ii) an annual base salary of $300,000 (subject to adjustment upwards to $350,000 in the board of director's discretion, but at the latest immediately upon the listing of the Company's common stock on either The Nasdaq Stock Market or the NYSE American Exchange); (iii) eligibility for an annual bonus having a maximum of 40% of her then base salary; and (iv) in the event that Ms. Keck's employment is terminated without "cause" or she resigns "for good reason" (each as defined in the Keck Employment Agreement), or her employment is terminated at the end of the any term as the result of the Company providing notice of non-renewal, subject to execution and non-revocation of a release of claims in the Company's favor, Ms. Keck will be eligible for: (a) payments equal to twelve (12) months of her base salary (at the rate in effect immediately prior to the date of termination), less applicable withholdings and authorized deductions, to be paid in equal installments in accordance with our customary payroll practices), (b) a pro-rata bonus for the year of termination and (c) in the event Ms. Keck timely elects to continue any health insurance employee benefits pursuant to COBRA, monthly payments equal to the applicable COBRA costs for a period of six (6) months. Ms. Keck is subject to non-compete and non-solicit provisions, which apply during the term of her employment and for a period of twelve (12) months following termination of her employment for any reason. The Keck Employment Agreement also contains customary confidentiality and assignment of inventions provisions. Effective on May 31, 2024, the date the Company's common stock became listed on Nasdaq, Ms. Keck's salary was increased to $350,000.

We entered into a service agreement with Dr. Ogier, dated as of February 23, 2021 (the "Ogier Employment Agreement"). The Ogier Employment Agreement will continue until terminated (a) by either party giving not less than six months' prior notice in writing, (b) by SmartKem electing to make a "Payment in Lieu" whereby SmartKem pays to Dr. Ogier an amount equal to his salary which he would have been entitled to receive during the notice period referenced in clause (a), or (c) for "cause"; (iii) an annual base salary of $163,788; and (iv) Dr. Ogier's participation in SmartKem's pension program and death in service (life insurance) scheme. The Ogier Employment Agreement also contains customary confidentiality and assignment of inventions provisions.

One-Time Bonuses

On February 28, 2025, the compensation committee approved one-time bonuses to Mr. Jenks, Ms. Keck, Ms. Brown and Mr. Ogier, in amounts equal to $150,000, $99,041, $31,618 and $31,618, respectively.

On July 31, 2024, the compensation committee approved one-time bonuses to Ms. Brown and Mr. Ogier, each equal to $32,110.

On June 14, 2024, the compensation committee approved one-time bonuses to Mr. Jenks and Ms. Keck in amounts equal to $26,767 and $45,000, respectively, in light of their significant contributions to our uplisting to Nasdaq.

On September 6, 2023, the compensation committee approved one-time bonuses (the "2023 Bonuses") to Mr. Jenks and Ms. Keck in amounts equal to $100,000 and $75,000, respectively. Fifty percent of the 2023 Bonuses were paid upon approval, and the remaining 50% were paid upon the listing of the shares of the Company's common stock on Nasdaq

Outstanding Equity Awards as of December 31, 2024

The following table presents information regarding the outstanding options held by each of our named executive officers as of December 31, 2024.

			Option Awards			
			Number of Securities Underlying Unexercised Options (#)			
Name	Grant Date	Type	Exercisable	Unexercisable	Option Exercise Price ($)	Option Expiration Date [1]
Ian Jenks	03/31/2021	ISO	15,995	1,066	$70.00	03/30/2031
	08/07/2022	ISO	2,589	1,697	$70.00	08/06/2032
	06/14/2024	ISO	16,000	—	$6.50	06/14/2034
	06/14/2024	ISO	61,875	103,125	$6.50	06/14/2034
Barbra Keck	03/31/2021	NQSO	483	32	$70.00	03/30/2031
	08/07/2022	NQSO	104	68	$70.00	08/06/2032
	12/14/2022	NQSO	6,429	6,429	$70.00	12/13/2032
	06/14/2024	ISO	37,500	62,500	$6.50	06/14/2034
Simon Ogier, Ph.D.	03/31/2021	NQSO	4,999	333	$70.00	03/31/2031
	07/08/2022	NQSO	777	509	$70.00	07/08/2032
	06/14/2024	NQSO	18,375	30,625	$6.50	06/14/2034

(1) The expiration date shown is the normal expiration date and the latest date that options may be exercised subject to certain extraordinary events.

Director Compensation

The following table sets forth information concerning the compensation paid to our directors during 2024.

Director Name	Year	Cash Compensation	Stock Awards [1]	Stock Option Awards [2]	Total
		$	$	$	$
Klaas de Boer [1]	2024	47,080	600	67,200	114,880
Steven DenBaars [2]	2024	47,080	600	67,200	114,880
Sri Peruvemba [3]	2024	47,080	600	67,200	114,880
Melisa Denis [4]	2024	62,644	600	67,200	130,444

(1) The aggregate number of shares of common stock underlying stock options outstanding as of December 31, 2024 held by Mr. de Boer was 20,687.
(2) The aggregate number of shares of common stock underlying stock options outstanding as of December 31, 2024 held by Mr. DenBaars was 20,515.
(3) The aggregate number of shares of common stock underlying stock options outstanding as of December 31, 2024 held by Mr. Peruvemba was 21,887.
(4) The aggregate number of shares of common stock underlying stock options outstanding as of December 31, 2024 held by Ms. Denis was 20,000.

Non-Employee Director Compensation

On March 31, 2021, the board of directors, upon recommendation of the Compensation Committee, adopted a non-employee director compensation policy (the "Policy"), pursuant to which each non-employee employee director is entitled to receive an annual cash retainer of $36,000. On July 31, 2024, the Board approved (i) an increase to the annual cash retainer to $55,000 and (ii) an annual $5,000 cash retainer to the Audit Committee chairperson. In addition, each non-employee director was initially granted options to purchase 18,000 shares of common stock, which will vest 25% on the one-year anniversary of the grant date and the remainder in equal monthly installments over three years and is entitled in each subsequent year to receive options to purchase 6,000 shares of common stock, which will vest on the one-year anniversary of the grant date. All equity awards granted pursuant to Policy are subject to the terms and conditions of the Company's 2021 Equity Incentive Plan and/or the UK Tax-Advantaged Sub-Plan.

Policies and Practices Related to the Timing of Grants of Certain Equity Awards

Equity grants to new employees and directors may be made at the board of directors meeting following their hiring or appointment. To extent that we make equity grants to existing employees or directors, we typically have done so at board meetings at which officer bonuses are also determined. We do not have a practice of granting equity awards annually. We do not grant equity awards in anticipation of the release of material nonpublic information. Similarly, we do not time the release of material nonpublic information about the company based on equity award grant dates.

As required by SEC rules, the following table presents information regarding awards issued to our Named Executive Officers in fiscal year 2024 during any period beginning four business days before the filing of a periodic report or current report disclosing material non-public information and ending one business day after the filing or furnishing of such report with the SEC.

Name	Grant Date	Number of Securities Underlying the Award	Exercise Price of the Award	Grant Date Fair Value of the Award [1]	Percentage Change in the Closing Market Price of the Securities Underlying the Award Between the Trading Day Ending Immediately Prior to the Disclosure of Material Nonpublic Information and the Trading Day Beginning Immediately Following the Disclosure of Material Nonpublic Information
Ian Jenks	6/14/2024	165,000	$ 6.50	$ 554,400	(6.83)%
	6/14/2024	16,000	$ 6.50	$ 50,400	(6.83)%
Barbra Keck	6/14/2024	100,000	$ 6.50	$ 336,000	(6.83)%
Simon Ogier	6/14/2024	49,000	$ 6.50	$ 164,640	(6.83)%

(1) The amounts reported represent the aggregate grant-date fair value of the stock options awarded to the named executive officer, calculated in accordance with Accounting Standards Codification 718. Such grant-date fair value does not take into account any estimated forfeitures related to service-based vesting conditions.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

Securities Authorized for Issuance Under Equity Compensation Plans

General

The 2021 Equity Incentive Plan which includes a UK Tax-Advantaged Sub-Plan for employees of SmartKem based in the United Kingdom (the "2021 Plan") was approved by our board of directors and stockholders on February 23, 2021. The general purpose of the 2021 Plan is to attract and retain the best available personnel for positions of substantial responsibility, to provide additional incentive to our employees, directors, and consultants, and to promote the success of our business.

The following table provides information with respect to our compensation plans under which equity compensation was authorized as of December 31, 2024.

Plan category	Number of securities to be issued upon exercise of outstanding options, warrants and rights (a)	Weighted average exercise price of outstanding options, warrants and rights (b)	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column a) c) [2]
Equity compensation plans approved by security holders [1]	619,910	$ 12.31	158,216
Equity compensation plans not approved by security holders	—	$ —	—
Total	619,910	$ 12.31	158,216

(1) The amounts shown in this row include securities under the 2021 Plan.

(2) In accordance with the "evergreen" provision in our 2021 Plan, an additional 65,000 shares were automatically made available for issuance on the first day of 2025, which represents the maximum number of shares that can be added to the plan as a result of the evergreen provision.

Security Ownership of Certain Beneficial Owners and Management

The following table sets forth certain information with respect to the beneficial ownership of our common stock as of March 31, 2025, by:

- each person (or group of affiliated persons) who is known by us to beneficially own more than 5% of our common stock;
- each of our named executive officers;
- each of our directors; and
- all of our directors and current executive officers as a group.

We have determined beneficial ownership in accordance with SEC rules. Except as indicated in the footnotes below, and subject to applicable community property laws, we believe, based on the information furnished to us, the persons and entities named in the table below have sole voting and investment power with respect to all shares shown as beneficially owned by them. The percentage of beneficial ownership is based on 3,620,217 shares of our common stock outstanding as of March 31, 2025. In computing the number of shares beneficially owned by a person or entity and the percentage ownership of that person or entity, we deemed to be outstanding all shares of our common stock as to which such person or entity has the right to acquire within 60 days of March 31, 2025, through the exercise of any option or other right. We did not deem these shares outstanding, however, for the purpose of computing the percentage ownership of any other person or entity. Unless otherwise noted below, the address of each beneficial owner named below is c/o SmartKem, Inc., Manchester Technology Center, Hexagon Tower, Delaunays Road, Blackley Manchester, M9 8GQ U.K.

Name of Beneficial Owner	Shares Beneficially Owned (#)	Percentage Beneficially Owned (%)
5% Stockholders:		
Octopus Investments Limited (1)	213,602	5.9%
Orin Hirschman (2)	355,431	9.9%
The Hewlett Fund, LP (3)	355,431	9.9%
Five Narrow Lane (4)	355,431	9.9%
MYDA Advisors (5)	333,333	9.3%
Laurence Lytton (6)	333,333	9.3%
Executive Officers and Directors:		
Ian Jenks (7)	114,735	3.2%
Jonathan Watkins	—	—
Barbra Keck (8)	49,347	1.4%
Beverley Brown (9)	32,230	*
Simon Ogier (10)	32,229	*
Klaas de Boer (11)	26,193	*
Steven DenBaars (12)	9,481	*
Sri Peruvemba (13)	10,320	*
Melisa Denis (14)	8,433	*
All directors and current executive officers as a group:	282,968	7.9%

* Less than 1%

(1) Based upon information contained in a Schedule 13D/A filed Octopus Titan VCT Plc and Octopus Investments Nominees Limited (collectively, the "Octopus Funds") on January 21, 2025 and other information known to the Company Consists of 211,895 shares of our common stock held by Octopus Titan VCT Plc and 1,707 shares of our common stock held by. Octopus Investments Limited ("Octopus") is the sole manager of each of the Octopus Funds. Through Octopus's position with Octopus Funds, Octopus is deemed to control the voting and disposition of the shares of our common stock held by the Octopus Funds. Octopus disclaims beneficial ownership of the shares of our common stock held by the Octopus Funds except to the extent of its pecuniary interest therein. The address of Octopus Titan VCT Plc, Octopus Investments Nominees Limited and Octopus Investments Limited is 33 Holburn, London ECIN 2HT.

(2) Based upon information contained in a Schedule 13G/A filed by AIGH Capital Management, LLC ("AIGH CM") and Mr. Orin Hirschman on February 4, 2025 and other information known to the Company. Consists of shares of our common stock held by AIGH Investment Partners, L.P. ("AIGH LP"), WVP Emerging Manger Onshore Fund, LLC ("WVP") and by AIGH Investment Partners, LLC ("AIGH LLC"). Excludes, after giving effect to the 9.99% beneficial ownership blockers, shares of common stock issuable upon the conversion of Series A-1 Preferred Stock and the exercise of certain warrants. Mr. Hirschman is the managing member of AIGH CM, which is an advisor or sub-advisor with respect to the securities held by AIGH LP and WVP, and president of AIGH LLC. Mr. Hirschman has voting and investment control over the securities indirectly held by AIGH CM and directly by AIGH LP and AIGH LLC. The address of Mr. Hirschman, AIGH CM, AIGH LP, WVP and AIGH LLC is 6006 Berkeley Ave., Baltimore, MD 21209.

(3) Based upon information known to the Company. Excludes, after giving effect to the 9.99% beneficial ownership blockers, shares of common stock issuable upon the conversion of Series A-1 Preferred Stock and the exercise of certain warrants. The address of the Hewlett Fund LP is 100 Merrick Road, Suite 400W, Rockville Centre, NY 11570.

(4) Based upon information contained in a Schedule 13G filed by Five Narrow Lane LP on February 1, 2024 and other information known to the Company. Excludes, after giving effect to the 9.99% beneficial ownership blockers, shares of common stock issuable upon the conversion of Series A-1 Preferred Stock and the exercise of certain warrants. The address of Five Narrow Lane LP is 510 Madison Avenue, Suite 1400, New York, NY 10022.

(5) Based upon information contained in a Schedule 13G filed by MYDA Advisors LLC, MYDA Capital GP, LLC, MYDA Advantage, L.P. and Jason Lieber on December 27, 2024 and other information known to the Company. Excludes, after giving effect to the 4.99% beneficial ownership blockers, shares of common stock issuable upon the exercise of certain warrants. The address of MYDA Advisors LLC, MYDA Capital GP, LLC, MYDA Advantage, L.P. and Jason Lieber is 1067 Broadway, Suite A, Woodmere, NY 11598.

(6) Based upon information contained in a Schedule 13G filed by Laurence W. Lytton on December 24, 2024 and other information known to the Company. Excludes, after giving effect to the 4.99% beneficial ownership blockers, shares of common stock issuable upon the exercise of certain warrants. The address of Laurence W. Lytton is 467 Central Park West, New York, NY 10025.

(7) Includes 10,511 shares of our common stock held and options to acquire 104,224 shares of our common stock exercisable within 60 days of March 31, 2025.

(8) Includes of 100 shares of our common stock held and options to acquire 49,247 shares of our common stock exercisable within 60 days of March 31, 2025.

(9) Includes 672 shares of our common stock held by B Brown Consultants Ltd and options to acquire 31,558 shares of our common stock exercisable within 60 days of March 31, 2025, held by Dr. Brown. Dr. Brown exercises dispositive and voting power over the securities owned by B Brown Consultants Ltd.

(10) Includes 5,760 shares of our common stock held and options to acquire 26,469 shares of our common stock exercisable within 60 days of March 31, 2025.

(11) Includes (i) 11,430 shares of our common stock held by Mr. de Boer's spouse in our private placement that closed in February 2021, (ii) options to acquire 8,948 shares of our common stock exercisable within 60 days

of March 31, 2025, (iii) 5,715 shares of common stock issuable upon exercise of certain warrants held by Mr. de Boer's spouse and (iv) 100 shares of common stock held by Mr. de Boer.

(12) Includes 815 shares of our common stock held and options to acquire 8,666 shares of our common stock exercisable within 60 days of March 31, 2025.

(13) Includes 100 shares of our common stock held and options to acquire 10,220 shares of our common stock exercisable within 60 days of March 31, 2025.

(14) Includes 100 shares of our common stock held and options to acquire 8,333 shares of our common stock exercisable within 60 days of March 31, 2025.

Item 13. Certain Relationships and Related Transactions, and Director Independence

The following is a description of transactions since January 1, 2023, and each currently proposed transaction in which:

- The Company ("we") has been or is to be a participant;
- the amount involved exceeded or will exceed the lesser of $120,000 or 1% of our total assets at year-end for our last two completed fiscal years; and
- any of our directors, executive officers or beneficial owners of more than 5% of our capital stock, or any immediate family member of, or person sharing the household with, any of these individuals or entities, had or will have a direct or indirect material interest, other than compensation and other arrangements that are described in the section titled "Executive Compensation."

Consulting Arrangement with Jonathan Watkins

Prior to his appointment as our Chief Operating Officer, Mr. Watkins served as a consultant to our company pursuant to an oral consulting arrangement. During the fiscal year ended December 31, 2024, we paid DITEVEN, a company controlled by Mr. Watkins, $65,501 for his services. From January 1, 2025 through Mr. Watkins' appointment as our Chief Operating Officer on March 10, 2025 we paid DITEVEN $67,364.

June 2023 PIPE and Conversion Agreement

On June 14, 2023, we and certain investors entered into a securities purchase agreement (the "Purchase Agreement") pursuant to which we sold an aggregate of (i) 9,229 shares of Series A-1 Convertible Preferred Stock at a price of $1,000 per share (the "Series A-1 Preferred Stock"), (ii) 2,950 shares of the Company's Series A-2 Convertible Preferred Stock at a price of $1,000 per share ("Series A-2 Preferred Stock" and together with the Series A-1 Preferred Stock, the "Preferred Stock"), (iii) Class A Warrants to purchase up to an aggregate of 1,391,927 shares of common stock (the "Class A Warrant"), and (iv) Class B Warrants to purchase up to an aggregate of 798,396 shares of common stock (the "Class B Warrant" and together with the Class A Warrant, the "Warrants") for aggregate gross proceeds of $12.2 million (the "June 2023 PIPE").

On June 22, 2023 (the "Second Closing Date"), in a second closing of the June 2023 PIPE, we sold an aggregate of (i) 1,870.36596 Series A-1 Preferred Stock, (ii) 100 shares of Series A-2 Preferred Stock, and (iii) Class A Warrants to purchase up to an aggregate of 225,190 shares of common stock pursuant to the Purchase Agreement for aggregate gross proceeds of $2.0 million. In addition, 8,572 Class B Warrants were issued in lieu of cash payments for consulting services related to the offering. Each Class A Warrant has an exercise price of $8.75 and each Class B Warrant has an exercise price of $0.35, both subject to adjustments in accordance with the terms of the Warrants. The Warrants expire five years from the issuance date.

In connection with the June 2023 PIPE, we entered into a Registration Rights Agreement (the "2023 Registration Rights Agreement") pursuant to which we agreed to register for resale (i) the Conversion Shares, (ii) the Class A Warrant Shares, (iii) any additional shares of common stock issued and issuable in connection with any anti-dilution

provisions in the Preferred Stock or the Class A Warrants, (iv) any shares of common stock issued in lieu of cash dividends on the Series A-1 Preferred Stock and (v) any securities issued or then issuable upon any stock split, dividend or other distribution, recapitalization or similar event with respect to the foregoing (together, the " 2023 Registrable Securities"). Under the terms of the 2023 Registration Rights Agreement, the Company is required to file a registration statement with the SEC covering the resale of the Conversion Shares and the Series A Warrant Shares on or before the 45-day anniversary of the earlier of (x) the Second Closing Date and (y) the Offering Termination Date and to use its commercially reasonable efforts to cause such registration statement to declared effective by the SEC by the 135-day anniversary of the of the earlier of (x) the Second Closing Date and (y) the Offering Termination Date and to keep such registration statement continuously effective until the date that all 2023 Registrable Securities covered by such registration statement (a) have been sold, thereunder or pursuant to Rule 144, or (b) may be sold without volume or manner-of-sale restrictions pursuant to Rule 144 and without the requirement for the Company to be in compliance with the current public information requirement under Rule 144. The Company will be obligated to pay certain liquidated damages to the Purchasers if the Company fails to file such registration statement when required, fails to cause such registration statement to be declared effective by the SEC when required, or fails to maintain the effectiveness of such registration statement pursuant to the terms of the Registration Rights Agreement. The 2023 Registration Rights Agreement also provides the Purchasers with "piggy-back" registration rights in certain circumstances if there is not an effective registration statement covering all of the Registerable Securities.

On January 26, 2024, we entered into a Consent, Conversion and Amendment Agreement (the "Consent Agreement") with each holder of the Series A-1 Preferred Stock. Pursuant to the Consent Agreement, each holder of Series A-1 Preferred Stock converted, subject to the terms and conditions of the Consent Agreement, 90% of its Series A-1 Preferred Stock (the "Conversion Commitment") into shares of common stock, except as provided below for the Exchanging Holders (as defined below). Pursuant to the Consent Agreement, in the event the conversion of all of the Series A-1 Preferred Stock held by a Holder would have resulted in such Holder acquiring shares of common stock in excess of its Beneficial Ownership Limitation (as defined in the Purchase Agreement) (an "Exchanging Holder"), such Exchanging Holder agreed to (i) convert its shares of Series A-1 Preferred Stock subject to its Conversion Commitment into shares of common stock up to its Beneficial Ownership Limitation, and (ii) exchange all of its remaining shares of Series A-1 Preferred Stock subject to its Conversion Commitment for Class C warrants (each a "Class C Warrant") covering the shares of common stock that would have been issued to such Holder but for the Beneficial Ownership Limitation (the "Exchange"). The Class C Warrants have an exercise price of $0.0001, were exercisable upon issuance and will expire when exercised in full. The Class C Warrants may be exercised for cash or on a cashless basis at the election of the Exchanging Holder. The Class C Warrants may not be exercised to the extent that the Exchanging Holder, together with its affiliates, would beneficially own more than 4.99% (or, at the election of the Exchanging Holder, 9.99%) of common stock immediately after exercise, except that upon at least 61 days' prior notice from the Exchanging Holder to the Company, the holder may increase the beneficial ownership limitation to up to 9.99% of the number of shares of common stock outstanding immediately after giving effect to the exercise. Under the Consent Agreement, we issued (i) 412,293 shares of common stock and (ii) Class C Warrants to purchase up to 726,344 shares of common stock upon the conversion or exchange of an aggregate of 9,963 shares of Series A-1 Preferred Stock.

In connection with the Consent Agreement, on January 26, 2024, we and the Holders entered into a Registration Rights Agreement (the "2024 Registration Rights Agreement") pursuant to which the Company agreed to register for resale (i) the shares of common stock issuable upon exercise of the Class B Warrants and Class C Warrants (ii) any additional shares of common stock issued and issuable in connection with any anti-dilution provisions in the Class B Warrants and the Class C Warrants, and (iii) any securities issued or then issuable upon any stock split, dividend or other distribution, recapitalization or similar event with respect to the foregoing (together, the "2024 Registrable Securities"). Under the terms of the 2024 Registration Rights Agreement, the Company is required to file a registration statement with the SEC covering the resale of the 2024 Registrable Securities on or before the earlier of (x) the 45th day following the filing by the Company of its Annual Report on Form 10-K for the year ended December 31, 2023 and (y) April 11, 2024, to use its commercially reasonable efforts to cause such registration statement to declared effective by the SEC by the 60-day anniversary of the filing date (or the 75-day anniversary of the filing date in the case of a "full review" by the SEC), and to keep such registration statement continuously effective until the date that all 2024 Registrable Securities covered by such registration statement (a) have been sold, thereunder or pursuant to Rule 144, or (b) may be sold without volume or manner-of-sale restrictions pursuant to Rule 144 and without the

requirement for the Company to be in compliance with the current public information requirement under Rule 144. The Company will be obligated to pay certain liquidated damages to the Holders if the Company fails to file such registration statement when required, fails to cause such registration statement to be declared effective by the SEC when required, or fails to maintain the effectiveness of such registration statement pursuant to the terms of the 2024 Registration Rights Agreement. The 2024 Registration Rights Agreement also provides the Holders with "piggy-back" registration rights in certain circumstances if there is not an effective registration statement covering all of the Registerable Securities.

Orin Hirschman and his affiliates, The Hewlett Fund, LP and Five Narrow Lane, all of whom are beneficial holders of more than 5% of our capital stock, participated in the June 2023 PIPE. Orin Hirschman and his affiliates purchased 5,029 shares of Series A-1 Preferred Stock, Series A Warrants to purchase 574,744 shares of common stock and Series B Warrants to purchase 596,800 shares of common stock in the June 2023 PIPE for $5.0 million. The Hewlett Fund purchased 2,500 shares of Series A-1 Preferred Stock, Series A Warrants to purchase 285,715 shares of common stock and Series B Warrants to purchase 160,000 shares of common stock in the June 2023 PIPE for $2.5 million. Five Narrow Lane purchased 1,200 shares of Series A-1 Preferred Stock, and Series A Warrants to purchase 137,143 shares of common stock in the June 2023 PIPE for $1.2 million. In connection with the June 2023 PIPE, we also issued The Hewlett Fund, LP additional Series B Warrants to purchase 42,858 shares of common stock pursuant to a consulting agreement.

Orin Hirschman and his affiliates, The Hewlett Fund, LP and Five Narrow Lane were also parties to the Consent Agreement and the 2024 Registration Rights Agreement. In connection with the Consent Agreement, we issued to Orin Hirschman and his affiliates Class C Warrants to purchase 469,201 shares of common stock and The Hewlett Fund Class C Warrants to purchase 257,143 shares of common stock.

2024 Offering and Related Transactions

On December 17, 2024, we entered into a Consent and Amendment Agreement (the "2024 Consent Agreement") with certain holders of securities issued in the June 2023 PIPE pursuant to which, among other things, such holders agreed to (i) amend certain of the terms of the Purchase Agreement and (ii) amend and restate certain of the provisions of the Series A-1 Preferred Stock, effective immediately prior to the closing of a "Qualified Offering" (as defined in the 2024 Consent Agreement) (the "Effective Time"). Orin Hirschman and his affiliates, and Five Narrow Lane, all of whom are beneficial holders of more than 5% of our capital stock, are parties to the 2024 Consent Agreement.

In connection with the transactions contemplated by the 2024 Consent Agreement, we entered into a General Release (the "Release") with the Hewlett Fund LP pursuant to which the Hewlett Fund LP agreed on its own behalf and on behalf of certain of its related parties to release us and certain of our related parties from any claims, including claims arising out of the transactions contemplated by the Purchase Agreement, effective as of the Effective Time, in exchange for Class C Warrants to purchase 750,000 shares of common stock.

On December 18, 2024, we entered into a securities purchase agreement (the "RD Purchase Agreement") with certain institutional investors (each, an "RD Purchaser" and, collectively, the "RD Purchasers"), pursuant to which we agreed to issue and sell to the RD Purchasers: (i) in a registered direct public offering (the "Public Offering") 1,449,997 shares of common stock; and (ii) in a concurrent private placement (the "RD Purchaser Private Placement" and, together with the Public Offering, the "RD Purchaser Offering") Class D Common Stock Purchase Warrants (the "Class D Warrants") to purchase up to 1,449,997 shares of common stock. The purchase price for each share of common stock sold in the Public Offering was $3.00. Concurrently with the RD Purchaser Offering, we entered into a securities purchase agreement (the "PIPE Purchase Agreement") with certain institutional investors (each, a "PIPE Investor" and, collectively, the "PIPE Investors"), pursuant to which we agreed to issue and sell to the PIPE Investors in a private placement (the "Private Placement" and together with the RD Purchase Offering, the "2024 Offering')): (i) 169,784 shares of common stock; (ii) Pre-funded Warrants to purchase up to 930,215 shares of common stock; and (iii) Class D Warrants to purchase up to 1,099,999 shares of common stock. The purchase price for each share of common stock sold in the Private Placement was $3.00. The purchase price for each Pre-funded Warrant sold in the

Private Placement was $2.9999. The 2024 Offering constituted a Qualified Offering under the 2024 Consent Agreement.

The Pre-funded Warrants were exercisable immediately and may be exercised at any time until all of the Pre-funded Warrants are exercised in full. Each Pre-funded Warrant is exercisable for one share of common stock at an exercise price of $0.0001 per share of common stock. The Class D Warrants have an exercise price of $3.00 per share of common stock. The Class D Warrants were exercisable upon issuance and expire on December 31, 2025.

In connection with the 2024 Consent Agreement, the Release and the 2024 Offering, we entered into a registration rights agreement (the "2024 Registration Rights Agreement") with the RD Purchasers, the PIPE Investors, the Consenting Holders, the Hewlett Fund LP and Craig-Hallum Capital Group LLC pursuant to which we agreed to file one or more registration statements on Form S-1 covering the resale or other disposition of: (i) shares of common stock purchased in the Private Placement; (ii) shares of common stock issuable upon the exercise of the warrants issued and sold in the 2024 Offering; (iii) the additional shares of common stock that became issuable upon the conversion of the Series A-1 Preferred Stock as a result of the terms of the Second Amended and Restated Certificate of Designation for the Series A-1 Preferred Stock (including shares of common stock issuable upon the exercise of Pre-funded Warrants that may become issuable upon the conversion of the Series A-1 Preferred Stock); (iv) shares of common stock issuable upon the exercise of Class C Warrants issued to the Hewlett Fund LP pursuant to the Release and (v) shares of common stock issuable upon the exercise of the Placement Agent Warrants issued to Craig-Hallum Capital Group LLC in connection with the 2024 Offering (collectively, the "Registrable Securities"). In the Registration Rights Agreement, we have, among other things, agreed to: (i) file an initial registration statement covering the Registrable Securities no later than the earlier of (A) April 25, 2025 and (B) the 10th day after the filing of this Annual Report on Form 10-K for the year ended December 31, 2024; (ii) use our best efforts to cause any registration statement to be declared effective by the SEC as promptly as possible (the date on which the initial registration statement is declared effective by the SEC, the "Effective Date"); and (iii) use our best efforts to keep any such registration statement continuously effective until the date that all of the Registrable Securities covered by such registration statement (X) have been sold thereunder or pursuant to Rule 144, or (Y) may be sold without volume or manner-of-sale restrictions under Rule 144 and without the requirement that we be in compliance with the current public information requirement under Rule 144, subject to certain black-out rights. In the event that we fail to timely file a registration statement or comply with certain covenants in the 2024 Registration Rights Agreement, we will become subject to liquidated damages calculated as provided in the 2024 Registration Rights Agreement.

Orin Hirschman and his affiliates, The Hewlett Fund, LP, Five Narrow Lane, Lytton-Kambara Foundation and MYDA Advisors LLC all of whom are beneficial holders of more than 5% of our capital stock, participated in the 2024 Offering. Orin Hirschman and his affiliates purchased 169,784 shares of common stock, Pre-funded Warrants to purchase 730,216 shares of common stock and Class D Warrants to purchase 900,000 shares of common stock in the Private Placement. The Hewlett Fund, LP purchased (i) 200,000 shares and Class D Warrants to purchase 200,000 shares of common stock in the RD Purchaser Offering and (ii) Pre-funded Warrants to purchase 116,666 shares of common stock and Class D Warrants to purchase 116,666 shares of common stock in the Private Placement. Five Narrow Lane purchased 166,666 shares and Class D Warrants to purchase 166,666 shares of common stock in the RD Purchaser Offering. Lytton-Kambara Foundation purchased (i) 333,333 shares and Class D Warrants to purchase 333,333 shares of common stock in the RD Purchaser Offering and (ii) Pre-funded Warrants to purchase 83,333 shares of common stock and Class D Warrants to purchase 83,333 shares of common stock in the Private Placement. MYDA Advisors LLC purchased 333,333 shares and Class D Warrants to purchase 333,333 shares of common stock in the RD Purchaser Offering. Orin Hirschman and his affiliates, The Hewlett Fund, LP, Five Narrow Lane, Lytton-Kambara Foundation and MYDA Advisors LLC are parties to the 2024 Registration Rights Agreement.

Policies and Procedures for Related Party Transactions

Our board of directors has adopted a policy that our executive officers, directors, nominees for election as a director, beneficial owners of more than 5% of any class of our common stock, any members of the immediate family of any of the foregoing persons and any firms, corporations or other entities in which any of the foregoing persons is

employed or is a partner or principal or in a similar position or in which such person has a 5% or greater beneficial ownership interest (collectively "related parties"), are not permitted to enter into a transaction with us without the prior consent of our board of directors acting through the Audit Committee or, in certain circumstances, the chairman of the Audit Committee. Any request for us to enter into a transaction with a related party, in which the amount involved exceeds $100,000 and such related party would have a direct or indirect interest must first be presented to our Audit Committee, or in certain circumstances the chairman of our Audit Committee, for review, consideration and approval. In approving or rejecting any such proposal, our Audit Committee, or the chairman of our Audit Committee, is to consider the material facts of the transaction, including, but not limited to, whether the transaction is on terms no less favorable than terms generally available to an unaffiliated third party under the same or similar circumstances, the extent of the benefits to us, the availability of other sources of comparable products or services and the extent of the related party's interest in the transaction.

Director Independence

Pursuant to the rules of Nasdaq, a director will only qualify as an "independent director" if, in the opinion of that company's board of directors, that person does not have a relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director. Under such rules, our board of directors has determined that all current members of the board of directors are independent, except Mr. Jenks and Mr. Peruvemba. Mr. Jenks is not an independent director under these rules because he is an executive officer of the Company. Mr. Peruvemba is not an independent director under these rules, because, prior to his appointment to the board of directors, he served as a consultant to the Company and had earned compensation from the Company in excess of $120,000 during any period of twelve consecutive months within the last three years. In making such independence determination, our board of directors considered the relationships that each non-employee director has with us and all other facts and circumstances that our board of directors deemed relevant in determining their independence, including the beneficial ownership of our capital stock by each non-employee director. In considering the independence of the directors listed above, our board of directors considered the association of our directors with the holders of more than 5% of our common stock. There are no family relationships among any of our directors and executive officers.

Item 14. Principal Accountant Fees and Services

Principal Accountant Fees and Services

The following table summarizes the fees paid for professional services rendered by Marcum, LLP, our independent registered public accounting firm, for each of the last fiscal years:

	For the Years End December 31,	
US$(000)	**2024**	**2023**
Audit fees	$ 505	$ 336
Audit-related fees	—	—
Tax fees	—	—
All other fees	—	—
Total	$ 505	$ 336

Audit Fees

Represents fees, including out of pocket expenses, for professional services provided in connection with the audit of our annual financial statements, the review of our quarterly financial statements, accounting consultations or advice on accounting matters necessary for the rendering of an opinion on our financial statements, services provided in connection with the offerings of our securities and audit services provided in connection with other statutory or regulatory filings.

Procedures for Approval of Fees

The Audit Committee is responsible for appointing, setting compensation and overseeing the work of the independent auditors. The Audit Committee has established a policy regarding pre-approval of all auditing services and the terms thereof and non-audit services (other than non-audit services prohibited under Section 10A(g) of the Exchange Act or the applicable rules of the SEC or the Public Company Accounting Oversight Board) to be provided to us by the independent auditor. However, the pre-approval requirement may be waived with respect to the provision of non-audit services for us if the "de minimums" provisions of Section 10A(i)(1)(B) of the Exchange Act are satisfied.

The Audit Committee is responsible for reviewing and discussing the audited financial statements with management, discussing with the independent registered public accountants the matters required in Auditing Standards No. 16, receiving written disclosures from the independent registered public accountants required by the applicable requirements of the Public Company Accounting Oversight Board regarding the independent registered public accountants' communications with the Audit Committee concerning independence and discussing with the independent registered public accountants their independence, and recommending to our board of directors that the audited financial statements be included in our annual report on Form 10-K.

PART IV

Item 15. Exhibit and Financial Statement Schedules

(a) The following documents are filed as part of, or incorporated by reference into, this Annual Report on Form 10-K:

1. Financial Statements: See Item 8 of this Annual Report on Form 10-K.

2. Financial Statement Schedules: All schedules are omitted because they are not required, are not applicable or the information is included in the consolidated financial statements or notes thereto.

(b) The following exhibits are filed as part of, or incorporated by reference into, this Annual Report on Form 10-K:

See Exhibit Index.

EXHIBIT INDEX

Exhibit No.	Description
2.1*	Share Exchange Agreement, dated as of February 23, 2021, among the Registrant, SmartKem Limited and the shareholders of SmartKem Limited (incorporated by reference to Exhibit 2.1 to the Company's Current Report on Form 8-K filed on February 24, 2021)
3.1†	Amended and Restated Certificate of Incorporation of the Registrant, as amended to date
3.2	Amended and Restated Bylaws of the Registrant, as currently in effect (incorporated by reference to Exhibit 3.4 to the Company's Current Report on Form 8-K filed on February 24, 2021)
4.1	Form of Registration Rights Agreement (incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K filed on February 24, 2021)
4.2	Form of Pre-Funded Warrant (incorporated by reference to Exhibit 4.2 to the Company's Current Report on Form 8-K filed on February 24, 2021)
4.3	Form of Placement Agent Warrant (incorporated by reference to Exhibit 4.3 to the Company's Current Report on Form 8-K filed on February 24, 2021)
4.4†	Description of Securities
4.5	Form of Class A Warrant (incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K filed on June 15, 2023)
4.6	Form of Class B Warrant (incorporated by reference to Exhibit 4.2 to the Company's Current Report on Form 8-K filed on June 15, 2023)
4.7	Form of Placement Agent Warrant (incorporated by reference to Exhibit 4.3 to the Company's Current Report on Form 8-K filed on June 15, 2023)
4.8	Form of Class C Warrant (incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K filed on January 29, 2024)
4.9	Form of Pre-funded Warrant (incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K filed on December 20, 2024)
4.10	Form of Class D Warrant (incorporated by reference to Exhibit 4.2 to the Company's Current Report on Form 8-K filed on December 20, 2024)
10.1#	2021 Equity Incentive Plan (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed on February 24, 2021)
10.2#	U.K. Tax Advantaged Sub-Plan (incorporated by reference to Exhibit 10.3 to the Company's Current Report on Form 8-K filed on February 24, 2021)
10.3*	Form of Subscription Agreement (incorporated by reference to Exhibit 10.5 to the Company's Current Report on Form 8-K filed on February 24, 2021)
10.4#	Employment Agreement, dated as of February 23, 2021, by and between the Registrant and Ian Jenks (incorporated by reference to Exhibit 10.6 to the Company's Current Report on Form 8-K filed on February 24, 2021)
10.5#	Employment Agreement, dated as of February 23, 2021, by and between SmartKem Limited and Simon Ogier (incorporated by reference to Exhibit 10.8 to the Company's Current Report on Form 8-K filed on February 24, 2021)
10.6#	Consultancy Agreement, dated as of February 23, 2021, by and between SmartKem Limited and B Brown Consultants Ltd. (incorporated by reference to Exhibit 10.9 to the Company's Current Report on Form 8-K filed on February 24, 2021)
10.7	Form of Director and Officer Indemnification Agreement (incorporated by reference to Exhibit 10.16 to the Company's Current Report on Form 8-K filed on February 24, 2021)

10.8	Form of Pre-Exchange Indemnity Agreement (incorporated by reference to Exhibit 10.17 to the Company's Current Report on Form 8-K filed on February 24, 2021)
10.9	Letter Agreement, dated as of February 23, 2021, among the Registrant and Octopus Titan VCT plc and certain related parties (incorporated by reference to Exhibit 10.18 to the Company's Current Report on Form 8-K filed on February 24, 2021)
10.10	Subscription Agreement, dated January 27, 2022, by and between the Company and the Purchasers (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on January 27, 2022)
10.11	Registration Rights Agreement, dated January 27, 2022, by and between the Company and the Purchasers (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed on January 27, 2022)
10.12* **	Renewal Lease by Reference of Lease of The Whole of the 8th Floor, Hexagon Tower, Manchester, M9 8GP, dated April 12, 2022, between AG Hexagon BV and SmartKem Limited (incorporated by reference to Exhibit 10.3 on the Company's Quarterly Report on Form 10-Q filed on May 13, 2022)
10.13#	Employment Agreement, dated as of December 14, 2022, by and between the Registrant and Barbra Keck (incorporated by reference to Exhibit 10.25 to the Company's Annual Report on Form 10-K filed on March 30, 2023)
10.14	Form of Purchase Agreement (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on June 15, 2023)
10.15	Form of Registration Rights Agreement (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed on June 15, 2023)
10.16*	Technical Service Agreement, dated July 1, 2023, by and between SmartKem Limited and Industrial Technology Research Institute (incorporated by reference to Exhibit 10.27 to the Company's Registration Statement on Form S-1 filed on July 24, 2023)
10.17#	Amendment to the 2021 Equity Incentive Plan (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on August 28, 2023)
10.18	Form of Consent Agreement (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on January 29, 2024)
10.19	Form of Registration Rights Agreement (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed on January 29, 2024)
10.20	Framework Supply Agreement, dated March 22, 2024, by and between SmartKem Limited and CPI Innovation Services Limited (incorporated by reference to Exhibit 10.28 to the Company's Annual Report on Form 10-K filed on March 27, 2024)
10.21*	Joint Development Agreement, dated July 26, 2024, by and between SmartKem Limited and Shanghai Chip Foundation Semiconductor Technology Co., Ltd. (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed on November 8, 2024)
10.22**	Collaboration Agreement, dated November 19, 2024, by and between SmartKem Limited and AUO (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on November 25, 2024)
10.23**	Collaboration Agreement, dated December 2, 2024, by and between SmartKem Limited and Flexible Integrated Circuits, SL (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on December 5, 2024)
10.24	Consent and Amendment Agreement, dated December 17, 2024, by and among SmartKem, Inc. and the holders party thereto(incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on December 18, 2024)

10.25	General Release, dated December 17, 2024, by and between SmartKem, Inc. and Hewlett Fund LP (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed on December 18, 2024)
10.26	Placement Agency Agreement, dated December 18, 2024, by and between SmartKem, Inc. and Craig-Hallum Capital Group LLC (incorporated by reference to Exhibit 1.1 to the Company's Current Report on Form 8-K filed on December 20, 2024)
10.27	Form of Securities Purchase Agreement, dated December 18, 2024, by and among SmartKem, Inc. and the purchasers party thereto (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on December 20, 2024)
10.28	Form of Securities Purchase Agreement, dated December 18, 2024, by and among the Company and the purchasers party thereto (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed on December 20, 2024)
10.29	Form of Registration Rights Agreement, dated December 18, 2024, by and among the Company and the parties thereto (incorporated by reference to Exhibit 10.3 to the Company's Current Report on Form 8-K filed on December 20, 2024)
10.30#	Employment Agreement, dated as of March 10, 2025, by and between SmartKem Limited and Jonathan Watkins (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on March 10, 2025)
10.31†**	Letter of Variation, dated March 28, 2025, by and between SmartKem Limited and CPI Innovation Services Limited
10.32†*	License of Office Space, dated March 28, 2025, by and between SmartKem Limited and CPI Innovation Services Limited
19.1†	Insider Trading Policy
21.1	List of Subsidiaries (incorporated by reference to Exhibit 21.1 to the Company's Annual Report on Form 10-K filed on March 30, 2023)
23.1†	Consent of Marcum LLP, independent register public accounting firm (Marcum LLP, New York, USA, PCAOB ID # 688)
31.1†	Certification of Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
31.2†	Certification of Chief Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
32.1††	Certification of Chief Executive Officer Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
32.2††	Certification of Chief Financial Officer Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
97.1†	Incentive Compensation Repayment (Clawback) Policy
101.INS†	Inline XBRL Instance Document – the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document
101.SCH†	Inline XBRL Taxonomy Extension Schema Document
101.CAL†	Inline XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF†	Inline XBRL Taxonomy Extension Definition Linkbase Document
101.LAB†	Inline XBRL Taxonomy Extension Label Linkbase Document
101.PRE†	Inline XBRL Taxonomy Extension Presentation Linkbase Document
104†	Cover Page Interactive Data File (formatted in Inline XBRL and contained in Exhibit 101)

* Annexes, schedules and/or exhibits have been omitted pursuant to Item 601(a)(5) of Regulation S-K. The Registrant hereby undertakes to furnish supplementally a copy of any of the omitted schedules and exhibits to the SEC on a confidential basis upon request.

† Filed herewith.

†† This certification is not deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, or otherwise subject to the liability of that section. Such certification will not be deemed to be incorporated by reference into any filing under the Securities Act of 1933 or the Securities Exchange Act of 1934, except to the extent that the registrant specifically incorporates it by reference.

# Indicates management contract or compensatory plan.

** Portions of the exhibit, marked by brackets, have been omitted because the omitted information (i) is not material and (ii) is of the type the registrant customarily and actually treats as private or confidential. The Registrant hereby undertakes to furnish supplementally a copy of any of the omitted schedules and exhibits to the SEC on a confidential basis upon request..

Item 16. Form 10-K Summary

None.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, duly authorized.

Date: March 31, 2025

SMARTKEM, INC.

By: /s/ Ian Jenks
Name: Ian Jenks
Title: Chief Executive Officer and Chairman of the Board
(Principal Executive Officer)

By: /s/ Barbra C. Keck
Name: Barbra C. Keck
Title: Chief Financial Officer
(Principal Financial Officer)

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Ian Jenks and Barbra C. Keck, jointly and severally, his or her true and lawful attorneys-in-fact and agent, each with the power of substitution, for him in any and all capacities, to sign any amendments to this report, and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, hereby ratifying and confirming all that each of said attorneys-in-fact, or his substitute or substitutes, may do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant in the capacities and on the dates indicated.

Name	Title	Date
/s/ Ian Jenks **Ian Jenks**	Chief Executive Officer and Chairman of the Board (Principal Executive Officer)	March 31, 2025
/s/ Barbra C. Keck **Barbra C. Keck**	Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)	March 31, 2025
/s/ Klaas de Boer **Klaas de Boer**	Director	March 31, 2025
/s/ Steven DenBaars **Steven DenBaars**	Director	March 31, 2025
/s/ Sri Peruvemba **Sri Peruvemba**	Director	March 31, 2025
/s/ Melisa Denis **Melisa Denis**	Director	March 31, 2025

Exhibit 3.1

AMENDED AND RESTATED
CERTIFICATE OF INCORPORATION
OF
PARASOL INVESTMENTS CORPORATION

Parasol Investments Corporation, a corporation organized and existing under the laws of the State of Delaware (the "Corporation"), hereby certifies as follows:

A. This corporation was originally incorporated pursuant to the General Corporation Law of the State of Delaware (the "DGCL") on May 13, 2020 under the name Parasol Investments Corporation. Effective immediately upon the filing of this Amended and Restated Certificate of Incorporation (this "Certificate") with the Secretary of State of the State of Delaware, the name of the Corporation is "**SmartKem, Inc.**"
B. This Certificate amends, restates and integrates the provisions of the Certificate of Incorporation that was filed with the Secretary of State of the State of Delaware on May 13, 2020 (the "Original Certificate"), and was duly adopted in accordance with the provisions of Sections 228, 242 and 245 of the DGCL.
C. The text of the Original Certificate is hereby amended and restated in its entirety to read as follows:

ARTICLE I

The name of the corporation is "SmartKem, Inc."

ARTICLE II

The address of the Corporation's registered office in the State of Delaware is 251 Little Falls Drive, Wilmington, New Castle County, Delaware 19808. The name of its registered agent at such address is Corporation Service Company.

ARTICLE III

The purpose of the Corporation is to engage in any lawful act or activity for which corporations may be organized under the DGCL.

ARTICLE IV

(A) Classes of Stock. The total number of shares of all classes of capital stock that the Corporation is authorized to issue is 310,000,000 shares which shall be divided into two classes of stock to be designated "Common Stock" and "Preferred Stock". The total number of shares of Common Stock that the Corporation is authorized to issue is 300,000,000 shares, par value $0.0001 per share. The total number of shares of Preferred Stock that the Corporation is authorized to issue is 10,000,000 shares, par value $0.0001 per share. Subject to the rights of the holders of any series of Preferred Stock, the number of authorized shares of any of the Common Stock or Preferred Stock may be increased or decreased (but not below the number of shares thereof then outstanding) by the affirmative vote of the holders of a majority in voting power of the stock of the Corporation entitled to vote thereon irrespective of the provisions of Section 242(b)(2) of the DGCL, and no vote of the holders of any of the Common Stock or Preferred Stock voting separately as a class shall be required therefor.

(B) Common Stock. The powers, preferences and relative participating, optional or other special rights, and the qualifications, limitations and restrictions of the Common Stock are as follows:

1. Ranking. The voting, dividend and liquidation rights of the holders of the Common Stock are subject to and qualified by the rights of the holders of the Preferred Stock of any series as may be set forth herein or designated by the Board of Directors of the Corporation (the "Board") upon any issuance of the Preferred Stock of any series.

2. Voting. Except as otherwise provided by law or by the resolution or resolutions providing for the issue of any series of Preferred Stock, the holders of outstanding shares of Common Stock shall have the exclusive right to vote for the election and removal of directors and for all other purposes. Notwithstanding any other provision of this Certificate of Incorporation (as the same may be amended and/or restated from time to time, including the terms of any Preferred Stock Designation (as defined below), this "Certificate of Incorporation") to the contrary, the holders of Common Stock shall not be entitled to vote on any amendment to this Certificate of Incorporation (including any Preferred Stock Designation) that relates solely to the terms of one or more outstanding series of Preferred Stock if the holders of such affected series are entitled, either separately or together as a class with the holders of one or more other such series, to vote thereon pursuant to this Certificate of Incorporation (including any Preferred Stock Designation) or the DGCL.

3. Dividends. Subject to the rights of the holders of Preferred Stock, holders of shares of Common Stock shall be entitled to receive such dividends and distributions and other distributions in cash, stock or property of the Corporation when, as and if declared thereon by the Board from time to time out of assets or funds of the Corporation legally available therefor.

4. Liquidation. Subject to the rights of the holders of Preferred Stock, shares of Common Stock shall be entitled to receive the assets and funds of the Corporation available for distribution in the event of any liquidation, dissolution or winding up of the affairs of the Corporation, whether voluntary or involuntary. A liquidation, dissolution or winding up of the affairs of the Corporation, as such terms are used in this Section B(4), shall not be deemed to be occasioned by or to include any consolidation or merger of the Corporation with or into any other person or a sale, lease, exchange or conveyance of all or a part of its assets.

(C) Preferred Stock.

Shares of Preferred Stock may be issued from time to time in one or more series. The Board is hereby authorized to provide by resolution or resolutions from time to time for the issuance, out of the unissued shares of Preferred Stock, of one or more series of Preferred Stock, without stockholder approval, by filing a certificate pursuant to the applicable law of the State of Delaware (the "Preferred Stock Designation"), setting forth such resolution and, with respect to each such series, establishing the number of shares to be included in such series, and fixing the voting powers, full or limited, or no voting power of the shares of such series, and the designation, preferences and relative, participating, optional or other special rights, if any, of the shares of each such series and any qualifications, limitations or restrictions thereof. The powers, designation, preferences and relative, participating, optional and other special rights of each series of Preferred Stock, and the qualifications, limitations and restrictions thereof, if any, may differ from those of any and all other series at any time outstanding. The authority of the Board with respect to each series of Preferred Stock shall include, but not be limited to, the determination of the following:

(a) the designation of the series, which may be by distinguishing number, letter or title;

(b) the number of shares of the series, which number the Board may thereafter (except where otherwise provided in the Preferred Stock Designation) increase or decrease (but not below the number of shares thereof then outstanding);

(c) the amounts or rates at which dividends will be payable on, and the preferences, if any, of shares of the series in respect of dividends, and whether such dividends, if any, shall be cumulative or noncumulative;

(d) the dates on which dividends, if any, shall be payable;

(e) the redemption rights and price or prices, if any, for shares of the series;

(f) the terms and amount of any sinking fund, if any, provided for the purchase or redemption of shares of the series;

(g) the amounts payable on, and the preferences, if any, of shares of the series in the event of any voluntary or involuntary liquidation, dissolution or winding up of the affairs of the Corporation;

(h) whether the shares of the series shall be convertible into or exchangeable for, shares of any other class or series, or any other security, of the Corporation or any other corporation, and, if so, the specification of such other class or series or such other security, the conversion or exchange price or prices or rate or rates, any adjustments thereof, the date or dates at which such shares shall be convertible or exchangeable and all other terms and conditions upon which such conversion or exchange may be made;

(i) restrictions on the issuance of shares of the same series or any other class or series;

(j) the voting rights, if any, of the holders of shares of the series generally or upon specified events; and

(k) any other powers, preferences and relative, participating, optional or other special rights of each series of Preferred Stock, and any qualifications, limitations or restrictions thereof, all as may be determined from time to time by the Board and stated in the resolution or resolutions providing for the issuance of such Preferred Stock.

Without limiting the generality of the foregoing, the resolutions providing for issuance of any series of Preferred Stock may provide that such series shall be superior or rank equally or be junior to any other series of Preferred Stock to the extent permitted by law.

ARTICLE V

This Article V is inserted for the management of the business and for the conduct of the affairs of the Corporation.

(A) General Powers. The business and affairs of the Corporation shall be managed by or under the direction of the Board, except as otherwise provided by this Certificate of Incorporation or the DGCL.

(B) Number of Directors; Election of Directors. Subject to the rights of holders of any series of Preferred Stock to elect directors, the number of the directors of the Corporation shall be fixed from time to time by resolution of the Board.

(C) (C) Classes of Directors. Subject to the rights of holders of any series of Preferred Stock to elect directors, the Board shall be divided into three classes, designated Class I, Class II and Class III. Each class shall consist, as nearly as may be possible, of one third of the total number of directors constituting the entire Board. The Board is authorized to assign members of the Board already in office to Class I, Class II or Class III at the time such classification becomes effective.

(D) Terms of Office. Subject to the rights of holders of any series of Preferred Stock to elect directors, each director shall serve for a term ending on the date of the third annual meeting of stockholders following the annual meeting of stockholders at which such director was elected; provided that each director initially assigned to Class I shall serve for a term expiring at the Corporation's first annual meeting of stockholders held following the time at which the initial classification of the Board becomes effective; each director initially assigned to Class II shall serve for a term expiring at the Corporation's second annual meeting of stockholders held following the time at which the initial classification of the Board becomes effective; and each director initially assigned to Class III shall serve for a term expiring at the Corporation's third annual meeting of stockholders held following the time at which the initial classification of the Board becomes effective; provided further, that the term of each director shall continue until the election and qualification of his or her successor and be subject to his or her earlier death, disqualification, resignation or removal.

(E) Vacancies. Subject to the rights of holders of any series of Preferred Stock, any newly created directorship that results from an increase in the number of directors or any vacancy on the Board that results from the death, disability, resignation, disqualification or removal of any director or from any other cause shall be filled solely by the affirmative vote of a majority of the total number of directors then in office, even if less than a quorum, or by a sole remaining director and shall not be filled by the stockholders. Any director elected in accordance with the preceding sentence shall, in the case of a newly created directorship, hold office for the full term of the class in which the newly created directorship was created or, in the case of a vacancy, hold office for the remaining term of his or her predecessor and in each case until his or her successor shall be elected and qualified, subject to his or her earlier death, disqualification, resignation or removal.

(F) Removal. Subject to the rights of the holders of any series of Preferred Stock, any director or the entire Board may be removed from office at any time, but only for cause.

(G) Committees. Pursuant to the Bylaws of the Corporation (as the same may be amended and/or restated from time to time, the "Bylaws"), the Board may establish one or more committees to which may be delegated any or all of the powers and duties of the Board to the full extent permitted by law.

(H) Stockholder Nominations and Introduction of Business. Advance notice of stockholder nominations for election of directors and other business to be brought by stockholders before a meeting of stockholders shall be given in the manner provided by the Bylaws.

(I) Preferred Stock Directors. During any period when the holders of any series of Preferred Stock have the right to elect additional directors as provided for or fixed pursuant to the provisions of Article IV hereof or any Preferred Stock Designation, then upon commencement and for the duration of the period during which such right continues: (i) the then otherwise total number of authorized directors of the Corporation shall automatically be increased by such specified number of directors, and the holders of such Preferred Stock shall be entitled to elect the additional directors so provided for or fixed pursuant to said provisions, and (ii) each such additional director shall serve until such director's successor shall have been duly elected and qualified, or until such director's right to hold such office terminates pursuant to said

provisions, whichever occurs earlier, subject to his earlier death, disqualification, resignation or removal. Except as otherwise provided for or fixed pursuant to the provisions of Article IV hereof or any Preferred Stock Designation, whenever the holders of any series of Preferred Stock having such right to elect additional directors are divested of such right pursuant to the provisions of such stock, the terms of office of all such additional directors elected by the holders of such stock, or elected to fill any vacancies resulting from the death, resignation, disqualification or removal of such additional directors, shall forthwith terminate and the total authorized number of directors of the Corporation shall be reduced accordingly.

ARTICLE VI

Unless and except to the extent that the Bylaws shall so require, the election of directors of the Corporation need not be by written ballot.

ARTICLE VII

To the fullest extent permitted by the DGCL as the same exists or as may hereafter be amended, a director of the Corporation shall not be personally liable to the Corporation or its stockholders for monetary damages for breach of fiduciary duty as a director; provided, however, that nothing contained in this Article VII shall eliminate or limit the liability of a director (i) for any breach of the director's duty of loyalty to the Corporation or its stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) pursuant to the provisions of Section 174 of the DGCL, or (iv) for any transaction from which the director derived an improper personal benefit. No repeal or modification of this Article VII shall apply to or have any adverse effect on any right or protection of, or any limitation of the liability of, a director of the Corporation existing at the time of such repeal or modification with respect to acts or omissions occurring prior to such repeal or modification.

ARTICLE VIII

The Corporation may indemnify, and advance expenses to, to the fullest extent permitted by law, any person who was or is a party to or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative by reason of the fact that the person is or was a director, officer, employee or agent of the Corporation, or is or was serving at the request of the Corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise.

ARTICLE IX

Except as otherwise provided in the terms of any series of Preferred Stock, any action required or permitted to be taken by the stockholders of the Corporation must be effected at an annual or special meeting of the stockholders and may not be effected by written consent in lieu of a meeting.

ARTICLE X

Special meetings of stockholders for any purpose or purposes may be called at any time by the Board, the Chairman of the Board or the Chief Executive Officer of the Corporation, and may not be called
by another other person or persons. Business transacted at any special meeting of stockholders shall be limited to matters relating to the purpose or purposes stated in the notice of meeting.

ARTICLE XI

The Corporation reserves the right at any time from time to time to amend, alter, change or repeal any provision contained in this Certificate of Incorporation, and any other provisions authorized by the DGCL may be added or inserted, in the manner now or hereafter prescribed by law; and all rights, preferences and privileges of whatsoever nature conferred upon stockholders, directors or any other persons

whomsoever by and pursuant to this Certificate of Incorporation in its present form or as hereafter amended are granted subject to the right reserved in this Article XI. Notwithstanding any other provision of this Certificate of Incorporation or any provision of law that might otherwise permit a lesser vote or no vote, but in addition to any affirmative vote of the holders of any series of Preferred Stock required by law, by this Certificate of Incorporation or by any Preferred Stock Designation, the affirmative vote of the holders of at least sixty-six and two-thirds percent (66 2/3%) in voting power of the stock of the Corporation entitled to vote thereon shall be required to amend, alter, change or repeal, or adopt any provision inconsistent with, any of Article V, Article VII, Article VIII, Article IX, Article X, Article XII, Article XIII, and this sentence of this Certificate of Incorporation, or in each case, the definition of any capitalized terms used therein or any successor provision (including, without limitation, any such article or section as renumbered as a result of any amendment, alteration, change, repeal or adoption of any other provision of this Certificate of Incorporation). Any amendment, repeal or modification of any of Article VII, Article VIII and this sentence shall not adversely affect any right or protection of any person existing thereunder with respect to any act or omission occurring prior to such repeal or modification.

ARTICLE XII

In furtherance and not in limitation of the powers conferred upon it by law, the Board is expressly authorized and empowered to adopt, amend and repeal the Bylaws. Notwithstanding any other provision of this Certificate of Incorporation or any provision of law that might otherwise permit a lesser vote, but in addition to any affirmative vote of the holders of any series of Preferred Stock required by law, by this Certificate of Incorporation or by any Preferred Stock Designation, the Bylaws may also be amended, altered or repealed by the stockholders of the Corporation and new Bylaws may be adopted by the stockholders of the Corporation by the affirmative vote of the holders of at least sixty-six and two-thirds percent (66 2/3%) in voting power of the outstanding stock of the Corporation entitled to vote thereon.

ARTICLE XIII

Unless the Corporation consents in writing to the selection of an alternative forum, (A) (i) any derivative action or proceeding brought on behalf of the Corporation, (ii) any action asserting a claim of breach of a fiduciary duty owed by any current or former director, officer, other employee or stockholder of the Corporation to the Corporation or the Corporation's stockholders, (iii) any action asserting a claim arising pursuant to any provision of the DGCL, this Certificate of Incorporation or the Bylaws (as either may be amended or restated) or as to which the DGCL confers jurisdiction on the Court of Chancery of the State of Delaware or (iv) any action asserting a claim governed by the internal affairs doctrine of the law of the State of Delaware shall, to the fullest extent permitted by law, be exclusively brought in the Court of Chancery of the State of Delaware or, if such court does not have subject matter jurisdiction thereof, the federal district court of the State of Delaware; and (B) the federal district courts of the United States shall be the exclusive forum for the resolution of any complaint asserting a cause of action arising under the Securities Act of 1933, as amended. Notwithstanding the foregoing, this Article XIII shall not apply to claims seeking to enforce any liability or duty created by the Securities Exchange Act of 1934, as amended. To the fullest extent permitted by law, any person or entity purchasing or otherwise acquiring or holding any interest in shares of capital stock of the Corporation shall be deemed to have notice of and consented to the provisions of this Article XIII.

[*Remainder of Page Intentionally Left Blank*]

THIS AMENDED AND RESTATED CERTIFICATE OF INCORPORATION is executed as of this 23rd day of February, 2021.

PARASOL INVESTMENTS CORPORATION

By: /s/ Robert Bahns

Name: Robert Bahns

Title: Chief Financial Officer

CERTIFICATE OF AMENDMENT TO THE
AMENDED AND RESTATED
CERTIFICATE OF INCORPORATION
OF
SMARTKEM, INC.

SmartKem, Inc. (the "*Corporation*"), a corporation organized and existing under and by virtue of the General Corporation Law of the State of Delaware, does hereby certify as follows:

FIRST: That a resolution was duly adopted on July 13, 2023, by the Board of Directors of the Corporation pursuant to Section 242 of the General Corporation Law of the State of Delaware setting forth an amendment to the Certificate of Incorporation of the Corporation and declaring said amendment to be advisable. The stockholders of the Corporation duly approved said proposed amendment at the annual meeting of stockholders held on August 25, 2023, in accordance with Section 242 of the General Corporation Law of the State of Delaware. The proposed amendment set forth as follows:

Article **IV** of the Amended and Restated Certificate of Incorporation of the Corporation be and hereby is amended by adding the following after the first paragraph of Section A of Article IV:

"Upon effectiveness ("*Effective Time*") of this amendment to the Certificate of Incorporation, a one-for-thirty-five reverse stock split (the "*Reverse Split*") of the Corporation's Common Stock shall become effective, pursuant to which each thirty-five (35) shares of Common Stock outstanding and held of record by each stockholder of the Corporation and each share of Common Stock held in treasury by the Corporation immediately prior to the Effective Time ("*Old Common Stock")* shall automatically, and without any action by the holder thereof, be reclassified and combined into one (1) validly issued, fully paid and non-assessable share of Common Stock ("*New Common Stock*"), subject to the treatment of fractional interests as described below and with no corresponding reduction in the number of authorized shares of our Common Stock. The Reverse Split shall also apply to any outstanding securities or rights convertible into, or exchangeable or exercisable for, Old Common Stock and all references to such Old Common Stock in agreements, arrangements, documents and plans relating thereto or any option or right to purchase or acquire shares of Old Common Stock shall be deemed to be references to the New Common Stock or options or rights to purchase or acquire shares of New Common stock, as the case may be, after giving effect to the Reverse Split.

No fractional shares of Common Stock will be issued in connection with the Reverse Split. If, upon aggregating all of the Common Stock held by a holder of Common Stock immediately following the Reverse Split a holder of Common Stock would otherwise be entitled to a fractional share of Common Stock, the Corporation shall issue to such holder such fractions of a share of Common Stock as are necessary to round the number of shares of Common Stock held by such holder up to the nearest whole share.

Each holder of record of a certificate or certificates for one or more shares of the Old Common Stock shall be entitled to receive as soon as practicable, upon surrender of such certificate, a certificate or certificates representing the largest whole number of shares of New Common Stock to which such holder shall be entitled pursuant to the provisions of the immediately preceding paragraphs. Each stock certificate that, immediately prior to the Effective Time, represented shares of Old Common Stock that were issued and outstanding immediately prior to the Effective Time shall, from and after the Effective Time, automatically and without the necessity of presenting the same for exchange, represent that number of whole shares of New Common Stock after the Effective Time into which the shares formerly

represented by such certificate have been reclassified, subject to adjustment for fractional shares as described above."

SECOND: That said amendment will have an Effective Time of 12:01 AM, Eastern Time, on September 20, 2023.

IN WITNESS WHEREOF, the Corporation has caused this Certificate of Amendment to be signed by its Chief Executive Officer this 19th day of September 2023.

/s/ Ian Jenks
Ian Jenks
Chief Executive Officer

CERTIFICATE OF CORRECTION
TO
CERTIFICATE OF AMENDMENT TO THE

AMENDED AND RESTATED

CERTIFICATE OF INCORPORATION

OF

SMARTKEM, INC.

(Under Section 103(f) of the General Corporation Law of the State of Delaware)

The undersigned, being the Chief Financial Officer of SmartKem, Inc., a corporation organized and existing under the laws of the State of Delaware (the "Corporation"), does hereby certify as follows:

1. The name of the Corporation is SmartKem, Inc.

2. The Certificate of Amendment to the Amended and Restated Certificate of Incorporation, filed with the Secretary of State of the State of Delaware on September 19, 2023 (the "Certificate of Amendment") requires correction as permitted by Section 103(f) of the General Corporation Law of the State of Delaware (the "DGCL").

3. The inaccuracies or defects contained in the Certificate of Amendment are as follows:

a. As a result of a scrivener's error, Section SECOND of the Certificate of Amendment erroneously states that the Certificate of Amendment will have an Effective Time of 12:01 AM, Eastern Time, on September 20, 2023. However, the Effective Time of the Certificate of Amendment is intended to be September 21, 2023.

4. Section SECOND of the Certificate of Amendment is hereby corrected to read in its entirety as follows:

> "**SECOND:** That said amendment will have an Effective Time of 12:01 AM, Eastern Time, on September 21, 2023."

5. Other than as provided in this Certificate of Correction, all terms and provisions of the Certificate of Amendment remain in full force and effect.

[*Signature Page Follows*]

IN WITNESS WHEREOF, the undersigned, being a duly authorized officer of the Corporation, has executed this Certificate of Correction to the Certificate of Amendment on behalf of the Corporation this 19th day of September, 2023.

By: /s/ Barbra Keck
Name: Barbra Keck
Title: Chief Financial Officer

SMARTKEM, INC.
AMENDED AND RESTATED
CERTIFICATE OF DESIGNATION OF
PREFERENCES, RIGHTS AND LIMITATIONS
OF
SERIES A-1 CONVERTIBLE PREFERRED STOCK

PURSUANT TO SECTION 151 OF THE
DELAWARE GENERAL CORPORATION LAW

The undersigned, Ian Jenks and Barbra Keck, do hereby certify that:

1. They are the Chairman and Secretary, respectively, of SmartKem, Inc., a Delaware corporation (the "Corporation").

2. The Corporation is authorized to issue 10,000,000 shares of preferred stock, of which 14,149.36596 shares have been issued, consisting of 11,099.36596 shares of Series A-1 Preferred Stock (as defined below) and 3,050 shares of Series A-2 Preferred Stock (as defined below).

3. The following resolutions were duly adopted by the board of directors of the Corporation (the "Board of Directors"):

WHEREAS, the Amended and Restated Certificate of Incorporation of the Corporation (the "Amended and Restated Certificate of Incorporation") authorizes the Corporation to issue 10,000,000 shares of preferred stock, par value $0.0001 per share (the "Preferred Stock"), which may be issued from time to time in one or more series; and

WHEREAS, the Amended and Restated Certificate of Incorporation authorizes the Board of Directors to establish the number of shares to be included in such series, and to fix the voting powers, full or limited, or no voting power of the shares of such series, and the designation, preferences and relative, participating, optional or other special rights, if any, of the shares of each such series and any qualifications, limitations or restrictions thereof; and

WHEREAS, on June 14, 2023, the Corporation filed a certificate of designation designating Series A-1 Preferred Stock and the Corporation wishes to amend and restate the terms of such certificate of designation as set forth herein; and

WHEREAS, On September 20, 2023, the Corporation completed a 1 for 35 reverse stock split of the Common Stock (the "Reverse Split").

4. In accordance with Section 242(b) of the General Corporation Law of the State of Delaware, this Amended and Restated Certificate of Designation of Preferences, Rights and Limitations of Series A-1 Convertible Preferred Stock has been duly adopted by all of the holders of the outstanding shares of Series A-1 Preferred Stock, which is the only class or series of stock entitled to vote thereon.

NOW, THEREFORE, BE IT RESOLVED, that pursuant to authority conferred upon the Board of Directors by the Amended and Restated Certificate of Incorporation, (i) a series of Preferred Stock be, and hereby is, authorized by the Board of Directors, (ii) the Board of Directors hereby authorizes the issuance of 11,100 shares of Series A-1 Preferred Stock and (iii) the Board of Directors hereby fixes the designations, powers, preferences and rights, and the qualifications, limitations or restrictions of such shares of Series A-1 Preferred Stock as follows:

TERMS OF SERIES A-1 PREFERRED STOCK

Section 1. Definitions. Unless otherwise defined herein, capitalized terms have the respective meanings ascribed thereto in the Purchase Agreement. For the purposes hereof, the following terms shall have the following meanings:

"Affiliate" means any Person that, directly or indirectly through one or more intermediaries, controls or is controlled by or is under common control with a Person, as such terms are used in and construed under Rule 405 of the Securities Act.

"Alternate Consideration" shall have the meaning set forth in Section 7(e).

"Base Conversion Price" shall have the meaning set forth in Section 7(b).

"Beneficial Ownership Limitation" shall have the meaning set forth in Section 6(e).

"Business Day" means any day other than Saturday, Sunday or other day on which commercial banks in The City of New York are authorized or required by law to remain closed; provided, however, for clarification, commercial banks shall not be deemed to be authorized or required by law to remain closed due to "stay at home", "shelter-in-place", "non-essential employee" or any other similar orders or restrictions or the closure of any physical branch locations at the direction of any governmental authority so long as the electronic funds transfer systems (including for wire transfers) of commercial banks in The City of New York are generally are open for use by customers on such day.

"Buy-In" shall have the meaning set forth in Section 6(d)(iv).

"Closing" means the closing of the purchase and sale of the Securities pursuant to Section 2.1 of the Purchase Agreement.

"Closing Date" means the Trading Day on which all of the Transaction Documents have been executed and delivered by the applicable parties thereto and all conditions precedent to (i) each Holder's obligations to pay the Subscription Amount and (ii) the Corporation's obligations to deliver the Securities have been satisfied or waived.

"Commission" means the United States Securities and Exchange Commission and includes the staff thereof acting on its behalf.

"Common Stock" means the Corporation's common stock, par value $0.0001 per share, and stock of any other class of securities into which such securities may hereafter be reclassified or changed.

"Common Stock Equivalents" means any securities of the Corporation or the Subsidiaries which would entitle the holder thereof to acquire at any time Common Stock, including, without limitation, any debt, preferred stock, right, option, warrant or other instrument that is at any time convertible into or exercisable or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock.

"Conversion Date" shall have the meaning set forth in Section 6(a).

"Conversion Price" shall have the meaning set forth in Section 6(c).

"Conversion Ratio" shall have the meaning set forth in Section 6(a).

"Conversion Shares" means, collectively, the shares of Common Stock issuable upon conversion of the shares of Series A-1 Preferred Stock in accordance with the terms hereof.

"DGCL" means the Delaware General Corporation Law, as in effect on the Original Issue Date.

"Dilutive Issuance" shall have the meaning set forth in Section 7(b).

"Dilutive Issuance Notice" shall have the meaning set forth in Section 7(b).

"Effective Date" means the date that the Conversion Shares Registration Statement filed by the Corporation pursuant to the Registration Rights Agreement is first declared effective by the Commission.

"Equity Conditions" means, during the period in question, (a) the Corporation shall have effected all conversions of Series A-1 Preferred Stock and exercises of Warrants required to occur by virtue of one or more Notices of Conversion and Notices of Exercise, respectively, of the applicable Holder on or prior to the dates so requested or required, if any, (b) the Corporation shall have paid all liquidated damages and other amounts owing to the applicable Holder in respect of the Series A-1 Preferred Stock and Warrants, if any, (c)(i) there is an effective Registration Statement pursuant to which the Holders are permitted to utilize the prospectus thereunder to resell all of the Conversion Shares (and the Corporation has no reason to believe, in good faith, that such effectiveness will be interrupted for the foreseeable future) or (ii) all of the Conversion Shares may be resold pursuant to Rule 144 without volume or manner-of-sale restrictions and the Corporation has satisfied any current public information requirements specified in Rule 144(c), (d) the Common Stock and all of the shares issued or issuable pursuant to the Transaction Documents (other than Dividend Shares which have not been issued at such time) are or have been irrevocably approved by any Uplisting Market to be listed or quoted for trading (and the Corporation has no reason to believe, in good faith, that trading of the Common Stock on such Uplisting Market will be interrupted for the foreseeable future), (e) there is a sufficient number of authorized, but unissued and otherwise unreserved, shares of Common Stock available and reserved for the

issuance of not less than the Required Minimum, (f) the issuance of the shares in question to the applicable Holder would not cause such Holder to exceed its Beneficial Ownership Limitation herein, (g) the applicable Holder is not in possession of any information provided directly by the Corporation, any of its Subsidiaries, or any of their officers, directors, employees, agents or Affiliates, that, in the good faith opinion of the Purchaser, constitutes, or may constitute, material non-public information, (h) the Corporation is not in default under any of the Transaction Documents, (i) for each Trading Day in any period of 10 consecutive Trading Days immediately preceding the Trading Day Notice of Conversion is given, the closing price of the Common Stock as reported by Bloomberg L.P. for the principal Trading Market is not less than $24.50 (after giving effect to the Reverse Split and appropriately adjusted for any additional stock split, reverse stock split, stock dividend or other reclassification or combination of the Common Stock occurring after the date hereof), and (j) for each Trading Day for the 30 Trading Days immediately preceding the Trading Day that a Mandatory Conversion Notice is given, the daily trading volume on the principal Trading Market has not been less than $1,000,000 during a 30 consecutive Trading Day period prior to the applicable date in question, the daily trading volume for the Common Stock on the principal Trading Market exceeds 2,858 shares per Trading Day (after giving effect to the Reverse Split and appropriately adjusted for any additional stock split, reverse stock split, stock dividend or other reclassification or combination of the Common Stock occurring after the date hereof).

"Exchange Act" means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

"Exempt Issuance" shall have the meaning ascribed thereto in the Purchase Agreement.

"Fundamental Transaction" shall have the meaning set forth in Section 7(e).

"Fundamental Transaction Notice Date" shall have the meaning set forth in Section 7(e).

"GAAP" means United States generally accepted accounting principles.

"Holder" shall have the meaning given such term in Section 2.

"Indebtedness" means (a) any liabilities for borrowed money or amounts owed in excess of $50,000 (other than trade accounts payable incurred in the ordinary course of business), (b) all guaranties, endorsements and other contingent obligations in respect of indebtedness of others, whether or not the same are or should be reflected in the Corporation's consolidated balance sheet (or the notes thereto), except guaranties by endorsement of negotiable instruments for deposit or collection or similar transactions in the ordinary course of business, and (c) the present value of any lease payments in excess of $50,000 due under leases required to be capitalized in accordance with GAAP.

"Junior Securities" means the Common Stock, any other series of Preferred Stock (other than the Corporation's Series A-2 Preferred Stock), whether now existing or authorized in the future, and all other Common Stock Equivalents of the Corporation.

"Liens" means a lien, charge, pledge, security interest, encumbrance, right of first refusal, preemptive right or other restriction.

"Liquidation" shall have the meaning set forth in Section 5.

"Mandatory Conversion" shall have the meaning set forth in Section 6(b).

"Mandatory Conversion Date" shall have the meaning set forth in Section 6(b).

"Mandatory Conversion Notice" shall have the meaning set forth in Section 6(b).

"New Common Stock" shall have the meaning set forth in Section 7(a).

"New York Courts" shall have the meaning set forth in Section 10(d).

"Notice of Conversion" shall have the meaning set forth in Section 6(a).

"Original Issue Date" means the date of the first issuance of any shares of Series A-1 Preferred Stock regardless of the number of transfers of any particular shares of Series A-1 Preferred Stock and regardless of the number of certificates, if any, which may be issued to evidence such Series A-1 Preferred Stock.

"Person" means an individual or corporation, partnership, trust, incorporated or unincorporated association, joint venture, limited liability company, joint stock company, government (or an agency or subdivision thereof) or other entity of any kind.

"Permitted Indebtedness" means (a) in addition to Indebtedness existing on the Original Issue Date and up to $1,000,000 in the aggregate of future Indebtedness, and (b) lease obligations and purchase money indebtedness incurred in connection with the acquisition of capital assets and lease obligations with respect to newly acquired or leased assets, up to the lesser of the purchase price or market value of each such capital assets and leased assets.

"Permitted Liens" means the individual and collective reference to the following: (a) Liens for taxes, assessments and other governmental charges or levies not yet due or Liens for taxes, assessments and other governmental charges or levies being contested in good faith and by appropriate proceedings for which adequate reserves (in the good faith judgment of the management of the Corporation) have been established in accordance with GAAP, (b) Liens imposed by law which were incurred in the ordinary course of the Corporation's business, such as carriers', warehousemen's and mechanics' Liens, statutory landlords' Liens, and other similar Liens arising in the ordinary course of the Corporation's business, and which (x) do not individually or in the aggregate materially detract from the value of such property or assets or materially impair the use thereof in the operation of the business of the Corporation and its consolidated Subsidiaries or (y) are being contested in good faith by appropriate proceedings, which proceedings have the effect of preventing for the foreseeable future the forfeiture or sale of the property or asset subject to such Lien, (c) Liens incurred in connection with Permitted Indebtedness under clause (a) thereunder, and (d) Liens incurred in connection with Permitted

Indebtedness under clause (b) thereunder, provided that such Liens are not secured by assets of the Corporation or its Subsidiaries other than the assets so acquired or leased.

"Preferred Stock" shall have the meaning set forth in the recitals.

"Purchase Agreement" means the Securities Purchase Agreement, dated as of June 14, 2023, among the Corporation and the original Holders, as amended, modified or supplemented from time to time in accordance with its terms.

"Registration Rights Agreement" means the Registration Rights Agreement, dated as of the date of the Purchase Agreement, among the Corporation and the original Holders, in the form of Exhibit C attached to the Purchase Agreement.

"Registration Statement" means a registration statement meeting the requirements set forth in the Registration Rights Agreement.

"Required Minimum" means, as of any date, the maximum aggregate number of shares of Common Stock then potentially issuable in the future at the Conversion Price and Exercise Prices in effect on such date pursuant to the Transaction Documents, including any Underlying Shares issuable upon exercise in full of all Warrants or conversion in full of all shares of Preferred Stock at the Conversion Price and Exercise Prices in effect on such date, including any Dividend Shares actually issued and outstanding as of such date (but assuming any future dividends on the Series A-1 Preferred Stock pursuant to Section 3(b) are paid in cash), ignoring any conversion or exercise limits set forth therein.

"Reverse Split" means the 1 for 35 reverse stock split of the Common Stock effected on September 20, 2023.

"Rule 144" means Rule 144 promulgated by the Commission pursuant to the Securities Act, as such Rule may be amended and interpreted from time to time, or any similar rule or regulation hereafter adopted by the Commission having substantially the same purpose and effect as such Rule.

"Securities" means the Series A-1 Preferred Stock, the Warrants, the Warrant Shares and the Underlying Shares.

"Securities Act" means the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder.

"Series A-2 Certificate of Designation" means the Certificate of Designation of Preferences, Rights and Limitations of Series A-2 Convertible Preferred Stock.

"Series A-2 Conversion Shares" means, collectively, the shares of Common Stock issuable upon conversion of the shares of Series A-2 Preferred Stock in accordance with the terms of the Series A-2 Certificate of Designation.

"Series A-2 Preferred Stock" means the Series A-2 Preferred Stock, par value $0.0001 per share.

"Share Delivery Date" shall have the meaning set forth in Section 6(d)(i).

"Stated Value" shall have the meaning set forth in Section 2.

"Subscription Amount" shall mean, as to each Holder, the aggregate amount to be paid for the Series A-1 Preferred Stock and Warrants purchased pursuant to the Purchase Agreement as specified below such Holder's name on the signature page of the Purchase Agreement and next to the heading "Subscription Amount," in United States dollars and in immediately available funds.

"Subsidiary" means any subsidiary of the Corporation and shall, where applicable, also include any direct or indirect subsidiary of the Corporation formed or acquired after the date of the Purchase Agreement.

"Successor Entity" shall have the meaning set forth in Section 7(e).

"Trading Day" means a day on which the principal Trading Market is open for trading.

"Trading Market" means any of the following markets or exchanges on which the Common Stock is listed or quoted for trading on the date in question: the NYSE American, the Nasdaq Capital Market, the Nasdaq Global Market, the Nasdaq Global Select Market, the New York Stock Exchange, the OTCQB Venture Market ("OTCQB") or the OTCQX Best Market ("OTCQX") (or any successors to any of the foregoing).

"Transaction Documents" means this Certificate of Designation, the Purchase Agreement, the Warrants, the Registration Rights Agreement, the Voting Agreements, all exhibits and schedules thereto and hereto and any other documents or agreements executed in connection with the transactions contemplated pursuant to the Purchase Agreement.

"Transfer Agent" means VStock Transfer, LLC., the current transfer agent of the Corporation and any successor transfer agent of the Corporation. The transfer agent's address is 18 Lafayette Place, Woodmere, NY 11598 and its taxpayer identification number is 211826-8436.

"Underlying Shares" means the shares of Common Stock issued and issuable upon conversion of the Series A-1 Preferred Stock, excluding any Dividend Shares not issued and outstanding, and upon the exercise of the Warrants.

"Uplisting" means the listing of the Common Stock on an Uplisting Market.

"Uplisting Effective Date" means the Trading Day on which the Common Stock commences trading on an Uplisting Market.

"Uplisting Market" means any of the NYSE American, the Nasdaq Capital Market, the Nasdaq Global Market, the Nasdaq Global Select Market or the New York Stock Exchange, or their respective successors.

"VWAP" means, for any date, the price determined by the first of the following clauses that applies: (a) if the Common Stock is then listed or quoted on a Trading Market, the daily volume weighted average price of the Common Stock for such date (or the nearest preceding date) on the Trading Market on which the Common Stock is then listed or quoted as reported by Bloomberg L.P. (based on a Trading Day from 9:30 a.m. (New York City time) to 4:02 p.m. (New York City time)), (b) if the OTCQB or the OTCQX is a Trading Market, the volume weighted average price of the Common Stock for such date (or the nearest preceding date) on OTCQB or OTCQX as applicable, (c) if the Common Stock is not then quoted on OTCQB or OTCQX and if prices for the Common Stock are then reported in the Pink Open Market ("Pink Market") operated by OTC Markets, Inc. (or a similar organization or agency succeeding to its functions of reporting prices), the most recent bid price per share of the Common Stock so reported, or (d) in all other cases, the fair market value of a share of Common Stock as determined by an independent appraiser selected in good faith by the holders of a majority in interest of the Securities then outstanding and reasonably acceptable to the Corporation, the fees and expenses of which shall be paid by the Corporation.

"Warrants" means, collectively, the Common Stock purchase warrants delivered to the Holders at the Closing in accordance with Section 2.2(a) of the Purchase Agreement.

"Warrant Shares" means the shares of Common Stock issuable upon exercise of the Warrants.

Section 2. Designation, Amount and Par Value. The series of preferred stock shall be designated as Series A-1 Convertible Preferred Stock (the "Series A-1 Preferred Stock") and the number of shares so designated shall be 11,100 (which shall not be subject to increase without the written consent of the holders of a majority of the then outstanding shares of the Series A-1 Preferred Stock (each, a "Holder" and collectively, the "Holders")). Each share of Series A-1 Preferred Stock shall have a par value of $0.0001 per share and a stated value equal to $10,000 (the "Stated Value").

Section 3. Dividends.

a) In addition to stock dividends or distributions for which adjustments are to be made pursuant to Section 7 and the dividends payable pursuant Section 3(b), Holders shall be entitled to receive, and the Corporation shall pay, dividends on shares of Series A-1 Preferred Stock equal (on an as-if-converted-to-Common-Stock basis) to and in the same form as dividends actually paid on shares of the Common Stock when, as and if such dividends are paid on shares of the Common Stock. No other dividends shall be paid on shares of Series A-1 Preferred Stock.

b) In the event that on the 18th month anniversary of the Closing Date, the trailing 30-day VWAP is less than the then in effect Conversion Price, the Series A-1 Preferred Stock shall begin accruing dividends at the annual rate of 19.99% of the Stated Value (the "Series A-1

Dividend"). The Series A-1 Dividend shall be paid to each Holder quarterly in arrears on the fifth Business Day of each calendar quarter. The Series A-1 Dividend shall be paid in cash, or provided the Equity Conditions have been met (other than clause (i) of the definition of Equity Conditions, which shall not be applicable), at the option of the Corporation all or in part in shares of the Common Stock at a price per share equal to ninety percent (90%) of the trailing 10-day VWAP for the last 10 Trading Days prior to the date the Series A-1 Dividend is paid. In the event the Corporation is unable to pay the dividend in cash or Common Stock because the applicable Equity Conditions cannot be met or because the payment of the dividend in Common Stock would violate the rules and regulations of the Trading Market or requires the approval of stockholders thereunder, the Series A-1 Dividend shall accrue until the Corporation can make payment in cash or Common Stock in which case the shares of Common Stock shall have a price per share equal to ninety percent (90%) of the trailing 10-day VWAP for the last 10 Trading Days prior to the date the Series A-1 Dividend is paid or otherwise required to have been paid but for the foregoing restrictions, whichever is less.

Section 4. Voting Rights. Except as otherwise provided herein or as otherwise required by law, the Series A-1 Preferred Stock shall have no voting rights. As long as any shares of Series A-1 Preferred Stock are outstanding, the Corporation shall not, without the affirmative vote of the Holders of a majority of the then outstanding shares of the Series A-1 Preferred Stock which must include AIGH Investment Partners LP and its Affiliates ("AIGH") for so long as AIGH is holding at least $1,500,000 in aggregate Stated Value of Series A-1 Preferred Stock acquired pursuant to the Purchase Agreement, (a) alter or change the powers, preferences or rights given to the Series A-1 Preferred Stock, (b) alter or amend its Amended and Restated Certificate of Incorporation, this Certificate of Designation, the Series A-2 Certificate of Designation or bylaws in such a manner so as to materially adversely affect any rights given to this Series A-1 Preferred Stock, (c) authorize or create any class of stock ranking as to dividends, redemption or distribution of assets upon a Liquidation senior to, or otherwise pari passu with, the Series A-1 Preferred Stock, other than up to 3,050 shares of Series A-2 Preferred Stock (d) increase the number of authorized shares of Series A-1 Preferred Stock, (e) issue any Series A-1 Preferred Stock except pursuant to the Purchase Agreement, or (f) enter into any agreement to do any of the foregoing.

Section 5. Liquidation. Upon any liquidation, dissolution or winding-up of the Corporation, whether voluntary or involuntary (a "Liquidation"), the Holders shall be entitled to receive out of the assets, whether capital or surplus, of the Corporation an amount equal to the Stated Value, plus any accrued and unpaid dividends thereon and any other fees or liquidated damages then due and owing thereon under this Certificate of Designation, for each share of Series A-1 Preferred Stock before any distribution or payment shall be made to the holders of any Junior Securities, and if the assets of the Corporation shall be insufficient to pay in full such amounts, then the entire assets to be distributed to the Holders shall be ratably distributed among the Holders and the holders of the Series A-2 Preferred Stock in accordance with the respective amounts that would be payable on such shares if all amounts payable thereon were paid in full.

Section 6. Conversion.

a) Conversions at Option of Holders. Each share of Series A-1 Preferred Stock shall be convertible, at any time and from time to time from and after the Original Issue Date at the

option of the Holder thereof, into that number of shares of Common Stock (subject to the limitations set forth herein) determined by dividing the Stated Value of such share of Series A-1 Preferred Stock by the Conversion Price (the "Conversion Ratio"). Holders shall effect conversions by providing the Corporation with the form of conversion notice attached hereto as Annex A (a "Notice of Conversion"); provided that the Corporation shall not be required to honor such request if such conversion does not involve an underlying conversion value of Common Stock of at least $5,000 based on the Stated Value of such Series A-1 Preferred Stock subject to the conversion on the Conversion Date (as defined below) (unless such lesser amount relates to all of a Holder's Series A-1 Preferred Stock). Each Notice of Conversion shall specify the number of shares of Series A-1 Preferred Stock to be converted, the number of shares of Series A-1 Preferred Stock owned prior to the conversion at issue, the number of shares of Series A-1 Preferred Stock owned subsequent to the conversion at issue and the date on which such conversion is to be effected, which date may not be prior to the date the applicable Holder delivers by .pdf via email such Notice of Conversion to the Corporation (such date, the "Conversion Date"). The Corporation shall be entitled to rely on any Notice of Conversion if it is received from the notice address the Corporation is provided in connection with such transfer. If no Conversion Date is specified in a Notice of Conversion, the Conversion Date shall be the date that such Notice of Conversion to the Corporation is deemed delivered hereunder. No ink-original Notice of Conversion shall be required, nor shall any medallion guarantee (or other type of guarantee or notarization) of any Notice of Conversion form be required. The calculations and entries set forth in the Notice of Conversion shall control in the absence of manifest or mathematical error. To effect conversions of shares of Series A-1 Preferred Stock, a Holder shall deliver transfer instruments reasonably satisfactory to the Corporation and shall surrender certificate(s), if any, representing the shares of such Series A-1 Preferred Stock to the Corporation. Upon surrender of a certificate representing shares of Series A-1 Preferred Stock that are to be converted in part pursuant to this Certificate of Designation, the Corporation shall cause the Transfer Agent to issue a book entry receipt representing the number of shares of Series A-1 Preferred Stock that are not so converted. Shares of Series A-1 Preferred Stock converted into Common Stock in accordance with the terms hereof shall be canceled and shall not be reissued.

b) Mandatory Conversion at the Option of the Corporation. So long as the Equity Conditions are satisfied, the Corporation shall have the right to mandatorily convert (a "Mandatory Conversion") effective upon the date (the "Mandatory Conversion Date") set forth in a written notice provided to the Holders of the then-outstanding shares of Series A-1 Preferred Stock (a "Mandatory Conversion Notice"), which Mandatory Conversion Date shall not be less than three (3) Trading Days from the date of the Mandatory Conversion Notice, without further action on the part of the Holders thereof and without payment of any additional consideration, all but, except as provided below, not less than all of the shares of Series A-1 Preferred Stock then outstanding into that number of shares of Common Stock determined by dividing the Stated Value of such share of Series A-1 Preferred Stock by the Conversion Price. In the event that any Mandatory Conversion Notice would result in a Holder exceeding its Beneficial Ownership Limitation (after giving effect to the Mandatory Conversion of shares of Series A-1 Preferred Stock held by the other Holders), then (i) the Mandatory Conversion Notice shall be deemed to relate only to the conversion of the shares of Series A-1 Preferred Stock held by such Holder that would not cause such Holder to exceed its Beneficial Ownership Limitation (after giving effect to the Mandatory Conversion of shares of Series A-1 Preferred Stock held by the other Holders), and (ii) the Corporation shall have

the right to provide a subsequent Mandatory Conversion Notice to such Holder if (a) the Equity Conditions are satisfied as of the date of such subsequent Mandatory Conversion Notice. For the avoidance of doubt, any subsequent Mandatory Conversion Notice would be subject to the provisions of the foregoing sentence. From and after the Mandatory Conversion Date, the Series A-1 Preferred Stock converted in the Mandatory Conversion shall be deemed to be cancelled and the Corporation shall cause the Transfer Agent to issue to the former Holders of the shares of Series A-1 Preferred Stock so converted the shares of Common Stock to which they are entitled in accordance with the provisions of Section 6(d) below.

c) Conversion Price. The conversion price for the Series A-1 Preferred Stock shall equal $87.50 after giving effect to the Reverse Split (the "Conversion Price"). The Conversion Price shall be subject to adjustment as provided in Section 7.

d) Mechanics of Conversion.

i. Delivery of Conversion Shares Upon Conversion. Not later than the earlier of (i) two (2) Trading Days and (ii) the number of Trading Days comprising the Standard Settlement Period (as defined below) after each Conversion Date or Mandatory Conversion Date, as applicable (the "Share Delivery Date"), the Corporation shall deliver, or cause to be delivered, to the converting Holder the number of Conversion Shares being acquired upon the conversion of the Series A-1 Preferred Stock. As used herein, "Standard Settlement Period" means the standard settlement period, expressed in a number of Trading Days, on the Corporation's primary Trading Market with respect to the Common Stock as in effect on the date of delivery of the Notice of Conversion.

ii. Failure to Deliver Conversion Shares. If, in the case of any Notice of Conversion, such Conversion Shares are not delivered to or as directed by the applicable Holder by the Share Delivery Date, such Holder shall, to the fullest extent permitted by law, be entitled to elect by written notice to the Corporation at any time on or before its receipt of such Conversion Shares, to rescind such conversion, in which event the Corporation shall promptly return to such Holder the shares of Series A-1 Preferred Stock delivered to the Corporation and such Holder shall promptly return to the Corporation the Conversion Shares issued to such Holder pursuant to the rescinded Notice of Conversion. In the event of such rescission, the Corporation shall be obligated to pay accrued liquidated damages but there shall be no obligation to pay liquidated damages following such rescission with respect to the prior default by the Corporation for the rescinded Notice of Conversion.

iii. Obligation Absolute; Partial Liquidated Damages. The Corporation's obligation to issue and deliver the Conversion Shares upon conversion of Series A-1 Preferred Stock in accordance with the terms hereof are absolute and unconditional, irrespective of any action or inaction by a Holder to enforce the same, the recovery of any judgment against any Person or any action to enforce the same, or any setoff, counterclaim or recoupment; provided, however, that such delivery shall not operate as a waiver by the Corporation of any such action that the Corporation may have against such Holder. In the event a Holder shall elect to convert any or all of its Series A-1 Preferred Stock, the Corporation may not refuse conversion based on any claim that such Holder or any one associated or affiliated with such Holder has been engaged in any

violation of law, agreement or for any other reason, unless an injunction from a court, on notice to Holder, restraining and/or enjoining conversion of all or part of the Series A-1 Preferred Stock of such Holder shall have been sought and obtained, and the Corporation posts a surety bond for the benefit of such Holder in the amount of 150% of the Stated Value of Series A-1 Preferred Stock which is subject to the injunction, which bond shall remain in effect until the completion of arbitration/litigation of the underlying dispute and the proceeds of which shall be payable to such Holder to the extent it obtains judgment in its favor. In the absence of such injunction, the Corporation shall issue Conversion Shares in accordance with the terms of this Certificate of Designation. If the Corporation fails to deliver to a Holder such Conversion Shares pursuant to Section 6(d)(i) by the Share Delivery Date applicable to such conversion when it was required to do so under this Certificate of Designation, the Corporation shall pay to such Holder, in cash, as liquidated damages and not as a penalty, for each $1,000 of Underlying Shares (based on the higher of the VWAP of the Common Stock on the Conversion Date or the Mandatory Conversion Date, as applicable, and the Stated Value of the Series A-1 Preferred Stock being converted, $10 per Trading Day (increasing to $20 per Trading Day on the fifth (5th) Trading Day after the Share Delivery Date) for each Trading Day after the Share Delivery Date until such Conversion Shares are delivered or the Holder rescinds such conversion, to the extent applicable. To the fullest extend permitted by law, nothing herein shall limit a Holder's right to pursue actual damages pursuant to any Transaction Document for the Corporation's failure to deliver Conversion Shares within the period specified herein and such Holder shall have the right to pursue all remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief. To the fullest extent permitted by law, the exercise of any such rights shall not prohibit a Holder from seeking to enforce damages pursuant to any other Section hereof or under applicable law. Nothing herein shall require the Corporation to issue Conversion Shares (or pay liquidated damages for its failure to do so) if the Notice of Conversion is incomplete or was not properly delivered to the Corporation in accordance with this Certificate of Designation.

iv. Compensation for Buy-In on Failure to Timely Deliver Conversion Shares Upon Conversion. In addition to any other rights available to the Holder, if the Corporation fails for any reason to deliver to a Holder the applicable Conversion Shares by the Share Delivery Date pursuant to Section 6(d)(i), and if after such Share Delivery Date such Holder is required by its brokerage firm to purchase (in an open market transaction or otherwise), or the Holder's brokerage firm otherwise purchases, shares of Common Stock to deliver in satisfaction of a sale by such Holder of the Conversion Shares which such Holder was entitled to receive upon the conversion relating to such Share Delivery Date (a "Buy-In"), then the Corporation shall (A) pay in cash to such Holder (in addition to any other remedies available to or elected by such Holder) the amount, if any, by which (x) such Holder's total purchase price (including any brokerage commissions) for the Common Stock so purchased exceeds (y) the product of (1) the aggregate number of shares of Common Stock that such Holder was entitled to receive from the conversion at issue multiplied by (2) the actual sale price at which the sell order giving rise to such purchase obligation was executed (including any brokerage commissions) and (B) at the option of such Holder, either reissue (if surrendered) the shares of Series A-1 Preferred Stock equal to the number of shares of Series A-1 Preferred Stock submitted for conversion (in which case, such conversion shall be deemed rescinded) or deliver to such Holder the number of shares of Common Stock that would have been issued if the Corporation had timely complied with its delivery requirements under Section 6(d)(i). For example, if a Holder purchases shares of Common Stock having a total

purchase price of $11,000 to cover a Buy-In with respect to an attempted conversion of shares of Series A-1 Preferred Stock with respect to which the actual sale price of the Conversion Shares (including any brokerage commissions) giving rise to such purchase obligation was a total of $10,000 under clause (A) of the immediately preceding sentence, the Corporation shall be required to pay such Holder $1,000. The Holder shall provide the Corporation written notice indicating the amount payable to such Holder in respect of the Buy-In and, upon request of the Corporation, evidence of the amount of such loss. To the fullest extent permitted by law, nothing herein shall limit a Holder's right to pursue any other remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief with respect to the Corporation's failure to timely deliver the Conversion Shares upon conversion of the shares of Series A-1 Preferred Stock as required pursuant to the terms hereof.

v. Reservation of Shares Issuable Upon Conversion. The Corporation covenants that it will at all times reserve and keep available out of its authorized and unissued shares of Common Stock for the sole purpose of issuance upon conversion of the Series A-1 Preferred Stock, each as herein provided, free from preemptive rights or any other actual contingent purchase rights of Persons other than the Holders (and the other Holders of the Series A-1 Preferred Stock), not less than such aggregate number of shares of the Common Stock as shall (subject to the terms and conditions set forth in the Purchase Agreement) be issuable (taking into account the adjustments and restrictions of Section 7) upon the conversion of the then outstanding shares of Series A-1 Preferred Stock. The Corporation covenants that all shares of Common Stock that shall be so issuable shall, upon issue, be duly authorized, validly issued, fully paid and nonassessable.

vi. Fractional Shares. No fractional shares or scrip representing fractional shares shall be issued upon the conversion of the Series A-1 Preferred Stock. As to any fraction of a share which the Holders would otherwise be entitled to purchase upon such conversion, the Corporation shall at its election, either pay a cash adjustment in respect of such final fraction in an amount equal to such fraction multiplied by the Conversion Price or round up to the next whole share. Notwithstanding anything to the contrary contained herein, but consistent with the provisions of this subsection with respect to fractional Conversion Shares, nothing shall prevent any Holder from converting fractional shares of Series A-1 Preferred Stock.

vii. Transfer Taxes and Expenses. The issuance of Conversion Shares on conversion of this Series A-1 Preferred Stock shall be made without charge to any Holder for any documentary stamp or similar taxes that may be payable in respect of the issue or delivery of such Conversion Shares, provided that the Corporation shall not be required to pay any tax that may be payable in respect of any transfer involved in the issuance and delivery of any such Conversion Shares upon conversion in a name other than that of the Holders of such shares of Series A-1 Preferred Stock and the Corporation shall not be required to issue or deliver such Conversion Shares unless or until the Person or Persons requesting the issuance thereof shall have paid to the Corporation the amount of such tax or shall have established to the satisfaction of the Corporation that such tax has been paid. The Corporation shall pay all Transfer Agent fees required for same-day processing of any Notice of Conversion and all fees to the Depository Trust Company (or another established clearing corporation performing similar functions) required for same-day electronic delivery of the Conversion Shares.

e) Beneficial Ownership Limitation. Notwithstanding anything to the contrary set forth herein, the Corporation shall not effect any conversion of the Series A-1 Preferred Stock, and a Holder shall not have the right to convert any portion of the Series A-1 Preferred Stock, to the extent that, after giving effect to the conversion set forth on the applicable Notice of Conversion, such Holder (together with such Holder's Affiliates, and any Persons acting as a group together with such Holder or any of such Holder's Affiliates (such Persons, "Attribution Parties")) would beneficially own in excess of the Beneficial Ownership Limitation (as defined below). For purposes of the foregoing sentence, the number of shares of Common Stock beneficially owned by such Holder and its Affiliates and Attribution Parties shall include the number of shares of Common Stock issuable upon conversion of the Series A-1 Preferred Stock with respect to which such determination is being made, but shall exclude the number of shares of Common Stock which are issuable upon (i) conversion of the remaining, unconverted Series A-1 Preferred Stock or Series A-2 Preferred Stock beneficially owned by such Holder or any of its Affiliates or Attribution Parties and (ii) exercise or conversion of the unexercised or unconverted portion of any other securities of the Corporation subject to a limitation on conversion or exercise analogous to the limitation contained herein (including, without limitation, the Series A-1 Preferred Stock, the Series A-2 Preferred Stock or the Warrants) beneficially owned by such Holder or any of its Affiliates or Attribution Parties. Except as set forth in the preceding sentence, for purposes of this Section 6(e), beneficial ownership shall be calculated in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder. To the extent that the limitation contained in this Section 6(e) applies, the determination of whether the Series A-1 Preferred Stock is convertible (in relation to other securities owned by such Holder together with any Affiliates and Attribution Parties) and of how many shares of Series A-1 Preferred Stock are convertible shall be in the reasonable discretion of such Holder, and the submission of a Notice of Conversion shall be deemed to be such Holder's determination of whether the shares of Series A-1 Preferred Stock may beconverted (in relation to other securities owned by such Holder together with any Affiliates and Attribution Parties) and how many shares of the Series A-1 Preferred Stock are convertible, in each case in relation to the Beneficial Ownership Limitation. To ensure compliance with this restriction, each Holder will be deemed to represent to the Corporation each time it delivers a Notice of Conversion that such Notice of Conversion has not violated the restrictions set forth in this paragraph and the Corporation shall have no obligation to verify or confirm the accuracy of such determination. In addition, a determination as to any group status as contemplated above shall be determined in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder. For purposes of this Section 6(e), in determining the number of outstanding shares of Common Stock, a Holder may rely on the number of outstanding shares of Common Stock as stated in the most recent of the following: (i) the Corporation's most recent periodic or annual report filed with the Commission, as the case may be, (ii) a more recent public announcement by the Corporation or (iii) a more recent written notice by the Corporation or the Transfer Agent setting forth the number of shares of Common Stock outstanding. Upon the written or oral request of a Holder, the Corporation shall within one Trading Day confirm orally and in writing to such Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of the Corporation, including the Series A-1 Preferred Stock, by such Holder or its Affiliates or Attribution Parties since the date as of which such number of outstanding shares of Common Stock was reported, including securities

converted or exercised prior to or at the same time as the conversion of the shares of Series A-1 Preferred Stock being converted. The "Beneficial Ownership Limitation" shall be 4.99% (or, upon election by a Holder prior to the issuance of any shares of Series A-1 Preferred Stock, 9.99%) of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock issuable upon conversion of Series A-1 Preferred Stock held by the applicable Holder. A Holder, upon notice to the Corporation, may increase or decrease the Beneficial Ownership Limitation provisions of this Section 6(e) applicable to its Series A-1 Preferred Stock provided that the Beneficial Ownership Limitation in no event exceeds 9.99% of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock upon conversion of this Series A-1 Preferred Stock held by the Holder and the provisions of this Section 6(e) shall continue to apply. Any such increase in the Beneficial Ownership Limitation will not be effective until the 61st day after such notice is delivered to the Corporation and shall only apply to such Holder and no other Holder. The provisions of this paragraph shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this Section 6(e) to correct this paragraph (or any portion hereof) which may be defective or inconsistent with the intended Beneficial Ownership Limitation contained herein or to make changes or supplements necessary or desirable to properly give effect to such limitation. The limitations contained in this paragraph shall apply to a successor holder of Series A-1 Preferred Stock.

Section 7. Certain Adjustments.

a) Stock Dividends and Stock Splits. If the Corporation, at any time while the Series A-1 Preferred Stock is outstanding: (i) pays a stock dividend or otherwise makes a distribution or distributions payable in shares of Common Stock on shares of Common Stock or any other Common Stock Equivalents (which, for avoidance of doubt, shall not include any shares of Common Stock issued by the Corporation upon conversion of, or payment of a dividend on, the Series A-1 Preferred Stock), (ii) subdivides outstanding shares of Common Stock into a larger number of shares, (iii) combines (including by way of a reverse stock split other than the Reverse Split) outstanding shares of Common Stock into a smaller number of shares, or (iv) issues, in the event of a reclassification of shares of the Common Stock, any shares of capital stock of the Corporation, then the Conversion Price shall be multiplied by a fraction of which the numerator shall be the number of shares of Common Stock (excluding any treasury shares of the Corporation) outstanding immediately before such event, and of which the denominator shall be the number of shares of Common Stock outstanding immediately after such event. Any adjustment made pursuant to this Section 7(a) shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution and shall become effective immediately after the effective date in the case of a subdivision, combination or re-classification. If the Corporation, at any time while the Series A-1 Preferred Stock is outstanding, authorizes and issues an additional class of common or special stock, with dividend and voting rights at a ratio different than the existing class of Common Stock (the "New Common Stock"), then the Series A-1 Preferred Stock will automatically become convertible, at the election of the Holders, into shares of the New Common Stock at an adjusted Conversion Price proportional to the then-current Conversion Price multiplied by a fraction, the numerator of which shall be the number of votes per share of the class of New Common Stock, and the denominator of which shall be the number of votes per share of the existing class of Common Stock.

b) Subsequent Equity Sales. Until the Uplisting Effective Date, if any, if the Corporation or any Subsidiary, as applicable sells or grants any option to purchase or sells or grants any right to reprice, or otherwise sells or issues (or announces any sale, grant or any option to purchase or other disposition), any Common Stock or Common Stock Equivalents entitling any Person to acquire shares of Common Stock at an effective price per share that is lower than the then Conversion Price (such lower price, the "Base Conversion Price" and such issuances, collectively, a "Dilutive Issuance") (if the holder of the Common Stock or Common Stock Equivalents so issued shall at any time, whether by operation of purchase price adjustments, reset provisions, floating conversion, exercise or exchange prices or otherwise, or due to warrants, options or rights per share which are issued in connection with such issuance, be entitled to receive shares of Common Stock at an effective price per share that is lower than the Conversion Price, such issuance shall be deemed to have occurred for less than the Conversion Price on such date of the Dilutive Issuance), then simultaneously with the consummation of each Dilutive Issuance the Conversion Price shall be reduced to equal the Base Conversion Price. Notwithstanding the foregoing, no adjustment will be made under this Section 7(b) in respect of an Exempt Issuance. The Corporation shall promptly notify the Holders in writing no later than one (1) Trading Day after the issuance of any Common Stock or Common Stock Equivalents subject to this Section 7(b), indicating therein the applicable issuance price, applicable reset price, exchange price, conversion price and other terms of any Dilutive Issuance (such notice, the "Dilutive Issuance Notice"). For purposes of clarification, whether or not the Corporation provides a Dilutive Issuance Notice pursuant to this Section 7(b), upon the occurrence of any Dilutive Issuance, the Holders are entitled to receive a number of Conversion Shares based upon the Base Conversion Price on or after the date of such Dilutive Issuance, regardless of whether a Holder accurately refers to the Base Conversion Price in the Notice of Conversion.

c) Subsequent Rights Offerings. In addition to any adjustments pursuant to Section 7(a) above, if at any time the Corporation grants, issues or sells any Common Stock Equivalents or rights to purchase stock, warrants, securities or other property pro rata to the record holders of any class of shares of Common Stock (the "Purchase Rights"), then each Holder will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which such Holder could have acquired if such Holder had held the number of shares of Common Stock acquirable upon complete conversion of such Holder's Series A-1 Preferred Stock (without regard to any limitations on exercise hereof, including without limitation, the Beneficial Ownership Limitation) immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the grant, issue or sale of such Purchase Rights (provided, however, that, to the extent that such Holder's right to participate in any such Purchase Right would result in such Holder exceeding the Beneficial Ownership Limitation, then such Holder shall not be entitled to participate in such Purchase Right to such extent (or beneficial ownership of such shares of Common Stock as a result of such Purchase Right to such extent) and such Purchase Right to such extent shall be held in abeyance for such Holder until such time not to exceed twelve (12) months as its right thereto would not result in such Holder exceeding the Beneficial Ownership Limitation provided Holder complies with all of the other obligations of a beneficiary of the Purchase Rights that would not result in Holder exceeding the

Beneficial Ownership Limitation. Notwithstanding the foregoing, no adjustment will be made under this Section 7(c) in respect of an Exempt Issuance.

d) Pro Rata Distributions. During such time as the Series A-1 Preferred Stock is outstanding, if the Corporation declares or makes any dividend or other distribution of its assets (or rights to acquire its assets) to holders of shares of Common Stock, by way of return of capital or otherwise (including, without limitation, any distribution of cash, stock or other securities, property or options by way of a dividend, spin off, reclassification, corporate rearrangement, scheme of arrangement or other similar transaction) (a "Distribution"), then, in each such case, each Holder shall be entitled to participate in such Distribution to the same extent that such Holder would have participated therein if such Holder had held the number of shares of Common Stock acquirable upon complete conversion of the Holder's Series A-1 Preferred Stock (without regard to any limitations on conversion hereof, including without limitation, the Beneficial Ownership Limitation) immediately before the date of which a record is taken for such Distribution, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the participation in such Distribution (provided, however, to the extent that any Holder's right to participate in any such Distribution would result in such Holder exceeding the Beneficial Ownership Limitation, then such Holder shall not be entitled to participate in such Distribution to such extent (or in the beneficial ownership of any shares of Common Stock as a result of such Distribution to such extent) and the portion of such Distribution shall be held in abeyance for the benefit of such Holder until such times, not in excess of twelve (12) months, as its right thereto would not result in such Holder exceeding the Beneficial Ownership Limitation).

e) Fundamental Transaction. If, at any time while the Series A-1 Preferred Stock is outstanding, (i) the Corporation, directly or indirectly, in one or more related transactions effects any merger or consolidation of the Corporation with or into another Person, (ii) the Corporation (and all of its Subsidiaries, taken as a whole), directly or indirectly, effects any sale, lease, license, assignment, transfer, conveyance or other disposition of all or substantially all of its assets in one or a series of related transactions, (iii) any, direct or indirect, purchase offer, tender offer or exchange offer (whether by the Corporation or another Person) is completed pursuant to which holders of Common Stock are permitted to sell, tender or exchange their shares for other securities, cash or property and has been accepted by the holders of 50% or more of the outstanding Common Stock, (iv) the Corporation, directly or indirectly, in one or more related transactions effects any reclassification, reorganization or recapitalization of the Common Stock or any compulsory share exchange pursuant to which the Common Stock is effectively converted into or exchanged for other securities, cash or property, or (v) the Corporation, directly or indirectly, in one or more related transactions consummates a stock or share purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off or scheme of arrangement) with another Person, whereby such other Person acquires more than 50% of the outstanding shares of Common Stock, each, a "Fundamental Transaction"), then the Corporation shall deliver written notice of such Fundamental Transaction to each Holder promptly upon the signing of such Fundamental Transaction, and in any event, at least twenty (20) calendar days prior to the consummation of such Fundamental Transaction (the "Fundamental Transaction Notice Date"), which notice shall include a summary of the terms of such Fundamental Transaction, including the expected amount and type of consideration to be payable to the securityholders of the Corporation. By the deadline set forth in such notice, which shall be at least ten (10) calendar

days following the date of the Fundamental Transaction Notice Date, each Holder shall inform the Corporation in writing of its election to either (A) convert all, but not less than all, of its Series A-1 Preferred Stock into Common Stock at the Conversion Ratio or (B) upon any subsequent conversion of the Series A-1 Preferred Stock, receive, for each Conversion Share that would have been issuable upon such conversion immediately prior to the occurrence of such Fundamental Transaction (without regard to any limitation in Section 6(e) on the conversion of the Series A-1 Preferred Stock), the number of securities of the successor or acquiring corporation or of the Corporation, if it is the surviving corporation, and any additional consideration (the "Alternate Consideration") receivable as a result of such Fundamental Transaction by a holder of the number of shares of Common Stock for which the Holder's Series A-1 Preferred Stock is convertible immediately prior to such Fundamental Transaction (without regard to any limitation in Section 6(e) on the conversion of the Series A-1 Preferred Stock). For purposes of any such conversion, the determination of the Conversion Price shall be appropriately adjusted to apply to such Alternate Consideration based on the amount of Alternate Consideration issuable in respect of one share of Common Stock in such Fundamental Transaction, and the Corporation shall apportion the Conversion Price among the Alternate Consideration in a reasonable manner reflecting the relative value of any different components of the Alternate Consideration. If holders of Common Stock are given any choice as to the securities, cash or property to be received in a Fundamental Transaction, then each Holder shall be given the same choice as to the Alternate Consideration it receives upon any conversion of the Series A-1 Preferred Stock following such Fundamental Transaction. To the extent necessary to effectuate the foregoing provisions, any successor to the Corporation or surviving entity in such Fundamental Transaction shall file a new Certificate of Designation with the same terms and conditions and issue to the Holders new preferred stock consistent with the foregoing provisions and evidencing the Holders' right to convert such preferred stock into Alternate Consideration. The Corporation shall cause any successor entity in a Fundamental Transaction in which the Corporation is not the survivor (the "Successor Entity") to assume in writing all of the obligations of the Corporation under this Certificate of Designation and the other Transaction Documents in accordance with the provisions of this Section 7(e) pursuant to written agreements in form and substance reasonably satisfactory to the applicable Holder(s) and approved by a majority of such Holder(s) (without unreasonable delay and such majority shall be calculated based on the Stated Values of the Series A-1 Preferred Stock of such Holder(s)) prior to such Fundamental Transaction. Upon the occurrence of any such Fundamental Transaction, the Successor Entity shall succeed to, and be substituted for (so that from and after the date of such Fundamental Transaction, the provisions of this Certificate of Designation and the other Transaction Documents referring to the "Corporation" shall refer instead to the Successor Entity), and may exercise every right and power of the Corporation and shall assume all of the obligations of the Corporation under this Certificate of Designation and the other Transaction Documents with the same effect as if such Successor Entity had been named as the Corporation herein.

f) Calculations. All calculations under this Section 7 shall be made to the nearest cent or the nearest 1/100th of a share, as the case may be. For purposes of this Section 7, the number of shares of Common Stock deemed to be issued and outstanding as of a given date shall be the sum of the number of shares of Common Stock (excluding any treasury shares of the Corporation) issued and outstanding.

g) Notice to the Holders.

i. Adjustment to Conversion Price. Whenever the Conversion Price is adjusted pursuant to any provision of this Section 7, the Corporation shall promptly deliver to each Holder by email a notice setting forth the Conversion Price after such adjustment and setting forth a brief statement of the facts requiring such adjustment.

ii. Notice to Allow Conversion by Holder. If (A) the Corporation shall declare a dividend (or any other distribution in whatever form) on the Common Stock, (B) the Corporation shall declare a special nonrecurring cash dividend on or a repurchase of the Common Stock, (C) the Corporation shall authorize the granting to all holders of the Common Stock in their capacities as such of rights or warrants to subscribe for or purchase any shares of capital stock of any class or of any rights, (D) the approval of any stockholders of the Corporation shall be required in connection with any reclassification of the Common Stock, any consolidation or merger to which the Corporation is a party, any sale or transfer of all or substantially all of the assets of the Corporation (and all of its Subsidiaries, taken as a whole), or any compulsory share exchange whereby the Common Stock is converted into other securities, cash or property or (E) the Corporation shall authorize the voluntary or involuntary dissolution, liquidation or winding up of the affairs of the Corporation, then, in each case, the Corporation shall cause to be delivered by email to each Holder at its last email address as it shall appear upon the stock ledger of the Corporation, at least ten (10) calendar days prior to the applicable record or effective date hereinafter specified, a notice stating (x) the date on which a record is to be taken for the purpose of such dividend, distribution, redemption, rights or warrants, or if a record is not to be taken, the date as of which the holders of the Common Stock of record to be entitled to such dividend, distributions, redemption, rights or warrants are to be determined or (y) the date on which such reclassification, consolidation, merger, sale, transfer or share exchange is expected to become effective or close, and the date as of which it is expected that holders of the Common Stock of record shall be entitled to exchange their shares of the Common Stock for securities, cash or other property deliverable upon such reclassification, consolidation, merger, sale, transfer or share exchange, provided that the failure to deliver such notice or any defect therein or in the delivery thereof shall not affect the validity of the corporate action required to be specified in such notice. To the extent that any notice provided hereunder constitutes, or contains, material, non- public information regarding the Corporation or any of the Subsidiaries, the Corporation shall simultaneously file such notice with the Commission pursuant to a Current Report on Form 8-K. To the extent that the Holder has the right to convert its shares of Series A-1 Preferred Stock under Section 6 hereof, the Holder shall remain entitled to convert its Series A-1 Preferred Stock (or any part hereof) during the 10-day period commencing on the date of such notice through the effective date of the event triggering such notice except as may otherwise be expressly set forth herein.

Section 8. Negative Covenants. As long as any Series A-1 Preferred Stock is outstanding, unless the holders of more than 50% in Stated Value of the then outstanding shares of Series A-1 Preferred Stock shall have otherwise given prior written consent (which must include AIGH for so long as AIGH is holding at least $1,500,000 in aggregate Stated Value of Series A-1 Preferred Stock acquired pursuant to the Purchase Agreement), in addition to the agreements, restrictions and undertakings of the Corporation in the Transaction Documents, the Corporation shall not, and shall not permit any Subsidiary to, directly or indirectly:

a) other than Permitted Indebtedness, enter into, create, incur, assume, guarantee or suffer to exist any indebtedness for borrowed money of any kind, including but not limited to, a guarantee, on or with respect to any of its property or assets now owned or hereafter acquired or any interest therein or any income or profits therefrom;

b) other than Permitted Liens, enter into, create, incur, assume or suffer to exist any Liens of any kind, on or with respect to any of its property or assets now owned or hereafter acquired or any interest therein or any income or profits therefrom;

c) repay, repurchase or offer to repay, repurchase or otherwise acquire more than a de minimis number of shares of its Common Stock, Common Stock Equivalents or Junior Securities, other than as to (i) the Conversion Shares, the Series A-2 Conversion Shares or Warrant Shares as permitted or required under the Transaction Documents and (ii) repurchases of Common Stock or Common Stock Equivalents of departing officers and directors of the Corporation, provided that such repurchases shall not exceed an aggregate of $250,000 in any calendar year for all officers and directors;

d) enter into any transaction with any Affiliate of the Corporation which would be required to be disclosed in any public filing with the Commission, unless such transaction is made on an arm's-length basis and expressly approved by a majority of the disinterested directors of the Corporation (even if less than a quorum otherwise required for board approval);

e) declare or pay a dividend on Junior Securities; or

f) enter into any agreement with respect to any of the foregoing.

Section 9. Transfer Restrictions. Any transferee of shares of Series A-1 Preferred Stock shall comply with Section 4.1(e) of the Purchase Agreement, and any attempted sale, assignment or transfer of shares of Series A-1 Preferred Stock made without such compliance shall be void *ab initio* and of no effect.

Section 10. Miscellaneous.

a) Notices. Any and all notices or other communications or deliveries required or permitted to be provided hereunder shall be in writing and shall be deemed given and effective on the earliest of: (a) the time of transmission, if such notice or communication is delivered via facsimile at the facsimile number or email attachment at the e-mail address set forth in the Purchase Agreement at or prior to 5:30 p.m. (New York City time) on a Trading Day, (b) the next Trading Day after the time of transmission, if such notice or communication is delivered via facsimile or email attachment at the facsimile number or e-mail address set forth in the Purchase Agreement on a day that is not a Trading Day or later than 5:30 p.m. (New York City time) on any Trading Day, (c) the second (2nd) Trading Day following the date of mailing, if sent by U.S. nationally recognized overnight courier service to the address set forth in the Purchase Agreement or (d) upon actual receipt by the party to whom such notice is required to be given. For so long as any shares of Series A-1 Preferred Stock are outstanding, the Corporation agrees that it will appoint its

registered agent in the state of Delaware as its agent for service of process. The Corporation's current registered agent is Corporation Service Company maintaining an address at 251 Little Falls Drive, Wilmington, Delaware 19808 and email address of sop@cscglobal.com. Such registered agent shall continue to be a non-exclusive agent for service of process until replaced by another registered agent in the State of Delaware or New York, after notice to the Purchasers in the manner described herein, of such replacement address. All Purchasers must be informed of a change of Registered Agent.

b) Absolute Obligation. To the fullest extent permitted by law, and except as expressly provided herein, no provision of this Certificate of Designation shall alter or impair the obligation of the Corporation, which is absolute and unconditional, to pay liquidated damages, accrued dividends and accrued interest, as applicable, on the shares of Series A-1 Preferred Stock at the time, place, and rate, and in the coin or currency, herein prescribed.

c) Lost or Mutilated Series A-1 Preferred Stock Certificate. In the event a Holder's Series A-1 Preferred Stock is in certificated form, if a Holder's Series A-1 Preferred Stock certificate shall be mutilated, lost, stolen or destroyed, the Corporation shall execute and deliver, in exchange and substitution for and upon cancellation of a mutilated certificate, or in lieu of or in substitution for a lost, stolen or destroyed certificate, a new certificate for the shares of Series A-1 Preferred Stock so mutilated, lost, stolen or destroyed, but only upon receipt of evidence of such loss, theft or destruction of such certificate, an indemnity in form and substance reasonably satisfactory to the Corporation, and of the ownership hereof reasonably satisfactory to the Corporation.

d) Governing Law. All questions concerning the construction, validity, enforcement and interpretation of this Certificate of Designation shall be governed by and construed and enforced in accordance with the internal laws of the State of Delaware, without regard to the principles of conflict of laws thereof. All legal proceedings concerning the interpretation, enforcement and defense of the transactions contemplated by any of the Transaction Documents (whether brought against a party hereto or its respective Affiliates, directors, officers, shareholders, employees or agents) shall be commenced in the state and federal courts sitting in the City of New York, Borough of Manhattan (the "New York Courts"). The Corporation and each Holder hereby irrevocably submits to the exclusive jurisdiction of the New York Courts for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein (including with respect to the enforcement of any of the Transaction Documents), and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of such New York Courts, or such New York Courts are improper or inconvenient venue for such proceeding. The Corporation and each Holder hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy thereof via registered or certified mail or overnight delivery (with evidence of delivery) to such party at the address in effect for notices to it under this Certificate of Designation and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any other manner permitted by applicable law. The Corporation and each Holder hereby irrevocably waives, to the fullest extent permitted by applicable law, any and all right to trial by jury in any legal proceeding arising out of or relating

to this Certificate of Designation or the transactions contemplated hereby. If the Corporation or any Holder shall commence an action or proceeding to enforce any provisions of this Certificate of Designation, then the prevailing party in such action or proceeding shall be reimbursed by the other party for its attorneys' fees and other costs and expenses incurred in the investigation, preparation and prosecution of such action or proceeding.

e) Waiver. Any waiver by the Corporation or a Holder of any rights hereunder or any breach of any provision of this Certificate of Designation shall not operate as or be construed to be a waiver of any other rights hereunder or any other breach of such provision or of any breach of any other provision of this Certificate of Designation or a waiver by any other Holders. The failure of the Corporation or a Holder to insist upon strict adherence to any term of this Certificate of Designation on one or more occasions shall not be considered a waiver or deprive that party (or any other Holder) of the right thereafter to insist upon strict adherence to that term or any other term of this Certificate of Designation on any other occasion. Any waiver by the Corporation or a Holder must be in writing.

f) Severability. If any provision of this Certificate of Designation is invalid, illegal or unenforceable, the balance of this Certificate of Designation shall remain in effect, and if any provision is inapplicable to any Person or circumstance, it shall nevertheless remain applicable to all other Persons and circumstances. If it shall be found that any interest or other amount deemed interest due hereunder violates the applicable law governing usury, the applicable rate of interest due hereunder shall automatically be lowered to equal the maximum rate of interest permitted under applicable law.

g) Next Business Day. Whenever any payment or other obligation hereunder shall be due on a day other than a Business Day, such payment shall be made on the next succeeding Business Day.

h) Headings. The headings contained herein are for convenience only, do not constitute a part of this Certificate of Designation and shall not be deemed to limit or affect any of the provisions hereof.

i) Status of Converted or Repurchased Series A-1 Preferred Stock. If any shares of Series A-1 Preferred Stock shall be converted, repurchased or reacquired by the Corporation, such shares shall be retired and resume the status of authorized but unissued shares of Preferred Stock and shall no longer be designated as Series A-1 Preferred Stock.

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RESOLVED, FURTHER, that the Chairman, the president or any vice-president, and the secretary or any assistant secretary, of the Corporation be and they hereby are authorized and directed to prepare and file this Certificate of Designation of Preferences, Rights and Limitations in accordance with the foregoing resolution and the provisions of Delaware law.

IN WITNESS WHEREOF, the undersigned have executed this Amended and Restated Certificate this 29th day of January, 2024.

/s/ Ian Jenks	/s/ Barbra Keck
Name: Ian Jenks	Name: Barbra Keck
Title: Chairman	Title: Secretary

ANNEX A

NOTICE OF CONVERSION

(TO BE EXECUTED BY THE REGISTERED HOLDER IN ORDER TO CONVERT SHARES OF SERIES A-1 PREFERRED STOCK)

The undersigned hereby elects to convert the number of shares of Series A-1Convertible Preferred Stock ("Preferred Stock") indicated below into shares of common stock, par value $0.0001 per share (the "Common Stock"), of SmartKem, Inc., a Delaware corporation (the "Corporation"), according to the conditions hereof, as of the date written below. If shares of Common Stock are to be issued in the name of a Person other than the undersigned, the undersigned will pay all transfer taxes payable with respect thereto and is delivering herewith such certificates and opinions as may be required by the Corporation in accordance with the Purchase Agreement. No fee will be charged to the Holders for any conversion, except for any such transfer taxes.

Conversion calculations:

Date to Effect Conversion: _____

Number of shares of Preferred Stock owned prior to Conversion:_____

Number of shares of Preferred Stock to be Converted:_____

Stated Value of shares of Preferred Stock to be Converted:_____

Number of shares of Common Stock to be Issued:_____

Applicable Conversion Price:_____

Number of shares of Preferred Stock subsequent to Conversion:_____

Address for Delivery:_____

or
DWAC Instructions:
Broker no:_____

Account no:_____

[HOLDER]

By: _____

Name:
Title:

SMARTKEM, INC.
CERTIFICATE OF DESIGNATION OF
PREFERENCES, RIGHTS AND LIMITATIONS
OF
SERIES A-2 CONVERTIBLE PREFERRED STOCK

PURSUANT TO SECTION 151 OF THE
DELAWARE GENERAL CORPORATION LAW

The undersigned, Ian Jenks and Barbra Keck, do hereby certify that:

1. They are the President and Secretary, respectively, of SmartKem, Inc., a Delaware corporation (the "Corporation").

2. The Corporation is authorized to issue 10,000,000 shares of preferred stock, of which none have been issued.

3. The following resolutions were duly adopted by the board of directors of the Corporation (the "Board of Directors"):

WHEREAS, the Amended and Restated Certificate of Incorporation of the Corporation (the "Amended and Restated Certificate of Incorporation") authorizes the Corporation to issue 10,000,000 shares of preferred stock, par value $0.0001 per share (the "Preferred Stock"), which may be issued from time to time in one or more series; and

WHEREAS, the Amended and Restated Certificate of Incorporation authorizes the Board of Directors to establish the number of shares to be included in such series, and to fix the voting powers, full or limited, or no voting power of the shares of such series, and the designation, preferences and relative, participating, optional or other special rights, if any, of the shares of each such series and any qualifications, limitations or restrictions thereof.

NOW, THEREFORE, BE IT RESOLVED, that pursuant to authority conferred upon the Board of Directors by the Amended and Restated Certificate of Incorporation, (i) a series of Preferred Stock be, and hereby is, authorized by the Board of Directors, (ii) the Board of Directors hereby authorizes the issuance of 18,000 shares of Series A-2 Preferred Stock and (iii) the Board of Directors hereby fixes the designations, powers, preferences and rights, and the qualifications, limitations or restrictions of such shares of Series A-2 Preferred Stock as follows:

TERMS OF SERIES A-2 PREFERRED STOCK

Section 1. Definitions. Unless otherwise defined herein, capitalized terms have the respective meanings ascribed thereto in the Purchase Agreement. For the purposes hereof, the following terms shall have the following meanings:

"Affiliate" means any Person that, directly or indirectly through one or more intermediaries, controls or is controlled by or is under common control with a Person, as such terms are used in and construed under Rule 405 of the Securities Act.

"Alternate Consideration" shall have the meaning set forth in Section 7(e).

"Automatic Conversion" shall have the meaning set forth in Section 6(b).

"Automatic Conversion Notice" shall have the meaning set forth in Section 6(b).

"Automatic Conversion Time" shall have the meaning set forth in Section 6(b).

"Base Conversion Price" shall have the meaning set forth in Section 7(b).

"Beneficial Ownership Limitation" shall have the meaning set forth in Section 6(e).

"Business Day" means any day other than Saturday, Sunday or other day on which commercial banks in The City of New York are authorized or required by law to remain closed; provided, however, for clarification, commercial banks shall not be deemed to be authorized or required by law to remain closed due to "stay at home", "shelter-in-place", "non-essential employee" or any other similar orders or restrictions or the closure of any physical branch locations at the direction of any governmental authority so long as the electronic funds transfer systems (including for wire transfers) of commercial banks in The City of New York are generally are open for use by customers on such day.

"Buy-In" shall have the meaning set forth in Section 6(d)(iv).

"Closing" means the closing of the purchase and sale of the Securities pursuant to Section 2.1 of the Purchase Agreement.

"Closing Date" means the Trading Day on which all of the Transaction Documents have been executed and delivered by the applicable parties thereto and all conditions precedent to (i) each Holder's obligations to pay the Subscription Amount and (ii) the Corporation's obligations to deliver the Securities have been satisfied or waived.

"Commission" means the United States Securities and Exchange Commission and includes the staff thereof acting on its behalf.

"Common Stock" means the Corporation's common stock, par value $0.0001 per share, and stock of any other class of securities into which such securities may hereafter be reclassified or changed.

"Common Stock Equivalents" means any securities of the Corporation or the Subsidiaries which would entitle the holder thereof to acquire at any time Common Stock, including, without limitation, any debt, preferred stock, right, option, warrant or other instrument that is at any time

convertible into or exercisable or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock.

"Conversion Date" shall have the meaning set forth in Section 6(a).

"Conversion Price" shall have the meaning set forth in Section 6(c).

"Conversion Ratio" shall have the meaning set forth in Section 6(a).

"Conversion Shares" means, collectively, the shares of Common Stock issuable upon conversion of the shares of Series A-2 Preferred Stock in accordance with the terms hereof.

"Conversion Shares Registration Statement" means a registration statement that registers the resale of all of the Conversion Shares by the Holders, which shall be named as "selling stockholders" therein, and meets the requirements of the Registration Rights Agreement.

"DGCL" means the Delaware General Corporation Law, as in effect on the Original Issue Date.

"Dilutive Issuance" shall have the meaning set forth in Section 7(b).

"Dilutive Issuance Notice" shall have the meaning set forth in Section 7(b).

"Effective Date" means the date that the Conversion Shares Registration Statement filed by the Corporation pursuant to the Registration Rights Agreement is first declared effective by the Commission.

"Exchange Act" means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

"Exempt Issuance" shall have the meaning ascribed thereto in the Purchase Agreement.

"Fundamental Transaction" shall have the meaning set forth in Section 7(e).

"Fundamental Transaction Notice Date" shall have the meaning set forth in Section 7(e).

"GAAP" means United States generally accepted accounting principles.

"Holder" shall have the meaning given such term in Section 2.

"Indebtedness" means (a) any liabilities for borrowed money or amounts owed in excess of $50,000 (other than trade accounts payable incurred in the ordinary course of business), (b) all guaranties, endorsements and other contingent obligations in respect of indebtedness of others, whether or not the same are or should be reflected in the Corporation's consolidated balance sheet (or the notes thereto), except guaranties by endorsement of negotiable instruments for deposit or collection or similar transactions in the ordinary course of business, and (c) the present value of

any lease payments in excess of $50,000 due under leases required to be capitalized in accordance with GAAP.

"Junior Securities" means the Common Stock, any other series of Preferred Stock (other than the Corporation's Series A-1 Preferred Stock), whether now existing or authorized in the future, and all other Common Stock Equivalents of the Corporation.

"Liens" means a lien, charge, pledge, security interest, encumbrance, right of first refusal, preemptive right or other restriction.

"Liquidation" shall have the meaning set forth in Section 5.

"New Common Stock" shall have the meaning set forth in Section 7(a).

"New York Courts" shall have the meaning set forth in Section 10(d).

"Notice of Conversion" shall have the meaning set forth in Section 6(a).

"Original Issue Date" means the date of the first issuance of any shares of Series A-2 Preferred Stock regardless of the number of transfers of any particular shares of Series A-2 Preferred Stock and regardless of the number of certificates, if any, which may be issued to evidence such Series A-2 Preferred Stock.

"Person" means an individual or corporation, partnership, trust, incorporated or unincorporated association, joint venture, limited liability company, joint stock company, government (or an agency or subdivision thereof) or other entity of any kind.

"Permitted Indebtedness" means (a) in addition to Indebtedness existing on the Original Issue Date and up to $1,000,000 in the aggregate of future Indebtedness, and (b) lease obligations and purchase money indebtedness incurred in connection with the acquisition of capital assets and lease obligations with respect to newly acquired or leased assets, up to the lesser of the purchase price or market value of each such capital assets and leased assets.

"Permitted Liens" means the individual and collective reference to the following: (a) Liens for taxes, assessments and other governmental charges or levies not yet due or Liens for taxes, assessments and other governmental charges or levies being contested in good faith and by appropriate proceedings for which adequate reserves (in the good faith judgment of the management of the Corporation) have been established in accordance with GAAP, (b) Liens imposed by law which were incurred in the ordinary course of the Corporation's business, such as carriers', warehousemen's and mechanics' Liens, statutory landlords' Liens, and other similar Liens arising in the ordinary course of the Corporation's business, and which (x) do not individually or in the aggregate materially detract from the value of such property or assets or materially impair the use thereof in the operation of the business of the Corporation and its consolidated Subsidiaries or (y) are being contested in good faith by appropriate proceedings, which proceedings have the effect of preventing for the foreseeable future the forfeiture or sale of the property or asset subject to such Lien, (c) Liens incurred in connection with Permitted

Indebtedness under clause (a) thereunder, and (d) Liens incurred in connection with Permitted Indebtedness under clause (b) thereunder, provided that such Liens are not secured by assets of the Corporation or its Subsidiaries other than the assets so acquired or leased.

"Preferred Stock" shall have the meaning set forth in the recitals.

"Purchase Agreement" means the Securities Purchase Agreement, dated as of June 14, 2023, among the Corporation and the original Holders, as amended, modified or supplemented from time to time in accordance with its terms.

"Registration Rights Agreement" means the Registration Rights Agreement, dated as of the date of the Purchase Agreement, among the Corporation and the original Holders, in the form of Exhibit C attached to the Purchase Agreement.

"Registration Statement" means a registration statement meeting the requirements set forth in the Registration Rights Agreement.

"Reverse Stock Split Proposal" means a proposal to amend the Corporation's Amended and Restated Certificate of Incorporation to effect a reverse stock split of the outstanding shares of Common Stock at a ratio of between one for thirty (1:30) and one for sixty (1:60) with the specific ratio to be determined by the Board of Directors in its reasonable discretion, primarily for the purpose of satisfying any minimum bid price or closing price requirements applicable to the Common Stock in connection with the Uplisting.

"Rule 144" means Rule 144 promulgated by the Commission pursuant to the Securities Act, as such Rule may be amended and interpreted from time to time, or any similar rule or regulation hereafter adopted by the Commission having substantially the same purpose and effect as such Rule.

"Securities" means the Series A-2 Preferred Stock, the Warrants, the Warrant Shares and the Underlying Shares.

"Securities Act" means the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder.

"Series A-1 Certificate of Designation" means the Certificate of Designation of Preferences, Rights and Limitations of Series A-1 Convertible Preferred Stock.

"Series A-1 Conversion Shares" means, collectively, the shares of Common Stock issuable upon conversion of the shares of Series A-1 Preferred Stock in accordance with the terms of the Series A-1 Certificate of Designation.

"Series A-1 Preferred Stock" means the Series A-1 Preferred Stock, par value $0.0001 per share.

"Share Delivery Date" shall have the meaning set forth in Section 6(d)(i).

"Stated Value" shall have the meaning set forth in Section 2.

"Subscription Amount" shall mean, as to each Holder, the aggregate amount to be paid for the Series A-2 Preferred Stock and Warrants purchased pursuant to the Purchase Agreement as specified below such Holder's name on the signature page of the Purchase Agreement and next to the heading "Subscription Amount," in United States dollars and in immediately available funds.

"Subsidiary" means any subsidiary of the Corporation and shall, where applicable, also include any direct or indirect subsidiary of the Corporation formed or acquired after the date of the Purchase Agreement.

"Successor Entity" shall have the meaning set forth in Section 7(e).

"Trading Day" means a day on which the principal Trading Market is open for trading.

"Trading Market" means any of the following markets or exchanges on which the Common Stock is listed or quoted for trading on the date in question: the NYSE American, the Nasdaq Capital Market, the Nasdaq Global Market, the Nasdaq Global Select Market, the New York Stock Exchange, the OTCQB Venture Market ("OTCQB") or the OTCQX Best Market ("OTCQX") (or any successors to any of the foregoing).

"Transaction Documents" means this Certificate of Designation, the Purchase Agreement, the Warrants, the Registration Rights Agreement, the Voting Agreements, all exhibits and schedules thereto and hereto and any other documents or agreements executed in connection with the transactions contemplated pursuant to the Purchase Agreement.

"Transfer Agent" means VStock Transfer, LLC., the current transfer agent of the Corporation and any successor transfer agent of the Corporation. The transfer agent's address is 18 Lafayette Place, Woodmere, NY 11598 and its taxpayer identification number is 211826-8436.

"Underlying Shares" means the shares of Common Stock issued and issuable upon conversion of the Series A-2 Preferred Stock and upon the exercise of the Warrants.

"Uplisting" means the listing of the Common Stock on an Uplisting Market.

"Uplisting Effective Date" means the Trading Day on which the Common Stock commences trading on an Uplisting Market.

"Uplisting Market" means any of the NYSE American, the Nasdaq Capital Market, the Nasdaq Global Market, the Nasdaq Global Select Market or the New York Stock Exchange, or their respective successors.

"VWAP" means, for any date, the price determined by the first of the following clauses that applies: (a) if the Common Stock is then listed or quoted on a Trading Market, the daily volume weighted average price of the Common Stock for such date (or the nearest preceding date) on the Trading Market on which the Common Stock is then listed or quoted as reported by

Bloomberg L.P. (based on a Trading Day from 9:30 a.m. (New York City time) to 4:02 p.m. (New York City time)), (b) if the OTCQB or the OTCQX is a Trading Market, the volume weighted average price of the Common Stock for such date (or the nearest preceding date) on OTCQB or OTCQX as applicable, (c) if the Common Stock is not then quoted on OTCQB or OTCQX and if prices for the Common Stock are then reported in the Pink Open Market ("Pink Market") operated by OTC Markets, Inc. (or a similar organization or agency succeeding to its functions of reporting prices), the most recent bid price per share of the Common Stock so reported, or (d) in all other cases, the fair market value of a share of Common Stock as determined by an independent appraiser selected in good faith by the holders of a majority in interest of the Securities then outstanding and reasonably acceptable to the Corporation, the fees and expenses of which shall be paid by the Corporation.

"Warrants" means, collectively, the Common Stock purchase warrants delivered to the Holders at the Closing in accordance with Section 2.2(a) of the Purchase Agreement.

"Warrant Shares" means the shares of Common Stock issuable upon exercise of the Warrants.

Section 2. Designation, Amount and Par Value. The series of preferred stock shall be designated as Series A-2 Convertible Preferred Stock (the "Series A-2 Preferred Stock") and the number of shares so designated shall be 18,000 (which shall not be subject to increase without the written consent of the holders of a majority of the then outstanding shares of the Series A-2 Preferred Stock (each, a "Holder" and collectively, the "Holders")). Each share of Series A-2 Preferred Stock shall have a par value of $0.0001 per share and a stated value equal to $1,000 (the "Stated Value").

Section 3. Dividends.

a) In addition to stock dividends or distributions for which adjustments are to be made pursuant to Section 7, Holders shall be entitled to receive, and the Corporation shall pay, dividends on shares of Series A-2 Preferred Stock equal (on an as-if-converted-to- Common-Stock basis) to and in the same form as dividends actually paid on shares of the Common Stock when, as and if such dividends are paid on shares of the Common Stock. No other dividends shall be paid on shares of Series A-2 Preferred Stock.

Section 4. Voting Rights. Except as otherwise provided herein or as otherwise required by law, the Series A-2 Preferred Stock shall have no voting rights. As long as any shares of Series A-2 Preferred Stock are outstanding, the Corporation shall not, without the affirmative vote of the Holders of a majority of the then outstanding shares of the Series A-2 Preferred Stock, (a) alter or change the powers, preferences or rights given to the Series A-2 Preferred Stock, (b) alter or amend its Amended and Restated Certificate of Incorporation, this Certificate of Designation or bylaws in such a manner so as to materially adversely affect any rights given to this Series A-2 Preferred Stock, (c) authorize or create any class of stock ranking as to dividends, redemption or distribution of assets upon a Liquidation senior to the Series A-2 Preferred Stock, or (d) enter into any agreement to do any of the foregoing.

Section 5. Liquidation. Upon any liquidation, dissolution or winding-up of the Corporation, whether voluntary or involuntary (a "Liquidation"), the Holders shall be entitled to receive out of the assets, whether capital or surplus, of the Corporation an amount equal to the Stated Value, plus any accrued and unpaid dividends thereon and any other fees or liquidated damages then due and owing thereon under this Certificate of Designation, for each share of Series A-2 Preferred Stock before any distribution or payment shall be made to the holders of any Junior Securities, and if the assets of the Corporation shall be insufficient to pay in full such amounts, then the entire assets to be distributed to the Holders shall be ratably distributed among the Holders and the holders of the Series A-1 Preferred Stock in accordance with the respective amounts that would be payable on such shares if all amounts payable thereon were paid in full.

Section 6. Conversion.

a) Conversions at Option of Holders. Each share of Series A-2 Preferred Stock shall be convertible, at any time and from time to time from and after the Original Issue Date at the option of the Holder thereof, into that number of shares of Common Stock (subject to the limitations set forth herein) determined by dividing the Stated Value of such share of Series A-2 Preferred Stock by the Conversion Price (the "Conversion Ratio"). Holders shall effect conversions by providing the Corporation with the form of conversion notice attached hereto as Annex A (a "Notice of Conversion"); provided that the Corporation shall not be required to honor such request if such conversion does not involve an underlying conversion value of Common Stock of at least $5,000 based on the Stated Value of such Series A-2 Preferred Stock subject to the conversion on the Conversion Date (as defined below) (unless such lesser amount relates to all of a Holder's Series A-2 Preferred Stock). Each Notice of Conversion shall specify the number of shares of Series A-2 Preferred Stock to be converted, the number of shares of Series A-2 Preferred Stock owned prior to the conversion at issue, the number of shares of Series A-2 Preferred Stock owned subsequent to the conversion at issue and the date on which such conversion is to be effected, which date may not be prior to the date the applicable Holder delivers by .pdf via email such Notice of Conversion to the Corporation (such date, the "Conversion Date"). The Corporation shall be entitled to rely on any Notice of Conversion if it is received from the notice address the Corporation is provided in connection with such transfer. If no Conversion Date is specified in a Notice of Conversion, the Conversion Date shall be the date that such Notice of Conversion to the Corporation is deemed delivered hereunder. No ink-original Notice of Conversion shall be required, nor shall any medallion guarantee (or other type of guarantee or notarization) of any Notice of Conversion form be required. The calculations and entries set forth in the Notice of Conversion shall control in the absence of manifest or mathematical error. To effect conversions of shares of Series A-2 Preferred Stock, a Holder shall deliver transfer instruments reasonably satisfactory to the Corporation and shall surrender certificate(s), if any, representing the shares of such Series A-2 Preferred Stock to the Corporation. Upon surrender of a certificate representing shares of Series A-2 Preferred Stock that are to be converted in part pursuant to this Certificate of Designation, the Corporation shall cause the Transfer Agent to issue a book entry receipt representing the number of shares of Series A-2 Preferred Stock that are not so converted. Shares of Series A-2 Preferred Stock converted into Common Stock in accordance with the terms hereof shall be canceled and shall not be reissued.

b) Automatic Conversion. Effective at 4:00 P.M. (New York time) on the Trading Day immediately preceding the Uplisting Effective Date (the "Automatic Conversion Time"), all, but not less than all, of the outstanding shares of Series A-2 Preferred Stock shall automatically convert

(an "Automatic Conversion"), without any action on the part of the Holder thereof and without payment of any additional consideration, into that number of shares of Common Stock determined by dividing the Stated Value of such share of Series A-2 Preferred Stock by the Conversion Price. The Corporation shall provide prompt written notice (an "Automatic Conversion Notice") to the Holders of Series A-2 Preferred Stock of the Automatic Conversion Time no later than 8:30 A.M. (New York time) on the Trading Day immediately following the Automatic Conversion Time; provided, however, that the failure of the Corporation to timely provide the Automatic Conversion Notice shall not affect the effectiveness of the Automatic Conversion. From and after the Automatic Conversion Time, the Series A-2 Preferred Stock converted in the Automatic Conversion shall be deemed to be cancelled and the Corporation shall cause the Transfer Agent to issue to the former Holders of the shares of Series A-2 Preferred Stock so converted the shares of Common Stock to which they are entitled in accordance with the provisions of Section 6(d) below, except that the Share Delivery Date in connection with an Automatic Conversion shall be the first Trading Day following the Automatic Conversion Time. Automatic Conversion Notices must be given to all Holders subject to Automatic Conversion.

c) Conversion Price. The conversion price for the Series A-2 Preferred Stock shall equal $0.25 (the "Conversion Price"). The Conversion Price shall be subject to adjustment as provided in Section 7.

d) Mechanics of Conversion.

i. Delivery of Conversion Shares Upon Conversion. Not later than the earlier of (i) two (2) Trading Days and (ii) the number of Trading Days comprising the Standard Settlement Period (as defined below) after each Conversion Date or the Automatic Conversion Time, as applicable (the "Share Delivery Date"), the Corporation shall deliver, or cause to be delivered, to the converting Holder the number of Conversion Shares being acquired upon the conversion of the Series A-2 Preferred Stock. As used herein, "Standard Settlement Period" means the standard settlement period, expressed in a number of Trading Days, on the Corporation's primary Trading Market with respect to the Common Stock as in effect on the date of delivery of the Notice of Conversion.

ii. Failure to Deliver Conversion Shares. If, in the case of any Notice of Conversion, such Conversion Shares are not delivered to or as directed by the applicable Holder by the Share Delivery Date, such Holder shall, to the fullest extent permitted by law, be entitled to elect by written notice to the Corporation at any time on or before its receipt of such Conversion Shares, to rescind such conversion, in which event the Corporation shall promptly return to such Holder the shares of Series A-2 Preferred Stock delivered to the Corporation and such Holder shall promptly return to the Corporation the Conversion Shares issued to such Holder pursuant to the rescinded Notice of Conversion. In the event of such rescission, the Corporation shall be obligated to pay accrued liquidated damages but there shall be no obligation to pay liquidated damages following such rescission with respect to the prior default by the Corporation for the rescinded Notice of Conversion.

iii. Obligation Absolute; Partial Liquidated Damages. The Corporation's obligation to issue and deliver the Conversion Shares upon conversion of Series A-2 Preferred Stock in accordance with the terms hereof are absolute and unconditional, irrespective of any action or inaction by a Holder to enforce the same, the recovery of any judgment against any Person or any action to

enforce the same, or any setoff, counterclaim or recoupment; provided, however, that such delivery shall not operate as a waiver by the Corporation of any such action that the Corporation may have against such Holder. In the event a Holder shall elect to convert any or all of its Series A-2 Preferred Stock, the Corporation may not refuse conversion based on any claim that such Holder or any one associated or affiliated with such Holder has been engaged in any violation of law, agreement or for any other reason, unless an injunction from a court, on notice to Holder, restraining and/or enjoining conversion of all or part of the Series A-2 Preferred Stock of such Holder shall have been sought and obtained, and the Corporation posts a surety bond for the benefit of such Holder in the amount of 150% of the Stated Value of Series A-2 Preferred Stock which is subject to the injunction, which bond shall remain in effect until the completion of arbitration/litigation of the underlying dispute and the proceeds of which shall be payable to such Holder to the extent it obtains judgment in its favor. In the absence of such injunction, the Corporation shall issue Conversion Shares in accordance with the terms of this Certificate of Designation. If the Corporation fails to deliver to a Holder such Conversion Shares pursuant to Section 6(d)(i) by the Share Delivery Date applicable to such conversion when it was required to do so under this Certificate of Designation, the Corporation shall pay to such Holder, in cash, as liquidated damages and not as a penalty, for each $1,000 of Underlying Shares (based on the higher of the VWAP of the Common Stock on the Conversion Date or the Automatic Conversion Time, as applicable, and the Stated Value of the Series A-2 Preferred Stock being converted, $10 per Trading Day (increasing to $20 per Trading Day on the fifth (5th) Trading Day after the Share Delivery Date) for each Trading Day after the Share Delivery Date until such Conversion Shares are delivered or the Holder rescinds such conversion, to the extent applicable. To the fullest extend permitted by law, nothing herein shall limit a Holder's right to pursue actual damages pursuant to any Transaction Document for the Corporation's failure to deliver Conversion Shares within the period specified herein and such Holder shall have the right to pursue all remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief. To the fullest extent permitted by law, the exercise of any such rights shall not prohibit a Holder from seeking to enforce damages pursuant to any other Section hereof or under applicable law. Nothing herein shall require the Corporation to issue Conversion Shares (or pay liquidated damages for its failure to do so) if the Notice of Conversion is incomplete or was not properly delivered to the Corporation in accordance with this Certificate of Designation.

iv. Compensation for Buy-In on Failure to Timely Deliver Conversion Shares Upon Conversion. In addition to any other rights available to the Holder, if the Corporation fails for any reason to deliver to a Holder the applicable Conversion Shares by the Share Delivery Date pursuant to Section 6(d)(i), and if after such Share Delivery Date such Holder is required by its brokerage firm to purchase (in an open market transaction or otherwise), or the Holder's brokerage firm otherwise purchases, shares of Common Stock to deliver in satisfaction of a sale by such Holder of the Conversion Shares which such Holder was entitled to receive upon the conversion relating to such Share Delivery Date (a "Buy-In"), then the Corporation shall (A) pay in cash to such Holder (in addition to any other remedies available to or elected by such Holder) the amount, if any, by which (x) such Holder's total purchase price (including any brokerage commissions) for the Common Stock so purchased exceeds (y) the product of (1) the aggregate number of shares of Common Stock that such Holder was entitled to receive from the conversion at issue multiplied by (2) the actual sale price at which the sell order giving rise to such purchase obligation was executed (including any brokerage commissions) and (B) at the option of such Holder, either

reissue (if surrendered) the shares of Series A-2 Preferred Stock equal to the number of shares of Series A-2 Preferred Stock submitted for conversion (in which case, such conversion shall be deemed rescinded) or deliver to such Holder the number of shares of Common Stock that would have been issued if the Corporation had timely complied with its delivery requirements under Section 6(d)(i). For example, if a Holder purchases shares of Common Stock having a total purchase price of $11,000 to cover a Buy-In with respect to an attempted conversion of shares of Series A-2 Preferred Stock with respect to which the actual sale price of the Conversion Shares (including any brokerage commissions) giving rise to such purchase obligation was a total of $10,000 under clause (A) of the immediately preceding sentence, the Corporation shall be required to pay such Holder $1,000. The Holder shall provide the Corporation written notice indicating the amount payable to such Holder in respect of the Buy-In and, upon request of the Corporation, evidence of the amount of such loss. To the fullest extent permitted by law, nothing herein shall limit a Holder's right to pursue any other remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief with respect to the Corporation's failure to timely deliver the Conversion Shares upon conversion of the shares of Series A-2 Preferred Stock as required pursuant to the terms hereof.

v. Reservation of Shares Issuable Upon Conversion. The Corporation covenants that it will at all times reserve and keep available out of its authorized and unissued shares of Common Stock for the sole purpose of issuance upon conversion of the Series A-2 Preferred Stock, each as herein provided, free from preemptive rights or any other actual contingent purchase rights of Persons other than the Holders (and the other Holders of the Series A-2 Preferred Stock), not less than such aggregate number of shares of the Common Stock as shall (subject to the terms and conditions set forth in the Purchase Agreement) be issuable (taking into account the adjustments and restrictions of Section 7) upon the conversion of the then outstanding shares of Series A-2 Preferred Stock. The Corporation covenants that all shares of Common Stock that shall be so issuable shall, upon issue, be duly authorized, validly issued, fully paid and nonassessable.

vi. Fractional Shares. No fractional shares or scrip representing fractional shares shall be issued upon the conversion of the Series A-2 Preferred Stock. As to any fraction of a share which the Holders would otherwise be entitled to purchase upon such conversion, the Corporation shall at its election, either pay a cash adjustment in respect of such final fraction in an amount equal to such fraction multiplied by the Conversion Price or round up to the next whole share. Notwithstanding anything to the contrary contained herein, but consistent with the provisions of this subsection with respect to fractional Conversion Shares, nothing shall prevent any Holder from converting fractional shares of Series A-2 Preferred Stock.

vii. Transfer Taxes and Expenses. The issuance of Conversion Shares on conversion of this Series A-2 Preferred Stock shall be made without charge to any Holder for any documentary stamp or similar taxes that may be payable in respect of the issue or delivery of such Conversion Shares, provided that the Corporation shall not be required to pay any tax that may be payable in respect of any transfer involved in the issuance and delivery of any such Conversion Shares upon conversion in a name other than that of the Holders of such shares of Series A-2 Preferred Stock and the Corporation shall not be required to issue or deliver such Conversion Shares unless or until the Person or Persons requesting the issuance thereof shall have paid to the Corporation the amount of such tax or shall have established to the satisfaction of the Corporation that such tax has been

paid. The Corporation shall pay all Transfer Agent fees required for same-day processing of any Notice of Conversion and all fees to the Depository Trust Company (or another established clearing corporation performing similar functions) required for same-day electronic delivery of the Conversion Shares.

e) Beneficial Ownership Limitation. Notwithstanding anything to the contrary set forth herein, the Corporation shall not effect any conversion of the Series A-2 Preferred Stock, and a Holder shall not have the right to convert any portion of the Series A-2 Preferred Stock, to the extent that, after giving effect to the conversion set forth on the applicable Notice of Conversion, such Holder (together with such Holder's Affiliates, and any Persons acting as a group together with such Holder or any of such Holder's Affiliates (such Persons, "Attribution Parties")) would beneficially own in excess of the Beneficial Ownership Limitation (as defined below). For purposes of the foregoing sentence, the number of shares of Common Stock beneficially owned by such Holder and its Affiliates and Attribution Parties shall include the number of shares of Common Stock issuable upon conversion of the Series A-2 Preferred Stock with respect to which such determination is being made, but shall exclude the number of shares of Common Stock which are issuable upon (i) conversion of the remaining, unconverted Series A-2 Preferred Stock or Series A-1 Preferred Stock beneficially owned by such Holder or any of its Affiliates or Attribution Parties and (ii) exercise or conversion of the unexercised or unconverted portion of any other securities of the Corporation subject to a limitation on conversion or exercise analogous to the limitation contained herein (including, without limitation, the Series A-2 Preferred Stock, the Series A-1 Preferred Stock or the Warrants) beneficially owned by such Holder or any of its Affiliates or Attribution Parties. Except as set forth in the preceding sentence, for purposes of this Section 6(e), beneficial ownership shall be calculated in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder. To the extent that the limitation contained in this Section 6(e) applies, the determination of whether the Series A-2 Preferred Stock is convertible (in relation to other securities owned by such Holder together with any Affiliates and Attribution Parties) and of how many shares of Series A-2 Preferred Stock are convertible shall be in the reasonable discretion of such Holder, and the submission of a Notice of Conversion shall be deemed to be such Holder's determination of whether the shares of Series A-2 Preferred Stock may be converted (in relation to other securities owned by such Holder together with any Affiliates and Attribution Parties) and how many shares of the Series A-2 Preferred Stock are convertible, in each case in relation to the Beneficial Ownership Limitation. To ensure compliance with this restriction, each Holder will be deemed to represent to the Corporation each time it delivers a Notice of Conversion that such Notice of Conversion has not violated the restrictions set forth in this paragraph and the Corporation shall have no obligation to verify or confirm the accuracy of such determination. In addition, a determination as to any group status as contemplated above shall be determined in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder. For purposes of this Section 6(e), in determining the number of outstanding shares of Common Stock, a Holder may rely on the number of outstanding shares of Common Stock as stated in the most recent of the following: (i) the Corporation's most recent periodic or annual report filed with the Commission, as the case may be, (ii) a more recent public announcement by the Corporation or (iii) a more recent written notice by the Corporation or the Transfer Agent setting forth the number of shares of Common Stock outstanding. Upon the written or oral request of a Holder, the Corporation shall within one Trading Day confirm orally and in writing to such Holder the number of shares of Common Stock then

outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of the Corporation, including the Series A-2 Preferred Stock, by such Holder or its Affiliates or Attribution Parties since the date as of which such number of outstanding shares of Common Stock was reported, including securities converted or exercised prior to or at the same time as the conversion of the shares of Series A-2 Preferred Stock being converted. The "Beneficial Ownership Limitation" shall be 4.99% (or, upon election by a Holder prior to the issuance of any shares of Series A-2 Preferred Stock, 9.99%) of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock issuable upon conversion of Series A-2 Preferred Stock held by the applicable Holder. A Holder, upon notice to the Corporation, may increase or decrease the Beneficial Ownership Limitation provisions of this Section 6(e) applicable to its Series A-2 Preferred Stock provided that the Beneficial Ownership Limitation in no event exceeds 9.99% of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock upon conversion of this Series A-2 Preferred Stock held by the Holder and the provisions of this Section 6(e) shall continue to apply. Any such increase in the Beneficial Ownership Limitation will not be effective until the 61st day after such notice is delivered to the Corporation and shall only apply to such Holder and no other Holder. The provisions of this paragraph shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this Section 6(e) to correct this paragraph (or any portion hereof) which may be defective or inconsistent with the intended Beneficial Ownership Limitation contained herein or to make changes or supplements necessary or desirable to properly give effect to such limitation. The limitations contained in this paragraph shall apply to a successor holder of Series A-2 Preferred Stock.

Section 7. Certain Adjustments.

a) Stock Dividends and Stock Splits. If the Corporation, at any time while the Series A-2 Preferred Stock is outstanding: (i) pays a stock dividend or otherwise makes a distribution or distributions payable in shares of Common Stock on shares of Common Stock or any other Common Stock Equivalents (which, for avoidance of doubt, shall not include any shares of Common Stock issued by the Corporation upon conversion of, or payment of a dividend on, the Series A-2 Preferred Stock), (ii) subdivides outstanding shares of Common Stock into a larger number of shares, (iii) combines (including by way of a reverse stock split, including the reverse stock split contemplated by the Reverse Stock Split Proposal) outstanding shares of Common Stock into a smaller number of shares, or (iv) issues, in the event of a reclassification of shares of the Common Stock, any shares of capital stock of the Corporation, then the Conversion Price shall be multiplied by a fraction of which the numerator shall be the number of shares of Common Stock (excluding any treasury shares of the Corporation) outstanding immediately before such event, and of which the denominator shall be the number of shares of Common Stock outstanding immediately after such event. Any adjustment made pursuant to this Section 7(a) shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution and shall become effective immediately after the effective date in the case of a subdivision, combination or re-classification. If the Corporation, at any time while the Series A-2 Preferred Stock is outstanding, authorizes and issues an additional class of common or special stock, with dividend and voting rights at a ratio different than the existing class of Common Stock (the "New Common Stock"), then the Series A-2 Preferred Stock will automatically become convertible, at the election of the Holders, into shares of the New Common Stock at an adjusted

Conversion Price proportional to the then-current Conversion Price multiplied by a fraction, the numerator of which shall be the number of votes per share of the class of New Common Stock, and the denominator of which shall be the number of votes per share of the existing class of Common Stock.

b) Subsequent Equity Sales. Until the Uplisting Effective Date, if any, if the Corporation or any Subsidiary, as applicable sells or grants any option to purchase or sells or grants any right to reprice, or otherwise sells or issues (or announces any sale, grant or any option to purchase or other disposition), any Common Stock or Common Stock Equivalents entitling any Person to acquire shares of Common Stock at an effective price per share that is lower than the then Conversion Price (such lower price, the "Base Conversion Price" and such issuances, collectively, a "Dilutive Issuance") (if the holder of the Common Stock or Common Stock Equivalents so issued shall at any time, whether by operation of purchase price adjustments, reset provisions, floating conversion, exercise or exchange prices or otherwise, or due to warrants, options or rights per share which are issued in connection with such issuance, be entitled to receive shares of Common Stock at an effective price per share that is lower than the Conversion Price, such issuance shall be deemed to have occurred for less than the Conversion Price on such date of the Dilutive Issuance), then simultaneously with the consummation of each Dilutive Issuance the Conversion Price shall be reduced to equal the Base Conversion Price. Notwithstanding the foregoing, no adjustment will be made under this Section 7(b) in respect of an Exempt Issuance. The Corporation shall promptly notify the Holders in writing no later than one (1) Trading Day after the issuance of any Common Stock or Common Stock Equivalents subject to this Section 7(b), indicating therein the applicable issuance price, applicable reset price, exchange price, conversion price and other terms of any Dilutive Issuance (such notice, the "Dilutive Issuance Notice"). For purposes of clarification, whether or not the Corporation provides a Dilutive Issuance Notice pursuant to this Section 7(b), upon the occurrence of any Dilutive Issuance, the Holders are entitled to receive a number of Conversion Shares based upon the Base Conversion Price on or after the date of such Dilutive Issuance, regardless of whether a Holder accurately refers to the Base Conversion Price in the Notice of Conversion.

c) Subsequent Rights Offerings. In addition to any adjustments pursuant to Section 7(a) above, if at any time the Corporation grants, issues or sells any Common Stock Equivalents or rights to purchase stock, warrants, securities or other property pro rata to the record holders of any class of shares of Common Stock (the "Purchase Rights"), then each Holder will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which such Holder could have acquired if such Holder had held the number of shares of Common Stock acquirable upon complete conversion of such Holder's Series A-2 Preferred Stock (without regard to any limitations on exercise hereof, including without limitation, the Beneficial Ownership Limitation) immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the grant, issue or sale of such Purchase Rights (provided, however, that, to the extent that such Holder's right to participate in any such Purchase Right would result in such Holder exceeding the Beneficial Ownership Limitation, then such Holder shall not be entitled to participate in such Purchase Right to such extent (or beneficial ownership of such shares of Common Stock as a result of such Purchase Right to such extent) and such Purchase Right to such extent shall be held in abeyance for such Holder until such time not

to exceed twelve (12) months as its right thereto would not result in such Holder exceeding the Beneficial Ownership Limitation provided Holder complies with all of the other obligations of a beneficiary of the Purchase Rights that would not result in Holder exceeding the Beneficial Ownership Limitation. Notwithstanding the foregoing, no adjustment will be made under this Section 7(c) in respect of an Exempt Issuance.

d) Pro Rata Distributions. During such time as the Series A-2 Preferred Stock is outstanding, if the Corporation declares or makes any dividend or other distribution of its assets (or rights to acquire its assets) to holders of shares of Common Stock, by way of return of capital or otherwise (including, without limitation, any distribution of cash, stock or other securities, property or options by way of a dividend, spin off, reclassification, corporate rearrangement, scheme of arrangement or other similar transaction) (a "Distribution"), then, in each such case, each Holder shall be entitled to participate in such Distribution to the same extent that such Holder would have participated therein if such Holder had held the number of shares of Common Stock acquirable upon complete conversion of the Holder's Series A-2 Preferred Stock (without regard to any limitations on conversion hereof, including without limitation, the Beneficial Ownership Limitation) immediately before the date of which a record is taken for such Distribution, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the participation in such Distribution (provided, however, to the extent that any Holder's right to participate in any such Distribution would result in such Holder exceeding the Beneficial Ownership Limitation, then such Holder shall not be entitled to participate in such Distribution to such extent (or in the beneficial ownership of any shares of Common Stock as a result of such Distribution to such extent) and the portion of such Distribution shall be held in abeyance for the benefit of such Holder until such times, not in excess of twelve (12) months, as its right thereto would not result in such Holder exceeding the Beneficial Ownership Limitation).

e) Fundamental Transaction. If, at any time while the Series A-2 Preferred Stock is outstanding, (i) the Corporation, directly or indirectly, in one or more related transactions effects any merger or consolidation of the Corporation with or into another Person, (ii) the Corporation (and all of its Subsidiaries, taken as a whole), directly or indirectly, effects any sale, lease, license, assignment, transfer, conveyance or other disposition of all or substantially all of its assets in one or a series of related transactions, (iii) any, direct or indirect, purchase offer, tender offer or exchange offer (whether by the Corporation or another Person) is completed pursuant to which holders of Common Stock are permitted to sell, tender or exchange their shares for other securities, cash or property and has been accepted by the holders of 50% or more of the outstanding Common Stock, (iv) the Corporation, directly or indirectly, in one or more related transactions effects any reclassification, reorganization or recapitalization of the Common Stock or any compulsory share exchange pursuant to which the Common Stock is effectively converted into or exchanged for other securities, cash or property, or (v) the Corporation, directly or indirectly, in one or more related transactions consummates a stock or share purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off or scheme of arrangement) with another Person, whereby such other Person acquires more than 50% of the outstanding shares of Common Stock, each, a "Fundamental Transaction"), then the Corporation shall deliver written notice of such Fundamental Transaction to each Holder promptly upon the signing of such Fundamental Transaction, and in any event, at least twenty (20) calendar days prior to the consummation of such Fundamental Transaction (the "Fundamental Transaction Notice

Date"), which notice shall include a summary of the terms of such Fundamental Transaction, including the expected amount and type of consideration to be payable to the securityholders of the Corporation. By the deadline set forth in such notice, which shall be at least ten (10) calendar days following the date of the Fundamental Transaction Notice Date, each Holder shall inform the Corporation in writing of its election to either (A) convert all, but not less than all, of its Series A-2 Preferred Stock into Common Stock at the Conversion Ratio or (B) upon any subsequent conversion of the Series A-2 Preferred Stock, receive, for each Conversion Share that would have been issuable upon such conversion immediately prior to the occurrence of such Fundamental Transaction (without regard to any limitation in Section 6(e) on the conversion of the Series A-2 Preferred Stock), the number of securities of the successor or acquiring corporation or of the Corporation, if it is the surviving corporation, and any additional consideration (the "Alternate Consideration") receivable as a result of such Fundamental Transaction by a holder of the number of shares of Common Stock for which the Holder's Series A-2 Preferred Stock is convertible immediately prior to such Fundamental Transaction (without regard to any limitation in Section 6(e) on the conversion of the Series A-2 Preferred Stock). For purposes of any such conversion, the determination of the Conversion Price shall be appropriately adjusted to apply to such Alternate Consideration based on the amount of Alternate Consideration issuable in respect of one share of Common Stock in such Fundamental Transaction, and the Corporation shall apportion the Conversion Price among the Alternate Consideration in a reasonable manner reflecting the relative value of any different components of the Alternate Consideration. If holders of Common Stock are given any choice as to the securities, cash or property to be received in a Fundamental Transaction, then each Holder shall be given the same choice as to the Alternate Consideration it receives upon any conversion of the Series A-2 Preferred Stock following such Fundamental Transaction. To the extent necessary to effectuate the foregoing provisions, any successor to the Corporation or surviving entity in such Fundamental Transaction shall file a new Certificate of Designation with the same terms and conditions and issue to the Holders new preferred stock consistent with the foregoing provisions and evidencing the Holders' right to convert such preferred stock into Alternate Consideration. The Corporation shall cause any successor entity in a Fundamental Transaction in which the Corporation is not the survivor (the "Successor Entity") to assume in writing all of the obligations of the Corporation under this Certificate of Designation and the other Transaction Documents in accordance with the provisions of this Section 7(e) pursuant to written agreements in form and substance reasonably satisfactory to the applicable Holder(s) and approved by a majority of such Holder(s) (without unreasonable delay and such majority shall be calculated based on the Stated Values of the Series A-2 Preferred Stock of such Holder(s)) prior to such Fundamental Transaction. Upon the occurrence of any such Fundamental Transaction, the Successor Entity shall succeed to, and be substituted for (so that from and after the date of such Fundamental Transaction, the provisions of this Certificate of Designation and the other Transaction Documents referring to the "Corporation" shall refer instead to the Successor Entity), and may exercise every right and power of the Corporation and shall assume all of the obligations of the Corporation under this Certificate of Designation and the other Transaction Documents with the same effect as if such Successor Entity had been named as the Corporation herein.

f) Calculations. All calculations under this Section 7 shall be made to the nearest cent or the nearest 1/100th of a share, as the case may be. For purposes of this Section 7, the number of shares of Common Stock deemed to be issued and outstanding as of a given date shall be the sum

of the number of shares of Common Stock (excluding any treasury shares of the Corporation) issued and outstanding.

g) Notice to the Holders.

i. Adjustment to Conversion Price. Whenever the Conversion Price is adjusted pursuant to any provision of this Section 7, the Corporation shall promptly deliver to each Holder by email a notice setting forth the Conversion Price after such adjustment and setting forth a brief statement of the facts requiring such adjustment.

ii. Notice to Allow Conversion by Holder. If (A) the Corporation shall declare a dividend (or any other distribution in whatever form) on the Common Stock, (B) the Corporation shall declare a special nonrecurring cash dividend on or a repurchase of the Common Stock, (C) the Corporation shall authorize the granting to all holders of the Common Stock in their capacities as such of rights or warrants to subscribe for or purchase any shares of capital stock of any class or of any rights, (D) the approval of any stockholders of the Corporation shall be required in connection with any reclassification of the Common Stock, any consolidation or merger to which the Corporation is a party, any sale or transfer of all or substantially all of the assets of the Corporation (and all of its Subsidiaries, taken as a whole), or any compulsory share exchange whereby the Common Stock is converted into other securities, cash or property or (E) the Corporation shall authorize the voluntary or involuntary dissolution, liquidation or winding up of the affairs of the Corporation, then, in each case, the Corporation shall cause to be delivered by email to each Holder at its last email address as it shall appear upon the stock ledger of the Corporation, at least ten (10) calendar days prior to the applicable record or effective date hereinafter specified, a notice stating (x) the date on which a record is to be taken for the purpose of such dividend, distribution, redemption, rights or warrants, or if a record is not to be taken, the date as of which the holders of the Common Stock of record to be entitled to such dividend, distributions, redemption, rights or warrants are to be determined or (y) the date on which such reclassification, consolidation, merger, sale, transfer or share exchange is expected to become effective or close, and the date as of which it is expected that holders of the Common Stock of record shall be entitled to exchange their shares of the Common Stock for securities, cash or other property deliverable upon such reclassification, consolidation, merger, sale, transfer or share exchange, provided that the failure to deliver such notice or any defect therein or in the delivery thereof shall not affect the validity of the corporate action required to be specified in such notice. To the extent that any notice provided hereunder constitutes, or contains, material, non- public information regarding the Corporation or any of the Subsidiaries, the Corporation shall simultaneously file such notice with the Commission pursuant to a Current Report on Form 8-K. To the extent that the Holder has the right to convert its shares of Series A-2 Preferred Stock under Section 6 hereof, the Holder shall remain entitled to convert its Series A-2 Preferred Stock (or any part hereof) during the 10-day period commencing on the date of such notice through the effective date of the event triggering such notice except as may otherwise be expressly set forth herein.

Section 8. Transfer Restrictions. Any transferee of shares of Series A-2 Preferred Stock shall comply with Section 4.1(e) of the Purchase Agreement, and any attempted sale, assignment or transfer of shares of Series A-2 Preferred Stock made without such compliance shall be void *ab initio* and of no effect.

Section 9. Miscellaneous.

a) Notices. Any and all notices or other communications or deliveries required or permitted to be provided hereunder shall be in writing and shall be deemed given and effective on the earliest of: (a) the time of transmission, if such notice or communication is delivered via facsimile at the facsimile number or email attachment at the e-mail address set forth in the Purchase Agreement at or prior to 5:30 p.m. (New York City time) on a Trading Day, (b) the next Trading Day after the time of transmission, if such notice or communication is delivered via facsimile or email attachment at the facsimile number or e-mail address set forth in the Purchase Agreement on a day that is not a Trading Day or later than 5:30 p.m. (New York City time) on any Trading Day, (c) the second (2nd) Trading Day following the date of mailing, if sent by U.S. nationally recognized overnight courier service to the address set forth in the Purchase Agreement or (d) upon actual receipt by the party to whom such notice is required to be given. For so long as any shares of Series A-2 Preferred Stock are outstanding, the Corporation agrees that it will appoint its registered agent in the state of Delaware as its agent for service of process. The Corporation's current registered agent is Corporation Service Company maintaining an address at 251 Little Falls Drive, Wilmington, Delaware 19808 and email address of sop@cscglobal.com. Such registered agent shall continue to be a non-exclusive agent for service of process until replaced by another registered agent in the State of Delaware or New York, after notice to the Purchasers in the manner described herein, of such replacement address. All Purchasers must be informed of a change of Registered Agent.

b) Absolute Obligation. To the fullest extent permitted by law, and except as expressly provided herein, no provision of this Certificate of Designation shall alter or impair the obligation of the Corporation, which is absolute and unconditional, to pay liquidated damages, accrued dividends and accrued interest, as applicable, on the shares of Series A-2 Preferred Stock at the time, place, and rate, and in the coin or currency, herein prescribed.

c) Lost or Mutilated Series A-2 Preferred Stock Certificate. In the event a Holder's Series A-2 Preferred Stock is in certificated form, if a Holder's Series A-2 Preferred Stock certificate shall be mutilated, lost, stolen or destroyed, the Corporation shall execute and deliver, in exchange and substitution for and upon cancellation of a mutilated certificate, or in lieu of or in substitution for a lost, stolen or destroyed certificate, a new certificate for the shares of Series A-2 Preferred Stock so mutilated, lost, stolen or destroyed, but only upon receipt of evidence of such loss, theft or destruction of such certificate, an indemnity in form and substance reasonably satisfactory to the Corporation, and of the ownership hereof reasonably satisfactory to the Corporation.

d) Governing Law. All questions concerning the construction, validity, enforcement and interpretation of this Certificate of Designation shall be governed by and construed and enforced in accordance with the internal laws of the State of Delaware, without regard to the principles of conflict of laws thereof. All legal proceedings concerning the interpretation, enforcement and defense of the transactions contemplated by any of the Transaction Documents (whether brought against a party hereto or its respective Affiliates, directors, officers, shareholders, employees or agents) shall be commenced in the state and federal courts sitting in the City of New York, Borough of Manhattan (the "New York Courts"). The Corporation and each Holder hereby irrevocably submits to the exclusive jurisdiction of the New York Courts for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed

herein (including with respect to the enforcement of any of the Transaction Documents), and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of such New York Courts, or such New York Courts are improper or inconvenient venue for such proceeding. The Corporation and each Holder hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy thereof via registered or certified mail or overnight delivery (with evidence of delivery) to such party at the address in effect for notices to it under this Certificate of Designation and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any other manner permitted by applicable law. The Corporation and each Holder hereby irrevocably waives, to the fullest extent permitted by applicable law, any and all right to trial by jury in any legal proceeding arising out of or relating to this Certificate of Designation or the transactions contemplated hereby. If the Corporation or any Holder shall commence an action or proceeding to enforce any provisions of this Certificate of Designation, then the prevailing party in such action or proceeding shall be reimbursed by the other party for its attorneys' fees and other costs and expenses incurred in the investigation, preparation and prosecution of such action or proceeding.

e) Waiver. Any waiver by the Corporation or a Holder of any rights hereunder or any breach of any provision of this Certificate of Designation shall not operate as or be construed to be a waiver of any other rights hereunder or any other breach of such provision or of any breach of any other provision of this Certificate of Designation or a waiver by any other Holders. The failure of the Corporation or a Holder to insist upon strict adherence to any term of this Certificate of Designation on one or more occasions shall not be considered a waiver or deprive that party (or any other Holder) of the right thereafter to insist upon strict adherence to that term or any other term of this Certificate of Designation on any other occasion. Any waiver by the Corporation or a Holder must be in writing.

f) Severability. If any provision of this Certificate of Designation is invalid, illegal or unenforceable, the balance of this Certificate of Designation shall remain in effect, and if any provision is inapplicable to any Person or circumstance, it shall nevertheless remain applicable to all other Persons and circumstances. If it shall be found that any interest or other amount deemed interest due hereunder violates the applicable law governing usury, the applicable rate of interest due hereunder shall automatically be lowered to equal the maximum rate of interest permitted under applicable law.

g) Next Business Day. Whenever any payment or other obligation hereunder shall be due on a day other than a Business Day, such payment shall be made on the next succeeding Business Day.

h) Headings. The headings contained herein are for convenience only, do not constitute a part of this Certificate of Designation and shall not be deemed to limit or affect any of the provisions hereof.

i) Status of Converted or Repurchased Series A-2 Preferred Stock. If any shares of Series A-2 Preferred Stock shall be converted, repurchased or reacquired by the Corporation, such shares

shall be retired and resume the status of authorized but unissued shares of Preferred Stock and shall no longer be designated as Series A-2 Preferred Stock.

****

RESOLVED, FURTHER, that the Chairman, the president or any vice-president, and the secretary or any assistant secretary, of the Corporation be and they hereby are authorized and directed to prepare and file this Certificate of Designation of Preferences, Rights and Limitations in accordance with the foregoing resolution and the provisions of Delaware law.

IN WITNESS WHEREOF, the undersigned have executed this Certificate this 14th day of June, 2023.

/s/ Ian Jenks	/s/ Barbra Keck
Name: Ian Jenks	Name: Barbra Keck
Title: Chairman	Title: Secretary

ANNEX A

NOTICE OF CONVERSION

(TO BE EXECUTED BY THE REGISTERED HOLDER IN ORDER TO CONVERT SHARES OF SERIES A-2 PREFERRED STOCK)

The undersigned hereby elects to convert the number of shares of Series A-2 Convertible Preferred Stock ("Preferred Stock") indicated below into shares of common stock, par value $0.0001 per share (the "Common Stock"), of SmartKem, Inc., a Delaware corporation (the "Corporation"), according to the conditions hereof, as of the date written below. If shares of Common Stock are to be issued in the name of a Person other than the undersigned, the undersigned will pay all transfer taxes payable with respect thereto and is delivering herewith such certificates and opinions as may be required by the Corporation in accordance with the Purchase Agreement. No fee will be charged to the Holders for any conversion, except for any such transfer taxes.

Conversion calculations:

Date to Effect Conversion: _____

Number of shares of Preferred Stock owned prior to Conversion: _____

Number of shares of Preferred Stock to be Converted: _____

Stated Value of shares of Preferred Stock to be Converted: _____

Number of shares of Common Stock to be Issued: _____

Applicable Conversion Price: _____

Number of shares of Preferred Stock subsequent to Conversion: _____

Address for Delivery: _____

or

DWAC Instructions:

Broker no:

Account no:

[HOLDER]

By: _____

Name:

Title:

CERTIFICATE OF ELIMINATION
OF THE SERIES A-2 PREFERRED STOCK OF
SMARTKEM, INC.

Pursuant to Section 151(g)
of the General Corporation Law
of the State of Delaware

SmartKem, Inc., a corporation organized and existing under the laws of the State of Delaware (the "**Company**"), in accordance with the provisions of Section 151(g) of the General Corporation Law of the State of Delaware, hereby certifies as follows:

That, pursuant to Section 151 of the General Corporation Law of the State of Delaware and authority granted in the Amended and Restated Certificate of Incorporation of the Company, as theretofore amended, the Board of Directors of the Company, by resolution duly adopted, authorized the issuance of a series of eighteen thousand (18,000) shares of Series A-2 Preferred Stock, par value $0.0001 per share (the "**Series A-2 Preferred Stock**"), and established the voting powers, designations, preferences and relative, participating and other rights, and the qualifications, limitations or restrictions thereof, and, on June 14, 2023, filed a Series A-2 Certificate of Designation of Preferences, Rights and Limitations (the "**Series A-2 Certificate of Designation**") with respect to such Series A-2 Preferred Stock in the office of the Secretary of State of the State of Delaware.

That no shares of said Series A-2 Preferred Stock are outstanding and no shares thereof will be issued subject to said Series A-2 Certificate of Designation.

That the Board of Directors of the Company has adopted the following resolutions:

WHEREAS, by resolution of the Board of Directors of the Company and by a Series A-2 Certificate of Designation of Preferences, Rights and Limitations (the "**Series A-2 Certificate of Designation**") filed in the office of the Secretary of State of the State of Delaware on June 14, 2023, the Company authorized the issuance of a series of eighteen thousand (18,000) shares of Series A-2 Preferred Stock, par value $0.0001 per share, of the Company (the "**Series A-2 Preferred Stock**") and established the voting powers, designations, preferences and relative, participating and other rights, and the qualifications, limitations or restrictions thereof;

WHEREAS, 3,050 shares of such Series A-2 Preferred Stock were issued by the Company in 2023 and all such shares have been converted into shares of common stock of the Company as of May 30, 2024;

WHEREAS, as of the date hereof, no shares of such Series A-2 Preferred Stock are outstanding and no shares of such Series A-2 Preferred Stock will be issued subject to said Series A-2 Certificate of Designation; and

WHEREAS, it is desirable that all matters set forth in the Series A-2 Certificate of Designation with respect to such Series A-2 Preferred Stock be eliminated from the Amended and Restated Certificate of Incorporation, as heretofore amended, of the Company.

NOW, THEREFORE, BE IT:

RESOLVED, that all matters set forth in the Series A-2 Certificate of Designation with respect to such Series A-2 Preferred Stock be eliminated from the Amended and Restated Certificate of Incorporation, as heretofore amended, of the Company; and be it further

RESOLVED, that the officers of the Company be, and hereby are, authorized and directed to file a Certificate with the office of the Secretary of State of the State of Delaware setting forth a copy of these resolutions whereupon all matters set forth in the Series A-2 Certificate of Designation with respect to such Series A-2 Preferred Stock shall be eliminated from the Amended and Restated Certificate of Incorporation, as heretofore amended, of the Company.

That, accordingly, all matters set forth in the Series A-2 Certificate of Designation with respect to the Series A-2 Preferred Stock be, and hereby are, eliminated from the Amended and Restated Certificate of Incorporation, as heretofore amended, of the Company.

IN WITNESS WHEREOF, SmartKem, Inc. has caused this Certificate to be executed by its duly authorized officer this 17th day of June, 2024.

SmartKem, Inc.

By: */s/ Barbra Keck*
Name: Barbra Keck
Title: Chief Financial Officer

SMARTKEM, INC.
SECOND AMENDED AND RESTATED
CERTIFICATE OF DESIGNATION OF
PREFERENCES, RIGHTS AND LIMITATIONS
OF
SERIES A-1 CONVERTIBLE PREFERRED STOCK

PURSUANT TO SECTION 151 OF THE
DELAWARE GENERAL CORPORATION LAW

The undersigned, Ian Jenks and Barbra Keck, do hereby certify that:

1. They are the Chief Executive Officer and Secretary, respectively, of SmartKem, Inc., a Delaware corporation (the "Corporation").

2. The Corporation is authorized to issue 10,000,000 shares of preferred stock, of which 11,099.36596 shares have been issued, consisting of shares of Series A-1 Preferred Stock (as defined below) of which 856 are currently issued and outstanding.

3. The following resolutions were duly adopted by the board of directors of the Corporation (the "Board of Directors"):

WHEREAS, the Amended and Restated Certificate of Incorporation of the Corporation (the "Amended and Restated Certificate of Incorporation") authorizes the Corporation to issue 10,000,000 shares of preferred stock, par value $0.0001 per share (the "Preferred Stock"), which may be issued from time to time in one or more series; and

WHEREAS, the Amended and Restated Certificate of Incorporation authorizes the Board of Directors to establish the number of shares to be included in such series, and to fix the voting powers, full or limited, or no voting power of the shares of such series, and the designation, preferences and relative, participating, optional or other special rights, if any, of the shares of each such series and any qualifications, limitations or restrictions thereof; and

WHEREAS, on June 14, 2023, the Corporation filed a certificate of designation designating Series A-1 Preferred Stock and on January 29, 2024, the Corporation filed an amended and restated certificate of designation for the Series A-1 Preferred Stock, which was subsequently amended on December 11, 2024, and the Corporation wishes to further amend and restate the terms of such certificate of designation as set forth herein.

WHEREAS, on December 17, 2024 the Corporation and holders of the Series A-1 Preferred Stock, entered into a consent and amendment agreement (the "Consent and Amendment Agreement").

4. This Second Amended and Restated Certificate of Designation of Preferences, Rights and Limitations of Series A-1 Convertible Preferred Stock has been duly adopted by the holders of a majority of the outstanding shares of Series A-1 Preferred Stock, including AIGH

Investment Partners LP and its Affiliates, which is the only class or series of stock entitled to vote thereon.

NOW, THEREFORE, BE IT RESOLVED, that pursuant to authority conferred upon the Board of Directors by the Amended and Restated Certificate of Incorporation, (i) a series of Preferred Stock be, and hereby is, authorized by the Board of Directors, (ii) the Board of Directors hereby authorizes the issuance of 11,100 shares of Series A-1 Preferred Stock and (iii) the Board of Directors hereby fixes the designations, powers, preferences and rights, and the qualifications, limitations or restrictions of such shares of Series A-1 Preferred Stock as follows:

TERMS OF SERIES A-1 PREFERRED STOCK

Section 1. Definitions. Unless otherwise defined herein, capitalized terms have the respective meanings ascribed thereto in the Purchase Agreement. For the purposes hereof, the following terms shall have the following meanings:

"Additional Conversion Shares" means the additional Conversion Shares that are issuable as a result of this Second Amended and Restated Certificate of Designation of Preferences, Rights and Limitations of Series A-1 Convertible Preferred Stock.

"Affiliate" means any Person that, directly or indirectly through one or more intermediaries, controls or is controlled by or is under common control with a Person, as such terms are used in and construed under Rule 405 of the Securities Act.

"Alternate Consideration" shall have the meaning set forth in Section 7(e).

"Beneficial Ownership Limitation" shall have the meaning set forth in Section 6(e).

"Business Day" means any day other than Saturday, Sunday or other day on which commercial banks in The City of New York are authorized or required by law to remain closed; provided, however, for clarification, commercial banks shall not be deemed to be authorized or required by law to remain closed due to "stay at home", "shelter-in-place", "non-essential employee" or any other similar orders or restrictions or the closure of any physical branch locations at the direction of any governmental authority so long as the electronic funds transfer systems (including for wire transfers) of commercial banks in The City of New York are generally are open for use by customers on such day.

"Buy-In" shall have the meaning set forth in Section 6(d)(iv).

"Closing" means the closing of the purchase and sale of the Securities pursuant to Section 2.1 of the Purchase Agreement.

"Closing Date" means the Trading Day on which all of the Transaction Documents have been executed and delivered by the applicable parties thereto and all conditions precedent to (i) each Holder's obligations to pay the Subscription Amount and (ii) the Corporation's obligations to deliver the Securities have been satisfied or waived.

"Commission" means the United States Securities and Exchange Commission and includes the staff thereof acting on its behalf.

"Common Stock" means the Corporation's common stock, par value $0.0001 per share, and stock of any other class of securities into which such securities may hereafter be reclassified or changed.

"Common Stock Equivalents" means any securities of the Corporation or the Subsidiaries which would entitle the holder thereof to acquire at any time Common Stock, including, without limitation, any debt, preferred stock, right, option, warrant or other instrument that is at any time convertible into or exercisable or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock.

"Conversion Date" shall have the meaning set forth in Section 6(a).

"Conversion Price" shall have the meaning set forth in Section 6(c).

"Conversion Ratio" shall have the meaning set forth in Section 6(a).

"Conversion Shares" means, collectively, the shares of Common Stock issuable upon conversion of the shares of Series A-1 Preferred Stock in accordance with the terms hereof.

"DGCL" means the Delaware General Corporation Law, as in effect on the Original Issue Date.

"Effective Date" means the date on which the Registration Statement is first declared effective by the Commission.

"Exchange Act" means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

"Exempt Issuance" shall have the meaning ascribed thereto in the Purchase Agreement.

"Fundamental Transaction" shall have the meaning set forth in Section 7(e).

"Fundamental Transaction Notice Date" shall have the meaning set forth in Section 7(e).

"GAAP" means United States generally accepted accounting principles.

"Holder" shall have the meaning given such term in Section 2.

"Liquidation" shall have the meaning set forth in Section 5.

"Mandatory Conversion" shall have the meaning set forth in Section 6(b).

"Mandatory Conversion Date" shall have the meaning set forth in Section 6(b).

"Mandatory Conversion Notice" shall have the meaning set forth in Section 6(b).

"Mandatory Conversion Time" shall have the meaning set forth in Section 6(b).

"New Common Stock" shall have the meaning set forth in Section 7(a).

"New York Courts" shall have the meaning set forth in Section 10(d).

"Notice of Conversion" shall have the meaning set forth in Section 6(a).

"Original Issue Date" means the date of the first issuance of any shares of Series A-1 Preferred Stock regardless of the number of transfers of any particular shares of Series A-1 Preferred Stock and regardless of the number of certificates, if any, which may be issued to evidence such Series A-1 Preferred Stock.

"Person" means an individual or corporation, partnership, trust, incorporated or unincorporated association, joint venture, limited liability company, joint stock company, government (or an agency or subdivision thereof) or other entity of any kind.

"Preferred Stock" shall have the meaning set forth in the recitals.

"Purchase Agreement" means the Securities Purchase Agreement, dated as of June 14, 2023, among the Corporation and the original Holders, as amended, modified or supplemented from time to time in accordance with its terms.

"Registration Rights Agreement" means the Registration Rights Agreement as defined in the Consent and Amendment Agreement.

"Registration Statement" means a registration statement meeting the requirements set forth in the Registration Rights Agreement covering the resale or other disposition of the Additional Conversion Shares.

"Qualified Offering" shall have the meaning set forth in Section 6(b)(i).

"Rule 144" means Rule 144 promulgated by the Commission pursuant to the Securities Act, as such Rule may be amended and interpreted from time to time, or any similar rule or regulation hereafter adopted by the Commission having substantially the same purpose and effect as such Rule.

"Securities" means the Series A-1 Preferred Stock, the Warrants, the Warrant Shares and the Underlying Shares.

"Securities Act" means the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder.

"Share Delivery Date" shall have the meaning set forth in Section 6(d)(i).

"Stated Value" shall have the meaning set forth in Section 2.

"Subscription Amount" shall mean, as to each Holder, the aggregate amount to be paid for the Series A-1 Preferred Stock and Warrants purchased pursuant to the Purchase Agreement as specified below such Holder's name on the signature page of the Purchase Agreement and next to the heading "Subscription Amount," in United States dollars and in immediately available funds.

"Subsidiary" means any subsidiary of the Corporation and shall, where applicable, also include any direct or indirect subsidiary of the Corporation formed or acquired after the date of the Purchase Agreement.

"Successor Entity" shall have the meaning set forth in Section 7(e).

"Trading Day" means a day on which the principal Trading Market is open for trading.

"Trading Market" means any of the following markets or exchanges on which the Common Stock is listed or quoted for trading on the date in question: the NYSE American, the Nasdaq Capital Market, the Nasdaq Global Market, the Nasdaq Global Select Market, the New York Stock Exchange, the OTCQB Venture Market ("OTCQB") or the OTCQX Best Market ("OTCQX") (or any successors to any of the foregoing).

"Transaction Documents" means this Certificate of Designation, the Purchase Agreement, the Warrants, the Registration Rights Agreement, the Voting Agreements, all exhibits and schedules thereto and hereto and any other documents or agreements executed in connection with the transactions contemplated pursuant to the Purchase Agreement.

"Transfer Agent" means Equiniti Trust Company, LLC, the current transfer agent of the Corporation and any successor transfer agent of the Corporation. The transfer agent's address is 6201 15th Avenue Brooklyn, NY 11219 and its taxpayer identification number is 26-2383678.

"Underlying Shares" means the shares of Common Stock issued and issuable upon conversion of the Series A-1 Preferred Stock and upon the exercise of the Warrants.

"VWAP" means, for any date, the price determined by the first of the following clauses that applies: (a) if the Common Stock is then listed or quoted on a Trading Market, the daily volume weighted average price of the Common Stock for such date (or the nearest preceding date) on the Trading Market on which the Common Stock is then listed or quoted as reported by Bloomberg L.P. (based on a Trading Day from 9:30 a.m. (New York City time) to 4:02 p.m. (New York City time)), (b) if the OTCQB or the OTCQX is a Trading Market, the volume weighted average price of the Common Stock for such date (or the nearest preceding date) on OTCQB or OTCQX as applicable, (c) if the Common Stock is not then quoted on OTCQB or

OTCQX and if prices for the Common Stock are then reported in the Pink Open Market ("Pink Market") operated by OTC Markets, Inc. (or a similar organization or agency succeeding to its functions of reporting prices), the most recent bid price per share of the Common Stock so reported, or (d) in all other cases, the fair market value of a share of Common Stock as determined by an independent appraiser selected in good faith by the holders of a majority in interest of the Securities then outstanding and reasonably acceptable to the Corporation, the fees and expenses of which shall be paid by the Corporation.

"Warrant Delivery Date" shall have the meaning set forth in Section 6(d)(i).

"Warrants" means, collectively, the Common Stock purchase warrants delivered to the Holders at the Closing in accordance with Section 2.2(a) of the Purchase Agreement.

"Warrant Shares" means the shares of Common Stock issuable upon exercise of the Warrants.

Section 2. Designation, Amount and Par Value. The series of preferred stock shall be designated as Series A-1 Convertible Preferred Stock (the "Series A-1 Preferred Stock") and the number of shares so designated shall be 11,100 (which shall not be subject to increase without the written consent of the holders of a majority of the then outstanding shares of the Series A-1 Preferred Stock (each, a "Holder" and collectively, the "Holders")). Each share of Series A-1 Preferred Stock shall have a par value of $0.0001 per share and a stated value equal to $10,000 (the "Stated Value").

Section 3. Dividends. In addition to stock dividends or distributions for which adjustments are to be made pursuant to Section 7, Holders shall be entitled to receive, and the Corporation shall pay, dividends on shares of Series A-1 Preferred Stock equal (on an as-if-converted-to- Common-Stock basis) to and in the same form as dividends actually paid on shares of the Common Stock when, as and if such dividends are paid on shares of the Common Stock. No other dividends shall be paid on shares of Series A-1 Preferred Stock.

Section 4. Voting Rights. Except as otherwise provided herein or as otherwise required by law, the Series A-1 Preferred Stock shall have no voting rights. As long as any shares of Series A-1 Preferred Stock are outstanding, the Corporation shall not, without the affirmative vote of the Holders of a majority of the then outstanding shares of the Series A-1 Preferred Stock which must include AIGH Investment Partners LP and its Affiliates ("AIGH") for so long as AIGH is holding at least $1,500,000 in aggregate Stated Value of Series A-1 Preferred Stock acquired pursuant to the Purchase Agreement, (a) alter or change the powers, preferences or rights given to the Series A-1 Preferred Stock, (b) alter or amend its Amended and Restated Certificate of Incorporation, this Certificate of Designation or its bylaws in such a manner so as to materially adversely affect any rights given to this Series A-1 Preferred Stock, (c) increase the number of authorized shares of Series A-1 Preferred Stock, (d) issue any Series A-1 Preferred Stock except pursuant to the Purchase Agreement, or (e) enter into any agreement to do any of the foregoing.

Section 5. Liquidation. Upon any liquidation, dissolution or winding-up of the Corporation, whether voluntary or involuntary (a "Liquidation"), the Holders shall be entitled to

receive, *pari passu* with holders of the Common Stock, out of the assets, whether capital or surplus, of the Corporation an amount equal to the amount that would otherwise be payable to them if all of the shares of Series A-1 Preferred Stock had converted into shares of Common Stock immediately prior to such Liquidation.

Section 6. Conversion.

a) Conversions at Option of Holders. From and after the earlier of (i) the Effective Date and (ii) the six-month anniversary of the Effective Time (as defined in the Consent and Amendment Agreement), each share of Series A-1 Preferred Stock shall be convertible, at any time and from time to time at the option of the Holder thereof, into that number of shares of Common Stock (subject to the limitations set forth herein) determined by dividing the Stated Value of such share of Series A-1 Preferred Stock by the Conversion Price (the "Conversion Ratio"). Holders shall effect conversions by providing the Corporation with the form of conversion notice attached hereto as Annex A (a "Notice of Conversion"); provided that the Corporation shall not be required to honor such request if such conversion does not involve an underlying conversion value of Common Stock of at least $5,000 based on the Stated Value of such Series A-1 Preferred Stock subject to the conversion on the Conversion Date (as defined below) (unless such lesser amount relates to all of a Holder's Series A-1 Preferred Stock). Each Notice of Conversion shall specify the number of shares of Series A-1 Preferred Stock to be converted, the number of shares of Series A-1 Preferred Stock owned prior to the conversion at issue, the number of shares of Series A-1 Preferred Stock owned subsequent to the conversion at issue and the date on which such conversion is to be effected, which date may not be prior to the date the applicable Holder delivers by .pdf via email such Notice of Conversion to the Corporation (such date, the "Conversion Date"). The Corporation shall be entitled to rely on any Notice of Conversion if it is received from the notice address the Corporation is provided in connection with such transfer. If no Conversion Date is specified in a Notice of Conversion, the Conversion Date shall be the date that such Notice of Conversion to the Corporation is deemed delivered hereunder. No ink-original Notice of Conversion shall be required, nor shall any medallion guarantee (or other type of guarantee or notarization) of any Notice of Conversion form be required. The calculations and entries set forth in the Notice of Conversion shall control in the absence of manifest or mathematical error. To effect conversions of shares of Series A-1 Preferred Stock, a Holder shall deliver transfer instruments reasonably satisfactory to the Corporation and shall surrender certificate(s), if any, representing the shares of such Series A-1 Preferred Stock to the Corporation. Upon surrender of a certificate representing shares of Series A-1 Preferred Stock that are to be converted in part pursuant to this Certificate of Designation, the Corporation shall cause the Transfer Agent to issue a book entry receipt representing the number of shares of Series A-1 Preferred Stock that are not so converted. Shares of Series A-1 Preferred Stock converted into Common Stock in accordance with the terms hereof shall be canceled and shall not be reissued.

b) Mandatory Conversion. All outstanding shares of Series A-1 Preferred Stock shall automatically be converted into shares of Common Stock (a "Mandatory Conversion") at the then effective Conversion Price (a "Mandatory Conversion"), upon the earlier of (i) the Effective Date and (ii) the date and time, or upon the occurrence of an event, specified by vote or written consent of the Holders of a majority of the then outstanding shares of the Series A-1 Preferred Stock which

must include AIGH for so long as AIGH is holding at least $1,500,000 in aggregate Stated Value of Series A-1 Preferred Stock acquired pursuant to the Purchase Agreement.

The Corporation shall send written notice of the Mandatory Conversion Time to the Holders. Such notice need not be sent in advance of the occurrence of the Mandatory Conversion Time and the failure to provide such notice shall not effect the Mandatory Conversion. In the event that any Mandatory Conversion would result in a Holder exceeding its Beneficial Ownership Limitation (after giving effect to the Mandatory Conversion of shares of Series A-1 Preferred Stock held by the other Holders), then upon such Mandatory Conversion the Holder shall receive (i) shares of Common Stock in an amount that would not cause such Holder to exceed its Beneficial Ownership Limitation (after giving effect to the Mandatory Conversion of shares of Series A-1 Preferred Stock held by the other Holders), and (ii) Class C Warrants (the Form of which is Exhibit 4.1 to the Company's Current Report on Form 8-K filed on January 29, 2024) exercisable for the remaining shares which the Holder would otherwise be entitled to receive. From and after the Mandatory Conversion Time, the Series A-1 Preferred Stock converted in the Mandatory Conversion shall be deemed to be cancelled.

c) Conversion Price. The conversion price for the Series A-1 Preferred Stock shall equal to $4.34 (the "Conversion Price"). The Conversion Price shall be subject to adjustment as provided in Section 7.

d) Mechanics of Conversion.

i. Delivery of Conversion Shares Upon Conversion. Not later than the earlier of (i) one (1) Trading Day and (ii) the number of Trading Days comprising the Standard Settlement Period (as defined below) after each Conversion Date or Mandatory Conversion Date, as applicable (the "Share Delivery Date"), the Corporation shall deliver, or cause to be delivered, to the converting Holder the number of Conversion Shares being acquired upon the conversion of the Series A-1 Preferred Stock. As used herein, "Standard Settlement Period" means the standard settlement period, expressed in a number of Trading Days, on the Corporation's primary Trading Market with respect to the Common Stock as in effect on the date of delivery of the Notice of Conversion. In the event that the Series A-1 Preferred Stock is converted, in whole or in part, into Class C Warrants, not later than two Trading Days after each Conversion Date or Mandatory Conversion Date, as applicable, the Corporation shall deliver, or cause to be delivered, to the converting Holder the number of Class C Warrants being acquired upon the conversion of the Series A-1 Preferred Stock (the "Warrant Delivery Date").

ii. Failure to Deliver Conversion Shares and/or Class C Warrants. If, in the case of any Notice of Conversion, such Conversion Shares and/or Class C Warrants are not delivered to or as directed by the applicable Holder by the Share Delivery Date or the Warrant Delivery Date, as applicable, such Holder shall, to the fullest extent permitted by law, be entitled to elect by written notice to the Corporation at any time on or before its receipt of such Conversion Shares and/or Class C Warrants, to rescind such conversion, in which event the Corporation shall promptly return to such Holder the shares of Series A-1 Preferred Stock delivered to the Corporation and such Holder shall promptly return to the Corporation the Conversion Shares and/or the Class C Warrants issued to such Holder pursuant to the rescinded Notice of Conversion.

In the event of such rescission, the Corporation shall be obligated to pay accrued liquidated damages but there shall be no obligation to pay liquidated damages following such rescission with respect to the prior default by the Corporation for the rescinded Notice of Conversion.

iii. Obligation Absolute; Partial Liquidated Damages. The Corporation's obligation to issue and deliver the Conversion Shares and/or Class C Warrants upon conversion of Series A-1 Preferred Stock in accordance with the terms hereof are absolute and unconditional, irrespective of any action or inaction by a Holder to enforce the same, the recovery of any judgment against any Person or any action to enforce the same, or any setoff, counterclaim or recoupment; provided, however, that such delivery shall not operate as a waiver by the Corporation of any such action that the Corporation may have against such Holder. In the event a Holder shall elect to convert any or all of its Series A-1 Preferred Stock, the Corporation may not refuse conversion based on any claim that such Holder or any one associated or affiliated with such Holder has been engaged in any violation of law, agreement or for any other reason, unless an injunction from a court, on notice to Holder, restraining and/or enjoining conversion of all or part of the Series A-1 Preferred Stock of such Holder shall have been sought and obtained, and the Corporation posts a surety bond for the benefit of such Holder in the amount of 150% of the Stated Value of Series A-1 Preferred Stock which is subject to the injunction, which bond shall remain in effect until the completion of arbitration/litigation of the underlying dispute and the proceeds of which shall be payable to such Holder to the extent it obtains judgment in its favor. In the absence of such injunction, the Corporation shall issue Conversion Shares and/or Class C Warrants in accordance with the terms of this Certificate of Designation. If the Corporation fails to deliver to a Holder such Conversion Shares and/or Class C Warrants pursuant to Section 6(d)(i) by the Share Delivery Date applicable to such conversion when it was required to do so under this Certificate of Designation, the Corporation shall pay to such Holder, in cash, as liquidated damages and not as a penalty, for each $1,000 of Underlying Shares (based on the higher of the VWAP of the Common Stock on the Conversion Date or the Mandatory Conversion Date, as applicable, and the Stated Value of the Series A-1 Preferred Stock being converted, $10 per Trading Day (increasing to $20 per Trading Day on the fifth (5th) Trading Day after the Share Delivery Date) for each Trading Day after the Share Delivery Date until such Conversion Shares and/or Class C Warrants are delivered or the Holder rescinds such conversion, to the extent applicable. To the fullest extend permitted by law, nothing herein shall limit a Holder's right to pursue actual damages pursuant to any Transaction Document for the Corporation's failure to deliver Conversion Shares and/or Class C Warrants within the period specified herein and such Holder shall have the right to pursue all remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief. To the fullest extent permitted by law, the exercise of any such rights shall not prohibit a Holder from seeking to enforce damages pursuant to any other Section hereof or under applicable law. Nothing herein shall require the Corporation to issue Conversion Shares and/or Class C Warrants (or pay liquidated damages for its failure to do so) if the Notice of Conversion is incomplete or was not properly delivered to the Corporation in accordance with this Certificate of Designation.

iv. Compensation for Buy-In on Failure to Timely Deliver Conversion Shares Upon Conversion. In addition to any other rights available to the Holder, if the Corporation fails for any reason to deliver to a Holder the applicable Conversion Shares by the Share Delivery Date pursuant to Section 6(d)(i), and if after such Share Delivery Date such Holder is required by its brokerage

firm to purchase (in an open market transaction or otherwise), or the Holder's brokerage firm otherwise purchases, shares of Common Stock to deliver in satisfaction of a sale by such Holder of the Conversion Shares which such Holder was entitled to receive upon the conversion relating to such Share Delivery Date (a "Buy-In"), then the Corporation shall (A) pay in cash to such Holder (in addition to any other remedies available to or elected by such Holder) the amount, if any, by which (x) such Holder's total purchase price (including any brokerage commissions) for the Common Stock so purchased exceeds (y) the product of (1) the aggregate number of shares of Common Stock that such Holder was entitled to receive from the conversion at issue multiplied by (2) the actual sale price at which the sell order giving rise to such purchase obligation was executed (including any brokerage commissions) and (B) at the option of such Holder, deliver to such Holder the number of shares of Common Stock that would have been issued if the Corporation had timely complied with its delivery requirements under Section 6(d)(i). For example, if a Holder purchases shares of Common Stock having a total purchase price of $11,000 to cover a Buy-In with respect to an attempted conversion of shares of Series A-1 Preferred Stock with respect to which the actual sale price of the Conversion Shares (including any brokerage commissions) giving rise to such purchase obligation was a total of $10,000 under clause (A) of the immediately preceding sentence, the Corporation shall be required to pay such Holder $1,000. The Holder shall provide the Corporation written notice indicating the amount payable to such Holder in respect of the Buy-In and, upon request of the Corporation, evidence of the amount of such loss. To the fullest extent permitted by law, nothing herein shall limit a Holder's right to pursue any other remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief with respect to the Corporation's failure to timely deliver the Conversion Shares upon conversion of the shares of Series A-1 Preferred Stock as required pursuant to the terms hereof.

v. Reservation of Shares Issuable Upon Conversion. The Corporation covenants that it will at all times reserve and keep available out of its authorized and unissued shares of Common Stock for the sole purpose of issuance upon conversion of the Series A-1 Preferred Stock, each as herein provided, free from preemptive rights or any other actual contingent purchase rights of Persons other than the Holders (and the other Holders of the Series A-1 Preferred Stock), not less than such aggregate number of shares of the Common Stock as shall (subject to the terms and conditions set forth in the Purchase Agreement) be issuable (taking into account the adjustments and restrictions of Section 7) upon the conversion of the then outstanding shares of Series A-1 Preferred Stock. The Corporation covenants that all shares of Common Stock that shall be so issuable shall, upon issue, be duly authorized, validly issued, fully paid and nonassessable.

vi. Fractional Shares. No fractional shares or scrip representing fractional shares shall be issued upon the conversion of the Series A-1 Preferred Stock. As to any fraction of a share which the Holders would otherwise be entitled to purchase upon such conversion, the Corporation shall at its election, either pay a cash adjustment in respect of such final fraction in an amount equal to such fraction multiplied by the Conversion Price or round up to the next whole share. Notwithstanding anything to the contrary contained herein, but consistent with the provisions of this subsection with respect to fractional Conversion Shares, nothing shall prevent any Holder from converting fractional shares of Series A-1 Preferred Stock.

vii. Transfer Taxes and Expenses. The issuance of Conversion Shares and/or Class C Warrants on conversion of this Series A-1 Preferred Stock shall be made without charge to any Holder for any documentary stamp or similar taxes that may be payable in respect of the issue or delivery of such Conversion Shares and/or Class C Warrants, provided that the Corporation shall not be required to pay any tax that may be payable in respect of any transfer involved in the issuance and delivery of any such Conversion Shares and/or Class C Warrants upon conversion in a name other than that of the Holders of such shares of Series A-1 Preferred Stock and the Corporation shall not be required to issue or deliver such Conversion Shares and/or Class C Warrants unless or until the Person or Persons requesting the issuance thereof shall have paid to the Corporation the amount of such tax or shall have established to the satisfaction of the Corporation that such tax has been paid. The Corporation shall pay all Transfer Agent fees required for same-day processing of any Notice of Conversion and all fees to the Depository Trust Company (or another established clearing corporation performing similar functions) required for same-day electronic delivery of the Conversion Shares.

e) Beneficial Ownership Limitation. Notwithstanding anything to the contrary set forth herein, the Corporation shall not effect any conversion of the Series A-1 Preferred Stock, and a Holder shall not have the right to convert any portion of the Series A-1 Preferred Stock, to the extent that, after giving effect to the conversion set forth on the applicable Notice of Conversion, such Holder (together with such Holder's Affiliates, and any Persons acting as a group together with such Holder or any of such Holder's Affiliates (such Persons, "Attribution Parties")) would beneficially own in excess of the Beneficial Ownership Limitation (as defined below). For purposes of the foregoing sentence, the number of shares of Common Stock beneficially owned by such Holder and its Affiliates and Attribution Parties shall include the number of shares of Common Stock issuable upon conversion of the Series A-1 Preferred Stock with respect to which such determination is being made, but shall exclude the number of shares of Common Stock which are issuable upon (i) conversion of the remaining, unconverted Series A-1 Preferred Stock beneficially owned by such Holder or any of its Affiliates or Attribution Parties and (ii) exercise or conversion of the unexercised or unconverted portion of any other securities of the Corporation subject to a limitation on conversion or exercise analogous to the limitation contained herein (including, without limitation, the Series A-1 Preferred Stock or the Warrants) beneficially owned by such Holder or any of its Affiliates or Attribution Parties. Except as set forth in the preceding sentence, for purposes of this Section 6(e), beneficial ownership shall be calculated in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder. To the extent that the limitation contained in this Section 6(e) applies, the determination of whether the Series A-1 Preferred Stock is convertible (in relation to other securities owned by such Holder together with any Affiliates and Attribution Parties) and of how many shares of Series A-1 Preferred Stock are convertible shall be in the reasonable discretion of such Holder, and the submission of a Notice of Conversion shall be deemed to be such Holder's determination of whether the shares of Series A-1 Preferred Stock may be converted (in relation to other securities owned by such Holder together with any Affiliates and Attribution Parties) and how many shares of the Series A-1 Preferred Stock are convertible, in each case in relation to the Beneficial Ownership Limitation. To ensure compliance with this restriction, each Holder will be deemed to represent to the Corporation each time it delivers a Notice of Conversion that such Notice of Conversion has not violated the restrictions set forth in this paragraph and the Corporation shall have no obligation to verify or confirm the accuracy of such determination. In addition, a

determination as to any group status as contemplated above shall be determined in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder. For purposes of this Section 6(e), in determining the number of outstanding shares of Common Stock, a Holder may rely on the number of outstanding shares of Common Stock as stated in the most recent of the following: (i) the Corporation's most recent periodic or annual report filed with the Commission, as the case may be, (ii) a more recent public announcement by the Corporation or (iii) a more recent written notice by the Corporation or the Transfer Agent setting forth the number of shares of Common Stock outstanding. Upon the written or oral request of a Holder, the Corporation shall within one Trading Day confirm orally and in writing to such Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of the Corporation, including the Series A-1 Preferred Stock, by such Holder or its Affiliates or Attribution Parties since the date as of which such number of outstanding shares of Common Stock was reported, including securities converted or exercised prior to or at the same time as the conversion of the shares of Series A-1 Preferred Stock being converted. The "Beneficial Ownership Limitation" shall be 4.99% (or, upon election by a Holder prior to the issuance of any shares of Series A-1 Preferred Stock, 9.99%) of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock issuable upon conversion of Series A-1 Preferred Stock held by the applicable Holder. A Holder, upon notice to the Corporation, may increase or decrease the Beneficial Ownership Limitation provisions of this Section 6(e) applicable to its Series A-1 Preferred Stock provided that the Beneficial Ownership Limitation in no event exceeds 9.99% of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock upon conversion of this Series A-1 Preferred Stock held by the Holder and the provisions of this Section 6(e) shall continue to apply. Any such increase in the Beneficial Ownership Limitation will not be effective until the 61st day after such notice is delivered to the Corporation and shall only apply to such Holder and no other Holder. The provisions of this paragraph shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this Section 6(e) to correct this paragraph (or any portion hereof) which may be defective or inconsistent with the intended Beneficial Ownership Limitation contained herein or to make changes or supplements necessary or desirable to properly give effect to such limitation. The limitations contained in this paragraph shall apply to a successor holder of Series A-1 Preferred Stock. The limitations contained in this paragraph shall apply to any Mandatory Conversion, provided the Corporation may issue Class C Warrants in lieu of any Common Stock in excess of the Beneficial Ownership Limitation

Section 7. Certain Adjustments.

a) Stock Dividends and Stock Splits. If the Corporation, at any time while the Series A-1 Preferred Stock is outstanding: (i) pays a stock dividend or otherwise makes a distribution or distributions payable in shares of Common Stock on shares of Common Stock or any other Common Stock Equivalents (which, for avoidance of doubt, shall not include any shares of Common Stock issued by the Corporation upon conversion of, or payment of a dividend on, the Series A-1 Preferred Stock), (ii) subdivides outstanding shares of Common Stock into a larger number of shares, (iii) combines (including by way of a reverse stock split) outstanding shares of Common Stock into a smaller number of shares, or (iv) issues, in the event of a reclassification of

shares of the Common Stock, any shares of capital stock of the Corporation, then the Conversion Price shall be multiplied by a fraction of which the numerator shall be the number of shares of Common Stock (excluding any treasury shares of the Corporation) outstanding immediately before such event, and of which the denominator shall be the number of shares of Common Stock outstanding immediately after such event. Any adjustment made pursuant to this Section 7(a) shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution and shall become effective immediately after the effective date in the case of a subdivision, combination or re-classification. If the Corporation, at any time while the Series A-1 Preferred Stock is outstanding, authorizes and issues an additional class of common or special stock, with dividend and voting rights at a ratio different than the existing class of Common Stock (the "New Common Stock"), then the Series A-1 Preferred Stock will automatically become convertible, at the election of the Holders, into shares of the New Common Stock at an adjusted Conversion Price proportional to the then-current Conversion Price multiplied by a fraction, the numerator of which shall be the number of votes per share of the class of New Common Stock, and the denominator of which shall be the number of votes per share of the existing class of Common Stock.

b) [Reserved]

c) Subsequent Rights Offerings. In addition to any adjustments pursuant to Section 7(a) above, if at any time the Corporation grants, issues or sells any Common Stock Equivalents or rights to purchase stock, warrants, securities or other property pro rata to the record holders of any class of shares of Common Stock (the "Purchase Rights"), then each Holder will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which such Holder could have acquired if such Holder had held the number of shares of Common Stock acquirable upon complete conversion of such Holder's Series A-1 Preferred Stock (without regard to any limitations on exercise hereof, including without limitation, the Beneficial Ownership Limitation) immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the grant, issue or sale of such Purchase Rights (provided, however, that, to the extent that such Holder's right to participate in any such Purchase Right would result in such Holder exceeding the Beneficial Ownership Limitation, then such Holder shall not be entitled to participate in such Purchase Right to such extent (or beneficial ownership of such shares of Common Stock as a result of such Purchase Right to such extent) and such Purchase Right to such extent shall be held in abeyance for such Holder until such time not to exceed twelve (12) months as its right thereto would not result in such Holder exceeding the Beneficial Ownership Limitation provided Holder complies with all of the other obligations of a beneficiary of the Purchase Rights that would not result in Holder exceeding the Beneficial Ownership Limitation. Notwithstanding the foregoing, no adjustment will be made under this Section 7(c) in respect of an Exempt Issuance.

d) Pro Rata Distributions. During such time as the Series A-1 Preferred Stock is outstanding, if the Corporation declares or makes any dividend or other distribution of its assets (or rights to acquire its assets) to holders of shares of Common Stock, by way of return of capital or otherwise (including, without limitation, any distribution of cash, stock or other securities, property or options by way of a dividend, spin off, reclassification, corporate rearrangement,

scheme of arrangement or other similar transaction) (a "Distribution"), then, in each such case, each Holder shall be entitled to participate in such Distribution to the same extent that such Holder would have participated therein if such Holder had held the number of shares of Common Stock acquirable upon complete conversion of the Holder's Series A-1 Preferred Stock (without regard to any limitations on conversion hereof, including without limitation, the Beneficial Ownership Limitation) immediately before the date of which a record is taken for such Distribution, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the participation in such Distribution (provided, however, to the extent that any Holder's right to participate in any such Distribution would result in such Holder exceeding the Beneficial Ownership Limitation, then such Holder shall not be entitled to participate in such Distribution to such extent (or in the beneficial ownership of any shares of Common Stock as a result of such Distribution to such extent) and the portion of such Distribution shall be held in abeyance for the benefit of such Holder until such times, not in excess of twelve (12) months, as its right thereto would not result in such Holder exceeding the Beneficial Ownership Limitation).

e) Fundamental Transaction. If, at any time while the Series A-1 Preferred Stock is outstanding, (i) the Corporation, directly or indirectly, in one or more related transactions effects any merger or consolidation of the Corporation with or into another Person, (ii) the Corporation (and all of its Subsidiaries, taken as a whole), directly or indirectly, effects any sale, lease, license, assignment, transfer, conveyance or other disposition of all or substantially all of its assets in one or a series of related transactions, (iii) any, direct or indirect, purchase offer, tender offer or exchange offer (whether by the Corporation or another Person) is completed pursuant to which holders of Common Stock are permitted to sell, tender or exchange their shares for other securities, cash or property and has been accepted by the holders of 50% or more of the outstanding Common Stock, (iv) the Corporation, directly or indirectly, in one or more related transactions effects any reclassification, reorganization or recapitalization of the Common Stock or any compulsory share exchange pursuant to which the Common Stock is effectively converted into or exchanged for other securities, cash or property, or (v) the Corporation, directly or indirectly, in one or more related transactions consummates a stock or share purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off or scheme of arrangement) with another Person, whereby such other Person acquires more than 50% of the outstanding shares of Common Stock, each, a "Fundamental Transaction"), then the Corporation shall deliver written notice of such Fundamental Transaction to each Holder promptly upon the signing of such Fundamental Transaction, and in any event, at least twenty (20) calendar days prior to the consummation of such Fundamental Transaction (the "Fundamental Transaction Notice Date"), which notice shall include a summary of the terms of such Fundamental Transaction, including the expected amount and type of consideration to be payable to the securityholders of the Corporation. By the deadline set forth in such notice, which shall be at least ten (10) calendar days following the date of the Fundamental Transaction Notice Date, each Holder shall inform the Corporation in writing of its election to either (A) convert all, but not less than all, of its Series A-1 Preferred Stock into Common Stock at the Conversion Ratio or (B) upon any subsequent conversion of the Series A-1 Preferred Stock, receive, for each Conversion Share that would have been issuable upon such conversion immediately prior to the occurrence of such Fundamental Transaction (without regard to any limitation in Section 6(e) on the conversion of the Series A-1 Preferred Stock), the number of securities of the successor or acquiring corporation or of the Corporation, if it is the surviving corporation, and any additional consideration (the

"Alternate Consideration") receivable as a result of such Fundamental Transaction by a holder of the number of shares of Common Stock for which the Holder's Series A-1 Preferred Stock is convertible immediately prior to such Fundamental Transaction (without regard to any limitation in Section 6(e) on the conversion of the Series A-1 Preferred Stock). For purposes of any such conversion, the determination of the Conversion Price shall be appropriately adjusted to apply to such Alternate Consideration based on the amount of Alternate Consideration issuable in respect of one share of Common Stock in such Fundamental Transaction, and the Corporation shall apportion the Conversion Price among the Alternate Consideration in a reasonable manner reflecting the relative value of any different components of the Alternate Consideration. If holders of Common Stock are given any choice as to the securities, cash or property to be received in a Fundamental Transaction, then each Holder shall be given the same choice as to the Alternate Consideration it receives upon any conversion of the Series A-1 Preferred Stock following such Fundamental Transaction. To the extent necessary to effectuate the foregoing provisions, any successor to the Corporation or surviving entity in such Fundamental Transaction shall file a new Certificate of Designation with the same terms and conditions and issue to the Holders new preferred stock consistent with the foregoing provisions and evidencing the Holders' right to convert such preferred stock into Alternate Consideration. The Corporation shall cause any successor entity in a Fundamental Transaction in which the Corporation is not the survivor (the "Successor Entity") to assume in writing all of the obligations of the Corporation under this Certificate of Designation and the other Transaction Documents in accordance with the provisions of this Section 7(e) pursuant to written agreements in form and substance reasonably satisfactory to the applicable Holder(s) and approved by a majority of such Holder(s) (without unreasonable delay and such majority shall be calculated based on the Stated Values of the Series A-1 Preferred Stock of such Holder(s)) prior to such Fundamental Transaction. Upon the occurrence of any such Fundamental Transaction, the Successor Entity shall succeed to, and be substituted for (so that from and after the date of such Fundamental Transaction, the provisions of this Certificate of Designation and the other Transaction Documents referring to the "Corporation" shall refer instead to the Successor Entity), and may exercise every right and power of the Corporation and shall assume all of the obligations of the Corporation under this Certificate of Designation and the other Transaction Documents with the same effect as if such Successor Entity had been named as the Corporation herein.

f) Calculations. All calculations under this Section 7 shall be made to the nearest cent or the nearest 1/100th of a share, as the case may be. For purposes of this Section 7, the number of shares of Common Stock deemed to be issued and outstanding as of a given date shall be the sum of the number of shares of Common Stock (excluding any treasury shares of the Corporation) issued and outstanding.

g) Notice to the Holders.

i. Adjustment to Conversion Price. Whenever the Conversion Price is adjusted pursuant to any provision of this Section 7, the Corporation shall promptly deliver to each Holder by email a notice setting forth the Conversion Price after such adjustment and setting forth a brief statement of the facts requiring such adjustment.

ii. Notice to Allow Conversion by Holder. If (A) the Corporation shall declare a dividend (or any other distribution in whatever form) on the Common Stock, (B) the Corporation shall declare a special nonrecurring cash dividend on or a repurchase of the Common Stock, (C) the Corporation shall authorize the granting to all holders of the Common Stock in their capacities as such of rights or warrants to subscribe for or purchase any shares of capital stock of any class or of any rights, (D) the approval of any stockholders of the Corporation shall be required in connection with any reclassification of the Common Stock, any consolidation or merger to which the Corporation is a party, any sale or transfer of all or substantially all of the assets of the Corporation (and all of its Subsidiaries, taken as a whole), or any compulsory share exchange whereby the Common Stock is converted into other securities, cash or property or (E) the Corporation shall authorize the voluntary or involuntary dissolution, liquidation or winding up of the affairs of the Corporation, then, in each case, the Corporation shall cause to be delivered by email to each Holder at its last email address as it shall appear upon the stock ledger of the Corporation, at least ten (10) calendar days prior to the applicable record or effective date hereinafter specified, a notice stating (x) the date on which a record is to be taken for the purpose of such dividend, distribution, redemption, rights or warrants, or if a record is not to be taken, the date as of which the holders of the Common Stock of record to be entitled to such dividend, distributions, redemption, rights or warrants are to be determined or (y) the date on which such reclassification, consolidation, merger, sale, transfer or share exchange is expected to become effective or close, and the date as of which it is expected that holders of the Common Stock of record shall be entitled to exchange their shares of the Common Stock for securities, cash or other property deliverable upon such reclassification, consolidation, merger, sale, transfer or share exchange, provided that the failure to deliver such notice or any defect therein or in the delivery thereof shall not affect the validity of the corporate action required to be specified in such notice. To the extent that any notice provided hereunder constitutes, or contains, material, non- public information regarding the Corporation or any of the Subsidiaries, the Corporation shall simultaneously file such notice with the Commission pursuant to a Current Report on Form 8-K. To the extent that the Holder has the right to convert its shares of Series A-1 Preferred Stock under Section 6 hereof, the Holder shall remain entitled to convert its Series A-1 Preferred Stock (or any part hereof) during the 10-day period commencing on the date of such notice through the effective date of the event triggering such notice except as may otherwise be expressly set forth herein.

Section 8. [Reserved]

Section 9. Transfer Restrictions. Any transferee of shares of Series A-1 Preferred Stock shall comply with Section 4.1(e) of the Purchase Agreement, and any attempted sale, assignment or transfer of shares of Series A-1 Preferred Stock made without such compliance shall be void *ab initio* and of no effect.

Section 10. Miscellaneous.

a) Notices. Any and all notices or other communications or deliveries required or permitted to be provided hereunder shall be in writing and shall be deemed given and effective on the earliest of: (a) the time of transmission, if such notice or communication is delivered via facsimile at the facsimile number or email attachment at the e-mail address set forth in the Purchase Agreement at or prior to 5:30 p.m. (New York City time) on a Trading Day, (b) the next Trading

Day after the time of transmission, if such notice or communication is delivered via facsimile or email attachment at the facsimile number or e-mail address set forth in the Purchase Agreement on a day that is not a Trading Day or later than 5:30 p.m. (New York City time) on any Trading Day, (c) the second (2nd) Trading Day following the date of mailing, if sent by U.S. nationally recognized overnight courier service to the address set forth in the Purchase Agreement or (d) upon actual receipt by the party to whom such notice is required to be given. For so long as any shares of Series A-1 Preferred Stock are outstanding, the Corporation agrees that it will appoint its registered agent in the state of Delaware as its agent for service of process. The Corporation's current registered agent is Corporation Service Company maintaining an address at 251 Little Falls Drive, Wilmington, Delaware 19808 and email address of sop@cscglobal.com. Such registered agent shall continue to be a non-exclusive agent for service of process until replaced by another registered agent in the State of Delaware or New York, after notice to the Purchasers in the manner described herein, of such replacement address. All Purchasers must be informed of a change of Registered Agent.

b) Absolute Obligation. To the fullest extent permitted by law, and except as expressly provided herein, no provision of this Certificate of Designation shall alter or impair the obligation of the Corporation, which is absolute and unconditional, to pay liquidated damages, accrued dividends and accrued interest, as applicable, on the shares of Series A-1 Preferred Stock at the time, place, and rate, and in the coin or currency, herein prescribed.

c) Lost or Mutilated Series A-1 Preferred Stock Certificate. In the event a Holder's Series A-1 Preferred Stock is in certificated form, if a Holder's Series A-1 Preferred Stock certificate shall be mutilated, lost, stolen or destroyed, the Corporation shall execute and deliver, in exchange and substitution for and upon cancellation of a mutilated certificate, or in lieu of or in substitution for a lost, stolen or destroyed certificate, a new certificate for the shares of Series A-1 Preferred Stock so mutilated, lost, stolen or destroyed, but only upon receipt of evidence of such loss, theft or destruction of such certificate, an indemnity in form and substance reasonably satisfactory to the Corporation, and of the ownership hereof reasonably satisfactory to the Corporation.

d) Governing Law. All questions concerning the construction, validity, enforcement and interpretation of this Certificate of Designation shall be governed by and construed and enforced in accordance with the internal laws of the State of Delaware, without regard to the principles of conflict of laws thereof. All legal proceedings concerning the interpretation, enforcement and defense of the transactions contemplated by any of the Transaction Documents (whether brought against a party hereto or its respective Affiliates, directors, officers, shareholders, employees or agents) shall be commenced in the state and federal courts sitting in the City of New York, Borough of Manhattan (the "New York Courts"). The Corporation and each Holder hereby irrevocably submits to the exclusive jurisdiction of the New York Courts for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein (including with respect to the enforcement of any of the Transaction Documents), and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of such New York Courts, or such New York Courts are improper or inconvenient venue for such proceeding. The Corporation and each Holder hereby irrevocably waives personal service of process and consents to process being served in any

such suit, action or proceeding by mailing a copy thereof via registered or certified mail or overnight delivery (with evidence of delivery) to such party at the address in effect for notices to it under this Certificate of Designation and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any other manner permitted by applicable law. The Corporation and each Holder hereby irrevocably waives, to the fullest extent permitted by applicable law, any and all right to trial by jury in any legal proceeding arising out of or relating to this Certificate of Designation or the transactions contemplated hereby. If the Corporation or any Holder shall commence an action or proceeding to enforce any provisions of this Certificate of Designation, then the prevailing party in such action or proceeding shall be reimbursed by the other party for its attorneys' fees and other costs and expenses incurred in the investigation, preparation and prosecution of such action or proceeding.

e) Waiver. Any waiver by the Corporation or a Holder of any rights hereunder or any breach of any provision of this Certificate of Designation shall not operate as or be construed to be a waiver of any other rights hereunder or any other breach of such provision or of any breach of any other provision of this Certificate of Designation or a waiver by any other Holders. The failure of the Corporation or a Holder to insist upon strict adherence to any term of this Certificate of Designation on one or more occasions shall not be considered a waiver or deprive that party (or any other Holder) of the right thereafter to insist upon strict adherence to that term or any other term of this Certificate of Designation on any other occasion. Any waiver by the Corporation or a Holder must be in writing.

f) Severability. If any provision of this Certificate of Designation is invalid, illegal or unenforceable, the balance of this Certificate of Designation shall remain in effect, and if any provision is inapplicable to any Person or circumstance, it shall nevertheless remain applicable to all other Persons and circumstances. If it shall be found that any interest or other amount deemed interest due hereunder violates the applicable law governing usury, the applicable rate of interest due hereunder shall automatically be lowered to equal the maximum rate of interest permitted under applicable law.

g) Next Business Day. Whenever any payment or other obligation hereunder shall be due on a day other than a Business Day, such payment shall be made on the next succeeding Business Day.

h) Headings. The headings contained herein are for convenience only, do not constitute a part of this Certificate of Designation and shall not be deemed to limit or affect any of the provisions hereof.

i) Status of Converted or Repurchased Series A-1 Preferred Stock. If any shares of Series A-1 Preferred Stock shall be converted, repurchased or reacquired by the Corporation, such shares shall be retired and resume the status of authorized but unissued shares of Preferred Stock and shall no longer be designated as Series A-1 Preferred Stock.

RESOLVED, FURTHER, that the chief executive officer, the president or any vice-president, and the secretary or any assistant secretary, of the Corporation be and they hereby are authorized and directed to prepare and file this Second Amended and Restated Certificate of Designation of Preferences, Rights and Limitations in accordance with the foregoing resolution and the provisions of Delaware law.

IN WITNESS WHEREOF, the undersigned have executed this Second Amended and Restated Certificate this 20th day of December, 2024.

/s/ Ian Jenks	/s/ Barbra Keck
_____	_____
Name: Ian Jenks	Name: Barbra Keck
Title: Chief Executive Officer	Title: Secretary

ANNEX A

NOTICE OF CONVERSION

(TO BE EXECUTED BY THE REGISTERED HOLDER IN ORDER TO CONVERT SHARES OF SERIES A-1 PREFERRED STOCK)

The undersigned hereby elects to convert the number of shares of Series A-1 Convertible Preferred Stock ("Preferred Stock") indicated below into shares of common stock, par value $0.0001 per share (the "Common Stock"), of SmartKem, Inc., a Delaware corporation (the "Corporation"), according to the conditions hereof, as of the date written below. If shares of Common Stock are to be issued in the name of a Person other than the undersigned, the undersigned will pay all transfer taxes payable with respect thereto and is delivering herewith such certificates and opinions as may be required by the Corporation in accordance with the Purchase Agreement. No fee will be charged to the Holders for any conversion, except for any such transfer taxes.

Conversion calculations:

Date to Effect Conversion: _

Number of shares of Preferred Stock owned prior to Conversion: _

Number of shares of Preferred Stock to be Converted: _

Stated Value of shares of Preferred Stock to be Converted: _

Number of shares of Common Stock to be Issued: _

Number of Class C Warrants to be Issued (if applicable): _

Applicable Conversion Price: _

Number of shares of Preferred Stock subsequent to Conversion: _

Address for Delivery: _
or
DWAC Instructions: Broker no:
_ Account no:
_ _

[HOLDER]

By:_ Name:
Title:

Exhibit 4.4

DESCRIPTION OF THE REGISTRANT'S SECURITIES REGISTERED PURSUANT TO SECTION 12 OF THE SECURITIES EXCHANGE ACT OF 1934

The following is a summary of information concerning capital stock of SmartKem, Inc. ("us," "our," "we" or the "Company") and certain provisions of our Certificate of Incorporation (defined below) and Bylaws (defined below) currently in effect. This summary does not purport to be complete and is qualified in its entirety by the provisions of our Amended and Restated Certificate of Incorporation, as amended to date (the "Certificate of Incorporation"), and Amended and Restated Bylaws (the "Bylaws"), each previously filed with the Securities and Exchange Commission ("SEC") and incorporated by reference as an exhibit to the Annual Report on Form 10-K, as well as to the applicable provisions of the Delaware General Corporation Law (the "DGCL"). We encourage you to read our Certificate of Incorporation, Bylaws and the applicable portions of the DGCL carefully.

General

We have authorized capital stock consisting of 300,000,000 shares of common stock and 10,000,000 shares of preferred stock.

Common Stock

Voting Rights

Each holder of common stock is entitled to one vote for each share on all matters submitted to a vote of the stockholders, including the election of directors. Our Certificate of Incorporation and our Bylaws do not provide for cumulative voting rights. Because of this, the holders of a plurality of the shares of common stock entitled to vote in any election of directors can elect all of the directors standing for election, if they should so choose. With respect to matters other than the election of directors, at any meeting of the stockholders at which a quorum is present or represented, the affirmative vote of a majority of the voting power of the shares present in person or represented by proxy at such meeting and entitled to vote on the subject matter shall be the act of the stockholders, except as otherwise required by law. The holders of one-third of the stock issued and outstanding and entitled to vote, present in person or represented by proxy, shall constitute a quorum for the transaction of business at all meetings of the stockholders.

Dividends

Subject to preferences that may be applicable to any then-outstanding convertible preferred stock, holders of our common stock are entitled to receive dividends, if any, as may be declared from time to time by our board of directors out of legally available funds.

We have never paid cash dividends on our common stock. Moreover, we do not anticipate paying periodic cash dividends on our common stock for the foreseeable future. Any future determination about the payment of dividends will be made at the discretion of our board of directors and will depend upon our earnings, if any, capital requirements, operating and financial conditions, contractual restrictions, including any loan or debt financing agreements, and on such other factors as our board of directors deems relevant.

Liquidation

In the event of our liquidation, dissolution, or winding up, holders of our common stock will be entitled to share ratably in the net assets legally available for distribution to stockholders after the payment of all of our debts and other liabilities and the satisfaction of any liquidation preference granted to the holders of any then-outstanding shares of preferred stock.

Preferred Stock

We currently have 10,000,000 shares of preferred stock authorized and available for issuance in one or more series. Our board of directors has the authority, without further action by the stockholders to fix the rights, preferences, privileges and restrictions thereof. These rights, preferences, and privileges could include dividend rights, conversion rights, voting rights, redemption rights, liquidation preferences, sinking fund terms, and the number of shares constituting any series or the designation of such series, any or all of which may be greater than the rights of common stock. The issuance of preferred stock could adversely affect the voting power of holders of common stock and the likelihood that such holders will receive dividend payments and payments. Currently 11,100 shares have been designated as Series A-1 Convertible Preferred Stock, stated value $10,000 per share (the "Series A-1 Preferred Stock") and 856 shares of Series A-1 Preferred Stock are currently outstanding.

Series A-1 Preferred Stock

The following is a summary of the principal terms of the Series A-1 Preferred Stock as set forth in the Second Amended and Restated Certificate of Designation of the Series A-1 Preferred Stock (the "Series A-1 Certificate of Designation"):

Dividends

The holders of Series A-1 Preferred Stock will be entitled to dividends, on an as-if converted basis, equal to and in the same form as dividends actually paid on shares of common stock, when and if actually paid.

Voting Rights

The shares of Series A-1 Preferred Stock have no voting rights, except to the extent required by the Delaware General Corporation Law.

As long as any shares of Series A-1 Preferred Stock are outstanding, the Company may not, without the approval of the holders of a majority of the then outstanding shares of Series A-1 Preferred Stock which must include AIGH Investment Partners LP and its affiliates ("AIGH") for so long as AIGH is holding at least $1,500,000 in aggregate stated value of Series A-1 Preferred Stock (a) alter or change the powers, preferences or rights given to the Series A-1 Preferred Stock, (b) alter or amend the Charter, the Series A-1 Certificate of Designation or the Bylaws in such a manner so as to materially adversely affect any rights given to the Series A-1 Preferred Stock, (c) increase the number of authorized shares of Series A-1 Preferred Stock, (d) issue any Series A-1 Preferred Stock except pursuant to the Purchase Agreement, or (e) enter into any agreement to do any of the foregoing.

Liquidation

Upon any liquidation, dissolution or winding-up of the Company, whether voluntary or involuntary (a "Liquidation"), the then holders of the Series A-1 Preferred Stock are entitled to receive, *pari passu* with holders of the common stock, out of the assets available for distribution to stockholders of the Company an amount equal to the amount that would otherwise be payable to them if all of the shares of Series A-1 Preferred Stock had converted into shares of Common Stock immediately prior to such Liquidation.

Conversion

The Series A-1 Preferred Stock is convertible into common stock at a conversion price of $4.34.

Conversion at the Option of the Holder

From and after the earlier of (i) the date on which the registration statement covering the resale or other disposition of the additional shares of common stock that are issuable as a result of the Second Amended and Restated Certificate of Designation of the Series A-1 Preferred Stock is declared effective by the SEC (the "Effective Date") and (ii) the six-month anniversary of December 20, 2024, the Series A-1 Preferred Stock is convertible at the then-effective Series A-1 Conversion Price at the option of the holder at any time and from time to time.

Mandatory Conversion at the Option of the Company

All outstanding shares of Series A-1 Preferred Stock shall automatically be converted into shares of Common Stock upon the earlier of (i) the Effective Date and (ii) the date and time, or upon the occurrence of an event, specified by vote or written consent of the holders of a majority of the then outstanding shares of the Series A-1 Preferred Stock which must include AIGH for so long as AIGH is holding at least $1,500,000 in aggregate Stated Value of Series A-1 Preferred Stock (a "Mandatory Conversion"). In the case of a Mandatory Conversion, the holders of Series A-1 Preferred Stock shall receive (i) shares of shares in an amount that would not cause such holder to exceed its Beneficial Ownership Limitation (as defined below) (after giving effect to the Mandatory Conversion of shares of Series A-1 Preferred Stock held by the other holders), and (ii) Class C Warrants exercisable for the remaining shares which the holder would otherwise be entitled to receive.

Beneficial Ownership Limitation

The Series A-1 Preferred Stock cannot be converted to common stock if the holder and its affiliates would beneficially own more than 4.99% (or 9.99% at the election of the holder) of the outstanding common stock (the "Beneficial Ownership Limitation"). However, any holder may increase or decrease such percentage to any other percentage not in excess of 9.99% upon notice to us, provided that any increase in this limitation will not be effective until 61 days after such notice from the holder to us and such increase or decrease will apply only to the holder providing such notice.

Preemptive Rights

No holders of Series A-1 Preferred Stock will, as holders of Series A-1 Preferred Stock, have any preemptive rights to purchase or subscribe for common stock or any of our other securities.

Redemption

The shares of Series A-1 Preferred Stock are not redeemable by the Company.

Trading Market

There is no established trading market for any of the Series A-1 Preferred Stock, and we do not expect a market to develop. We do not intend to apply for a listing for any of the Series A-1 Preferred Stock on any securities exchange or other nationally recognized trading system. Without an active trading market, the liquidity of the Series A-1 Preferred Stock will be limited.

Anti-Takeover Effects of Certain Provisions of Delaware Law, Our Certificate of Incorporation and Our Bylaws

Certain provisions of Delaware law and certain provisions included in our Certificate of Incorporation and in our Bylaws summarized below may be deemed to have an anti-takeover effect and may delay, deter, or prevent a tender offer or takeover attempt that a stockholder might consider to be in its best interests, including attempts that might result in a premium being paid over the market price for the shares held by stockholders.

Preferred Stock

Our Certificate of Incorporation contains provisions that permit our board of directors to issue, without any further vote or action by the stockholders, shares of preferred stock in one or more series and, with respect to each such series, to fix the number of shares constituting the series and the designation of the series, the voting rights (if any) of the shares of the series and the powers, preferences, or relative, participation, optional, and other special rights, if any, and any qualifications, limitations, or restrictions, of the shares of such series.

Removal of Directors

Our Certificate of Incorporation provides that stockholders may only remove a director for cause.

Director Vacancies

Our Certificate of Incorporation authorizes only our board of directors to fill vacant directorships.

No Cumulative Voting

Our Certificate of Incorporation does not provide stockholders with the right to cumulate votes in the election of directors.

Special Meetings of Stockholders

Our Certificate of Incorporation and Bylaws provide that, except as otherwise required by law, special meetings of the stockholders may be called only by the chairperson of our board of directors, the chief executive officer, or our board of directors.

Advance Notice Procedures for Director Nominations

Our bylaws provide that stockholders seeking to nominate candidates for election as directors at an annual or special meeting of stockholders must provide timely notice thereof in writing. To be timely, a

stockholder's notice generally will have to be delivered to and received at our principal executive offices before notice of the meeting is issued by our secretary, with such notice being served not less than 90 nor more than 120 days before the meeting. Although the Bylaws do not give the board of directors the power to approve or disapprove stockholder nominations of candidates to be elected at an annual meeting, the Bylaws may have the effect of precluding the conduct of certain business at a meeting if the proper procedures are not followed or may discourage or deter a potential acquirer from conducting a solicitation of proxies to elect its own slate of directors or otherwise attempting to obtain control of our company.

Action by Written Consent

Our Certificate of Incorporation and Bylaws provide that any action to be taken by the stockholders must be effected at a duly called annual or special meeting of stockholders and may not be effected by written consent.

Amending our Certificate of Incorporation and Bylaws

Our Certificate of Incorporation provides that the affirmative vote of at least 66 2/3% of the votes entitled to be cast by holders of all outstanding shares then entitled to vote, voting together as a single class, is required to amend certain provisions of our Certificate of Incorporation.

Our Bylaws may be adopted, amended, altered or repealed by stockholders only upon approval of at least 66 2/3% of the votes entitled to be cast by holders of all outstanding shares then entitled to vote, voting together as a single class. Additionally, our Certificate of Incorporation provides that our bylaws may be amended, altered or repealed by the board of directors.

Authorized but Unissued Shares

Our authorized but unissued shares of common stock and preferred stock will be available for future issuances without stockholder approval, except as required by the listing standards of any exchange upon which our common stock may become listed, and could be utilized for a variety of corporate purposes, including future offerings to raise additional capital, acquisitions and employee benefit plans. The existence of authorized but unissued and unreserved common stock and preferred stock could render more difficult or discourage an attempt to obtain control of our company by means of a proxy contest, tender offer, merger, or otherwise.

Exclusive Jurisdiction

Our Certificate of Incorporation provides that, unless we consent to the selection of an alternative forum, the Court of Chancery of the State of Delaware, or if the Court of Chancery does not have jurisdiction, the federal district court for the District of Delaware, is the exclusive forum for (i) any derivative action or proceeding brought on behalf of us, (ii) any action asserting a claim of breach of a fiduciary duty owed by any current or former director, officer, or other employee to the us or our stockholders, (iii) any action arising pursuant to any provision of the DGCL or our certificate of incorporation or bylaws (as either may be amended from time to time), or (iv) (A) any action asserting a claim governed by the internal affairs doctrine of the law of the State of Delaware shall, to the fullest extent permitted by law, be exclusively brought in the Court of Chancery of the State of Delaware or, if such court does not have subject matter jurisdiction thereof, the federal district court of the State of Delaware and (B) the federal district courts of the United States shall be the exclusive forum for the resolution of any complaint asserting a cause of

action arising under the Securities Act of 1933, as amended. Section 27 of the Exchange Act creates exclusive federal jurisdiction over all suits brought to enforce any duty or liability created by the Exchange Act or the rules and regulations thereunder. As a result, the exclusive forum provision will not apply to actions arising under the Exchange Act or the rules and regulations thereunder. Although our Certificate of Incorporation contains the exclusive forum provisions described above, it is possible that a court could find that such provision is inapplicable for a particular claim or action or that such provision is unenforceable, and our stockholders will not be deemed to have waived our compliance with the federal securities laws and the rules and regulations thereunder.

Delaware Anti-Takeover Statute

We are subject to Section 203 of the DGCL, which prohibits a person deemed an "interested stockholder" from engaging in a "business combination" with a publicly held Delaware corporation for three years following the date such person becomes an interested stockholder unless the business combination is, or the transaction in which the person became an interested stockholder was, approved in a prescribed manner or another prescribed exception applies. Generally, an "interested stockholder" is a person who, together with affiliates and associates, owns, or within three years prior to the determination of interested stockholder status did own, 15% or more of a corporation's voting stock. Generally, a "business combination" includes a merger, asset or stock sale, or other transaction resulting in a financial benefit to the interested stockholder. The existence of this provision may have an anti-takeover effect with respect to transactions not approved in advance by the board of directors, such as discouraging takeover attempts that might result in a premium over the price of our common stock.

Listing

Our common stock is listed on the Nasdaq Capital Market under the ticker symbol "SMTK."

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Equiniti Trust Company, LLC.

Exhibit 10.31

CERTAIN IDENTIFIED INFORMATION HAS BEEN EXCLUDED FROM THIS EXHIBIT BECAUSE IT IS NOT MATERIAL AND IS THE TYPE OF INFORMATION THAT THE REGISTRANT CUSTOMARILY AND ACTUALLY TREATS AS PRIVATE AND CONFIDENTIAL. REDACTED INFORMATION IS INDICATED BY [**]

Smartkem Limited,
Manchester Technology Centre,
Hexagon Tower,
Delaunays Road,
Blackley,
Manchester, M9 8GQ

25 March 2025

Dear Sirs,

Letter of Variation to extend and vary the Framework Supply Agreement dated 22 March 2024 ("Agreement") between CPI Innovation Services Limited ("CPIIS") and Smartkem Limited ("Smartkem").

This letter agreement is made between CPIIS and Smartkem (together the "Parties").

By both Parties executing this letter agreement and in consideration of the Parties agreeing to the obligations contained hereunder, the Parties have agreed to vary the Agreement to extend the Term (as defined in the Agreement) and agree an additional Minimum Spend and monthly extension fee for the extended period, as set out as follows:

1. Extension of the Term

The Term of the Agreement is extended from 31st March 2025 to 30th May 2025 (the Extended Period).

2. Minimum Spend

(a) During the Extended Period, Smartkem's Minimum Spend shall be £[**] (plus VAT) per month.

(b) The Take or Pay Date(s) for this Minimum Spend are 30th April 2025 and 30th May 2025.

3. Monthly Extension Fee

(a) In addition to the Minimum Spend, Smartkem shall pay CPIIS a monthly extension fee of £[**] (plus VAT) per month (the Monthly Extension Fee) during the Extended Period.

(b) The Monthly Extension Fee is intended to compensate CPIIS for broader commercial considerations associated with CPIIS extending the Agreement (including but not limited to increased cost of utilities and consumables).

4. Utilities and Consumables

(a) The Monthly Extension Fee includes a sum of £[**] per month to cover Smartkem's allocated share of utilities and consumable costs during the Extended Period.

(b) Where CPIIS, acting reasonably, determines with accuracy that the cost of providing utilities and consumables deviates significantly from this amount, CPIIS reserves the right, at its discretion, to adjust the amount due accordingly.

(c) If CPIIS proposes an adjustment under clause 4(b), it shall notify Smartkem, and both Parties, acting reasonably and in good faith, shall agree on a final adjustment and establish a plan to address any necessary credit for overpaid amounts or additional payment for any shortfall.

5. Machine Unavailability

(a) Any disruption to Smartkem's ability to meet the Minimum Spend due to significant unavailability of CPIIS machinery or equipment, caused by Pragmatic's exit from the facility, shall be handled in accordance with the relevant provisions of the Agreement addressing equipment or machinery unavailability.

(b) In the event of such disruption, a fair, reasonable, and proportionate adjustment to the Monthly Extension Fee shall also be made. The adjustment will be agreed upon by both Parties, acting reasonably and in good faith, and will consider:

(i) The level of disruption experienced; and
(ii) The impact on the consumption of utilities and consumables.

(c) Any adjustment agreed in writing shall be credited against future payments owed by Smartkem.

6. Payment Obligations

Subject to any adjustments agreed in writing under Sections 4 and 5, the Minimum Spend and Monthly Extension Fee shall at all times be payable by Smartkem to CPIIS in full by no later than the respective Take or Pay Date.

7. Relationship to Existing Agreement

The Minimum Spend and Monthly Extension Fee(s) under this letter agreement are separate from, and in addition to, any Minimum Spend payable under the Agreement for the original Term (1st April 2024 - 31st March 2025).

In the event of any conflict between the provisions of this letter agreement and the Agreement, the provisions of this letter agreement shall prevail, but for the avoidance of doubt, to the extent that the provisions of this letter agreement merely expand upon and supplement the provisions of the Agreement, they shall not be held to be in conflict with them.

This letter agreement and any dispute or claim (including non-contractual disputes or claims) arising out of or in connection with it or its subject matter or formation shall be governed by and interpreted in accordance with the law of England and Wales, and any such dispute or claim shall be subject to the exclusive jurisdiction of the courts of England and Wales.

The Parties agree that the above variation to the Agreement shall be legally binding and shall validly vary the Agreement (including any subsequent or earlier Variations that have occurred prior to this variation) with full force and effect from the date this letter agreement is executed by both Parties. In all other respects the Parties confirm all other provisions in the Agreement will remain unchanged.

This letter agreement shall not be legally binding or take effect until it has been duly executed by both Parties.

Signed for and on behalf of
CPI Innovation Services Limited:-

Signature: /s/ Rahul Kapoor

Name: Rahul Kapoor

Position: Director of HealthTech

Date: 28-March-25

Signed for and on behalf of
Smartkem Limited:-

Signature: /s/ Ian Jenks

Name: Ian Jenks

Position: CEO

Date: 28-March-25

Exhibit 10.32

Dated:25 March 2025

CPI INNOVATION SERVICES LIMITED

And

SMARTKEM LIMITED

Licence of Office Space

known as F-23 at The Neville Hamlin Building, Thomas Wright Way, NETPark, Sedgefield, TS21 3FG

Contents

Clause **Page**

This Licence is dated 2025

Between

CPI INNOVATION SERVICES LIMITED, incorporated and registered in England and Wales with company number 05735040 whose registered office is at The Wilton Centre, Wilton, Redcar, Cleveland TS10 4RF ("Licensor");

SMARTKEM LIMITED incorporated and registered in England and Wales with company number 06652152 whose registered office is at Manchester Technology Center Hexagon Tower, Delaunays Road, Blackley, Manchester, England, M9 8GQ ("Licensee").

It is agreed as follows: -

1. **Definitions and Interpretation**

1.1. In this licence, unless stated otherwise, the following words and expressions shall have the following meanings: -

"Accommodation Services"	means the services set out in Schedule 3;
"Additional Services"	means the services set out in Schedule 4;
"Act of Insolvency"	means:

(i) the taking of any step in connection with any voluntary arrangement or any other compromise or arrangement for the benefit of any creditors of the Licensee;

(ii) the making of an application for an administration order or the making of an administration order in relation to the Licensee;

(iii) the giving of any notice of intention to appoint an administrator, or the filing at court of the prescribed documents in connection with the appointment of an administrator, or the appointment of an administrator, in any case in relation to the Licensee;

(iv) the appointment of a receiver or manager or an administrative receiver in relation to any property or income of the Licensee;

(v) the commencement of a voluntary winding-up in respect of the Licensee or any guarantor, except a winding-up for the purpose of amalgamation or reconstruction of a solvent company in respect of which a statutory declaration of solvency has been filed with the Registrar of Companies;

(vi) the making of a petition for a winding-up order or a winding-up order in respect of the Licensee;

(vii) the striking-off of the Licensee or any guarantor from the Register of Companies or the making of an application for the Licensee to be struck-off;

(viii) the Licensee or any guarantor otherwise ceasing to exist (but excluding where the Licensee dies); or

(ix) the making of an application for a bankruptcy order, the presentation of a petition for a bankruptcy order or the making of a bankruptcy order against the Licensee.

(x) The paragraphs above shall apply in relation to a partnership or limited partnership (as defined in the Partnership Act 1890 and the Limited Partnerships Act 1907 respectively) subject to the modifications referred to in the Insolvent Partnerships Order 1994 (*SI 1994/2421*) (as amended), and a limited liability partnership (as defined in the Limited Liability Partnerships Act 2000) subject to the modifications referred to in the Limited Liability Partnerships Regulations 2001 (*SI 2001/1090*) (as amended).

(xi) Act of Insolvency includes any analogous proceedings or events that may be taken pursuant to the legislation of another jurisdiction in relation to a Licensee incorporated or domiciled in such relevant jurisdiction.

"Centre"	means all that land and buildings known as the "National Printable Electronics Centre" NETPark, Thomas Wright Way, Sedgefield, TS21 3FG or such reduced or extended area as the Licensor may from time to time designate as comprising the Centre;
"Common Parts"	means all such roads, paths, entrance halls, corridors, lifts, staircases, landing and other means of access in or upon the Centre the use of which is necessary for obtaining access to and egress from the Office Space as designated from time to time by the Licensor;
"Competent Authority"	means any statutory undertaker or any statutory public local or other authority or regulatory body or any court of law or government department or any of them or any of their duly authorised officers;
"Designated Hours"	means the hours of 8am – 7.30pm on Monday to Friday inclusive but excluding Bank Holidays or such other hours as the Licensor in its absolute discretion may determine on 28 days' notice to the Licensee;

“Hazardous Substances”	means dangerous, hazardous, toxic or highly flammable substances, materials, effluents or waste pollutants, contaminants or radioactive substances, genetically modified organisms, micro-organisms and any substances whether natural or artificial, solid or liquid, gas or vapour or any mixture thereof which may cause harm to the health of any living organisms or may interfere with the ecological systems of which form part or may cause harm to property or which may result in the pollution of the environment;
“Interior”	means the internal coverings of the walls of the Office Space and the floor and ceiling finishes of the Office Space and the doors and door-frames and the windows and window-frames of the Office Space;
“Landlord”	means The County Council of Durham and Sedgefield Borough Council who is the landlord under the Lease pursuant to which the Licensor occupies the Centre;
“Lease”	means the lease by which the Licensor holds the Centre, which is dated 3 August 2007 and made between (1) The County Council of Durham and Sedgefield Borough Council and (2) Centre for Process Innovation Limited;
“Licence Fee”	means the office accommodation charges set out in Schedule 1;
“Licence Commencement Date”	means the date upon which the Office Space is made available to the Licensee set out in Schedule 1;
“Licence Period”	means the period for which the Licensee is licensed to use the Office Space under Clause 4 and set out in Schedule 1;
“Necessary Consents”	means all planning permissions and all other consents, licences, permissions, certificates, authorisations and approvals whether of a public or private nature which shall be required by any Competent Authority for the Permitted Use;
“Permitted Use”	means office use within Class B1 of the Town and Country Planning (Use Classes) Order 1987 as at the date this licence is granted for use only in connection with the purpose set out in Schedule 1;
“Permitted Users”	means employees of the Licensee who have successfully completed the Licensor’s building induction procedures for the Centre;
“Office Space”	means the office space described in Schedule 1 and shown on the plan attached at Schedule 1 within the Centre which shall include all fixtures and fittings thereon and where relevant such parts of it as the Licensee shall occupy from

	time to time under this licence;
“Service Media”	means all media for the supply or removal of heat, electricity, gas, water, sewage, air-conditioning, energy, telecommunications, data and all other services and utilities and all structures, machinery and equipment ancillary to those media;
“Site Services”	means the Accommodation Services and (where provided) the Additional Services;
“VAT”	means Value Added Tax chargeable under the Value Added Tax Act 1994 or any similar replacement or additional tax.

1.2. Clause, annex, schedule and paragraph headings shall not affect the interpretation of this licence.

1.3. A person includes a natural person, corporate or unincorporated body (whether or not having separate legal personality).

1.4. The schedules form part of this licence and shall have effect as if set out in full in the body of this licence and any reference to this licence includes the schedules.

1.5. A reference to a company shall include any company, corporation or other body corporate, wherever and however, incorporated or established.

1.6. Words in the singular shall include the plural and vice versa.

1.7. A reference to one gender shall include a reference to the other genders.

1.8. A reference to a statute or statutory provision is a reference to it as it is in force for the time being, taking account of any amendment, extension, or re-enactment and includes any subordinate legislation for the time being in force made under it; provided that, as between the parties, no such amendment or re-enactment shall apply for the purposes of this licence to the extent that it would impose any new or extended obligation, liability or restriction on, or otherwise adversely affect the rights of, any party.

1.9. A reference to writing or written excludes faxes and e-mail.

1.10. Any obligation in this licence on a person not to do something includes an obligation not to agree or allow that thing to be done and to prevent such act or thing being done by a third party.

1.11. References to clauses, annexes and schedules are to the clauses, annexes and schedules of this licence; references to paragraphs are to paragraphs of the relevant schedule.

1.12. Any phrase introduced by the terms including, include, in particular or any similar expression shall be construed as illustrative and shall not limit the sense of the words preceding those terms.

2. **Licence of Office Space**

2.1. Subject to clause 3 and clause 4, the Licensor permits the Licensee, through its Permitted Users only, to use the Office Space on an “as is” basis, without warranties, for the Permitted Use for the Licence Period during the Designated Hours jointly with the Licensor and all others authorised by the Licensor together with the rights referred to in Schedule 2.

2.2. The Licensee acknowledges that:

2.2.1. the Licensee shall use the Office Space as a licensee and that no relationship of landlord and tenant is created between the Licensor and the Licensee by this licence; and

2.2.2. the Licensor retains control, possession and management of the Office Space and the Licensee has no right to exclude the Licensor from the Office Space and shall not have exclusive possession of the Office Space; and

2.2.3. the licence granted by this licence is personal to the Licensee and is not assignable and the rights given in clause 2 may only be exercised by Permitted Users of the Licensee; and

2.2.4. without prejudice to its rights under clause 4, the Licensor shall be entitled at any time on giving not less than 14 days’ notice to require the Licensee to transfer to comparable alternative space elsewhere within the Centre and the Licensee shall comply with such requirement bearing the costs of moving to any alternative space.

3. **Licensee's Obligations**

The Licensee agrees and undertakes:

3.1. To pay to the Licensor:

3.1.1. the Licence Fee for each room area, as indicated in the schedule appended, occupied by it payable without any deduction in advance on the first day of each month and proportionately for any period of less than a month the first such payment being for the period from the Licence Commencement Date to the end of the month following; and

3.1.2. such VAT as may be payable on the Licence Fee.

3.2. To keep the Office Space clean, tidy and clear of rubbish and the Interior in good decorative order and condition.

3.3. To permit the Licensor, the Landlord and all persons authorised by them to enter the Office Space to:

3.3.1. inspect its condition, state of repair and decoration; and

3.3.2. to carry out such works within the Office Space as the Licensor, the Landlord or their insurers consider are reasonably required.

3.4. Not to cause or permit to be caused any damage to the Office Space or the Centre or to any property of the owners or occupiers of the Office Space or the Centre and to take out and maintain insurance with a reputable insurer to cover any such damage which may be caused (evidence of which must be provided to the Licensor on request).

3.5. To notify the Licensor promptly in the event of the Licensee identifying decorative or structural issues in or on, or in the event of damage to, the Office Space or the Centre.

3.6. To comply with Schedule 7 and the Health and Safety regulations appropriate to the activities carried out including but not limited to:

3.6.1. complying with the need for the Licensor's scheduled audits of procedures and protocols to ensure the continued safety of operations; and

3.6.2. supplying all necessary information regarding activities (risk assessments, material safety data sheets and COSHH documentation) (any such information, if so labelled, will be treated as Confidential as per any agreed contract associated with the use of the facilities)

3.7. Not to use the Office Space other than for the Permitted Use.

3.8. Not to make any alteration or addition whatsoever to the Office Space or its Interior or the Centre whether such alterations or additions are of a structural or non-structural nature without the prior written consent of the Licensor (which may be withheld in the Licensor's absolute discretion).

3.9. Not to display any advertisement, signboards, nameplate, inscription, flag, banner, placard, poster, signs or notices at the Office Space or elsewhere in the Centre without the prior written consent of the Licensor (which may be withheld in the Licensor's absolute discretion).

3.10. Not to do or permit to be done on the Office Space anything which is illegal or which may be or become a nuisance, (whether actionable or not) damage, annoyance, inconvenience or disturbance to the Licensor or any licensees of neighbouring office space, or other occupiers of the Centre or any neighbouring buildings to the Centre.

3.11. Not to do anything which might cause (directly or indirectly) any Hazardous Substances from the Centre to discharge into any service media or into the environment and in discharging any effluent or any waste to comply with the requirements of all applicable statues or other requirements.

3.12. Not to do anything which might result in any costs or liabilities as a result of or in connection with the presence in or under the Centre or any adjoining premises of any Hazardous Substances or any controlled waste as defined in the Environmental Protection Act 1990 including any costs and liabilities relating to the cleaning or removal of any substance.

3.13. Not to obstruct the Common Parts, make them dirty or untidy, leave any rubbish on them or store any goods or other items on them.

3.14. Not to commit any breach of planning control or apply for any planning permission in respect of the Office Space or the Centre.

3.15. Not to assign, sublicense, share (save with the Licensor as herein provided) or hold on trust the Office Space, nor otherwise part with its rights under this licence.

3.16. Not to do anything that will or might constitute a breach of any Necessary Consents affecting the Office Space or which will or might vitiate in whole or in part any insurance effected by the Licensor in respect of the Office Space or the Centre or which may increase the rate of premium payable for the same or render the premium liable to additional loading and to comply with all recommendations of the insurers thereunder as notified to the Licensee.

3.17. To comply with all laws and with any recommendations of the relevant suppliers relating to the supply and removal of electricity, gas, water, sewerage, telecommunications data and other services and utilities to or from the Office Space or the Centre.

3.18. To observe any rules and regulations the Licensor makes and notifies to the Licensee from time to time governing the Licensee's use of the Office Space and the Common Parts.

3.19. To leave the Office Space in a clean and tidy condition and to remove the Licensee's furniture equipment and goods from the Office Space at the end of the Licence Period.

3.20. That it hereby indemnifies the Licensor in full and keeps the Licensor indemnified in full against, and holds the Licensor harmless from all losses, claims, demands, actions, proceedings, damages, costs, expenses or other liability in any way arising from:

3.20.1. the Licensee’s use of the Office Space and/or the Licensee’s presence in the Centre during the Licence Period; and/or

3.20.2. any breach of the Licensee's undertakings contained in clause 3; and/or

3.20.3. the exercise of any rights given in clause 2.

3.21. That it shall not do anything on or in relation to the Office Space or to the Centre that would, or might, cause the Licensor to be in breach of the conditions contained in this licence.

3.22. That if the Licensee shall fail to pay the Licence Fee or any other payments due under this licence within 7 (seven) days of the due date (whether formally demanded or not), it shall pay to the Licensor interest on the Licence Fee or other payments due at the rate of 4% per annum above the base lending rate of Barclays Bank plc from time to time calculated on a daily basis from the due date until payment.

3.23. To comply with the requirements of Schedule 6.

3.24. That, where so requested by the Licensor, it shall procure that all of the Permitted Users shall in a personal capacity sign the Licensor’s standard non-disclosure

agreement from to time.

3.25. To inform the Licensor in advance of any visitors the Licensee wishes to bring to the Centre or the Office Space, to host any such visitors at all times while in the Centre or the Office Space and to comply with any further requirements which the Licensor may prescribe with regard to visitors as notified to the Licensee from time to time.

3.26. To ensure that the appearance of the Office Space (including but not limited to the appearance of furniture, furnishings and other contents) is at all times smart, of professional appearance, and not out of character with the general appearance of adjoining offices, meeting rooms and the Common Parts, and that the Office Space will not be filled with excessive quantities of contents, nor used for storage.

3.27. To respect the privacy, confidentiality, and not to interfere with the working practices, of other users of the Centre.

4. **Term and Termination**

The licence granted by this licence shall commence on the Licence Commencement Date and shall end on the earliest of:

4.1. the Licensor giving notice to the Licensee at any time of breach of any of the Licensee's obligations contained in clause 3, which shall, in the absence of a remedy period (at the Licensor's sole discretion) be effective immediately when served; or

4.2. on not less than 2 months' written notice given by the Licensor to the Licensee or by the Licensee to the Licensor; or

4.3. on an Act of Insolvency; or

4.4. on the termination or expiry of the Lease; or

4.5. on the expiry of the Licence Period.

Termination is without prejudice to the rights of either party in connection with any antecedent breach of any obligation subsisting under this licence at or before the date of termination.

5. **Notices**

5.1. Any notice or other communication required to be given under this licence, shall be in writing and shall be delivered personally, or sent by pre-paid recorded delivery first-class post, or by commercial courier, to each party required to receive the notice or communication as set out below:

5.1.1. to the Licensor at: Centre for Process Innovation Limited, Wilton Centre, Wilton, TS10 4RF and marked for the attention of Director of Legal;

5.1.2. to the Licensee at the Centre and marked for the attention of Dr Simon Ogier, Chief Technology Officer;

5.1.3. or as otherwise specified by the relevant party by notice in writing to

each other party.

5.2. Any notice or other communication shall be deemed to have been duly received:

5.2.1. if delivered personally, when left at the address and for the contact referred to in this clause; or

5.2.2. if sent by pre-paid first-class post or recorded delivery, at 9.00 am on the second working day after posting; or

5.2.3. if delivered by commercial courier, on the date and at the time that the courier's delivery receipt is signed.

5.3. A notice or other communication required to be given under this licence shall not be validly given if sent by e-mail.

5.4. The provisions of this clause shall not apply to the service of any proceedings or other documents in any legal action or where applicable any arbitration or other method of dispute resolution.

6. **Site Services**

6.1. The Accommodation Services to be provided by the Licensor which are included in the Licence Fee are set out in Schedule 3.

6.2. The Licensor may on reasonable prior written notice suspend, curtail or cancel or extend or add to the Accommodation Services or any of them, provided that any such action is applied without distinction between the Licensee and other occupiers of the Centre, and the Accommodation Services shall then be interpreted for the purposes of this licence as so modified, and the Licensee agrees that in such circumstances it shall have no claim against the Licensor in respect of any loss or inconvenience resulting from such a change to the Accommodation Services.

6.3. The Licensor may on request from the Licensee, at the Licensor's sole discretion, provide some or all of the Additional Services set out in Schedule 4 at an additional cost to be specified in a tariff from time to time issued by the Licensor. Where the Licensor does not agree to provide any Additional Services, the Licensor may at its sole discretion grant permission for a third party to carry out such Additional Service for the Licensee, subject always to such conditions, restrictions, permissions and permits to work as the Licensor shall determine in its absolute discretion.

6.4. The terms of Schedule 5 shall apply to the provision of Site Services.

7. **No Warranties for Use or Condition**

7.1. The Licensor gives no warranty that the Office Space possesses the Necessary Consents for the Permitted Use.

7.2. The Licensor gives no warranty that the Office Space is physically fit for the purposes specified in Clause 2.

7.3. The Licensee acknowledges that it does not rely on and shall have no remedies in respect of any representation or warranty that may have been made by or on behalf of the Licensor before the date of this licence as to any of the matters mentioned

in clause 7.1 or clause 7.2.

7.4. Nothing in this clause shall limit or exclude any liability for fraud.

8. **Liability for Loss, Damage or Injury**

8.1. Nothing in this licence shall limit the liability of the Licensor for death or personal injury arising from the Licensor's negligence in such circumstances where the Licensor is not permitted to exclude such liability under the Unfair Contract Terms Act 1977 or any matter in respect of which it would be unlawful for the Licensor to exclude or restrict liability.

8.2. Subject to clause 8.1, the Licensee shall use the Office Space and the Centre at its own risk, and the Licensor shall not be liable to any person for any loss or damage to any vehicles, goods or property, or for any injury (whether fatal or not) to the Permitted Users and/or and other persons in the Office Space and/or the Centre by the authority (express or implied) of the Licensee, or in any way arising out of the condition and/or use of the Office Space and/or the Centre by such persons, or otherwise howsoever arising, and the Licensee hereby waives any rights and claims against the Licensor that it may otherwise have had in respect of such matters, and hereby indemnifies the Licensor in full and keeps the Licensor indemnified in full against, and holds the Licensor harmless from, all losses, claims, demands, actions, proceedings, damages, costs, expenses or other liability which the Licensor may incur of suffer in respect of such matters.

8.3. Subject to clause 8.1, the Licensor shall not be liable to the Licensee in connection with this licence for any direct or indirect:

8.3.1. financial loss;

8.3.2. loss or profit;

8.3.3. loss of business;

8.3.4. loss of opportunity;

8.3.5. loss of usage;

8.3.6. loss of goodwill;

8.3.7. loss of reputation;

8.3.8. loss of data;

8.3.9. costs of hiring alternative facilities;

8.3.10. costs of financing and/or loans; or

8.3.11. consequential losses and/or special damages.

8.4. Subject to clause 8.1, the Licensor's maximum liability in respect of any claim under this licence shall be the total sum actually paid by the Licensee to the Licensor in respect of Licensee Fees and charges for Additional Services under this agreement up to the date of the incident that has given rise to the relevant claim.

8.5. To the extent that the provisions of the Unfair Contracts Terms Act 1977 is held by a court or administrative body of competent jurisdiction to apply to any element of this agreement, including but not limited to in respect of the Site Services, in such circumstances if any wording in any provision of this agreement shall be found by such court or administrative body of competent jurisdiction to be invalid or unenforceable, such wording shall be deemed removed from the relevant provision, and the invalidity or unenforceability of such wording shall not affect the remainder of that provision, nor the remainder of this licence, and the remaining wording of such provision and all other provisions not affected by such invalidity or unenforceability shall remain in full force and effect.

9. **Rights Of Third Parties**

A person who is not a party to this licence may not enforce any of its terms under the Contracts (Rights of Third Parties) Act 1999.

10. **Not Used**

11. **Force Majeure**

11.1. The Licensor shall not be liable for any delay in performing, or any failure to perform, any of its obligations under this licence if such delay or failure results from events or circumstances outside its reasonable control. Such delay or failure shall not constitute a breach of this licence where notified to the Licensee as soon as reasonably practicable.

12. **Variation and Waiver**

12.1. No purported alteration to, variation of, or waiver of any provision of this licence shall be effective unless it is in writing, refers specifically to this licence and is signed by an authorised representative of each party.

12.2. No delay or omission on the part of any party to this licence in exercising any right, power or remedy provided by the law generally or under this agreement (nor the partial exercise thereof) shall impair such right, power or remedy or operate as waiver thereof.

13. **Governing Law And Jurisdiction**

13.1. This licence and any dispute or claim arising out of or in connection with it or its subject matter shall be governed by and construed in accordance with the law of England.

13.2. The parties irrevocably agree that the courts of England shall have exclusive jurisdiction to settle any dispute or claim that arises out of or in connection with this licence or its subject matter.

14. **Counterparts**

14.1. This licence may be entered into in any number of counterparts and by the Parties to it on separate counterparts each of which when so executed and delivered shall be an original but all these counterparts shall together constitute one and the same instrument.

This licence has been entered into on the date stated at the beginning of it.

Schedule 1 – Office Space

Schedule 2 - Rights granted to Licensee

Schedule 3 – Accommodation Services

Schedule 4 – Additional Services

Schedule 5 – Terms for Provision of Site Services

Schedule 6 – General Provisions applying to the Provisions of Site Services

Schedule 7: Safety Health and Environment Management for the National Printable Electronics Centre Site Occupiers

Signed by	Rahul Kapoor
Position	Director of HealthTech
Signature	/s/ Rahul Kapoor
for and on behalf of **CPI Innovation Services Limited (the Licensor)**	
Date	24-Mar-25

Signed by	Ian Jenks
Position	CEO
Signature	/s/ Ian Jenks
for and on behalf of **SmartKem Limited (the Licensee)**	
Date	24-Mar-25

Adopted by the Board of Directors on March 18, 2025.

Exhibit 19.1

SMARTKEM, INC.
INSIDER TRADING POLICY

INTRODUCTION

As a public company, one of our important ethical duties is to protect and properly use nonpublic information acquired during our service with SmartKem, Inc. (together with its subsidiaries, "***SmartKem***" or the "***Company***"). This Insider Trading Policy (the "***Policy***") provides detailed information on these obligations. The rules relating to insider trading are complex, and a violation of insider trading laws can carry severe consequences, including but not limited to termination of your employment and criminal prosecution resulting in imprisonment. In furtherance of the Policy's goals, the Company will not transact in its own securities except in compliance with securities laws.

This introduction provides high level guidance on certain required and prohibited activities. However, carefully review this entire Policy before completing any transaction involving SmartKem's securities or the securities of any other company.

The following activities, among others, are prohibited under this Policy and may also be illegal:

- Trading "on the basis" of material nonpublic information (see Part II below for more information about what may constitute material nonpublic information)
- "Tipping" or providing material nonpublic information to another person who then trades based on such information. This includes providing trading advice or opinions on transactions
- Making "short sales" of SmartKem securities (betting that the price of securities will decline)
- Engaging in transactions involving publicly-traded options, such as puts and calls, and other derivative securities with respect to SmartKem's securities
- Placing "open orders" (such as limit orders or stop orders) with brokers which may remain outstanding for an extended period of time and, as a result, could be executed at a time when you are aware of material nonpublic information or otherwise not permitted to trade
- Trading during Trading Blackout Periods, or during any special blackout periods applicable to you
- Using SmartKem securities as collateral for loans if you are subject to any Trading Blackout Periods or subject to Section 16 of the Securities Exchange Act of 1934, as amended ("***Section 16***")
- Holding SmartKem securities in margin accounts if you are subject to any Trading Blackout Periods or subject to Section 16
- Otherwise trading without pre-clearance

Any of the above actions will be deemed violations of this Policy and may result in severe consequences, including but not limited to termination of your employment and criminal prosecution resulting in imprisonment. Prosecutors pursue insider trading violations vigorously, even if the size of the transaction is small.

Even if a transaction is not listed above, you are ultimately responsible for ensuring that it otherwise complies with this Policy and applicable laws and regulations. You should use your best judgment at all times and consult with your personal legal and financial advisors, as needed. Share this policy with your broker or other financial advisor before engaging in any transactions involving SmartKem's securities or the securities of any other company. Please seek assistance from the Compliance Officer (as defined below) if you have any questions at all.

PART I

PREVENTING INSIDER TRADING AND YOUR OBLIGATIONS

1. Covered Persons

This Policy applies to all directors, officers, employees, consultants, contractors and other agents of the Company. References in this Policy to such persons, or to "***you***," also include your immediate family members, members of your household and your economic dependents, along with any other individuals or entities whose transactions in securities you influence, direct or control (which may be, for example, a venture or other investment fund). You are responsible for making sure that these other individuals and entities comply with this Policy.

You are expected to comply with this Policy until such time as you are no longer affiliated with the Company *and* you no longer possess any material nonpublic information subject to this Policy, as described in Part II (Material Nonpublic Information). In addition, if you are subject to a trading blackout under this Policy at the time you cease to be affiliated with the Company, you are expected to abide by the applicable trading restrictions until at least the end of the relevant Trading Blackout Period.

2. Covered Activities

Except as discussed in Part III (Limited Exceptions), this Policy applies to all transactions involving the Company's securities or other companies' securities on the basis of material nonpublic information obtained in connection with your service with the Company. This Policy therefore applies to:

- transactions involving the securities of the Company, whether direct or indirect (including transactions made on your behalf by money managers), including purchases, sales and other transfers of common stock, options, warrants, preferred stock and debt securities (such as debentures, bonds and notes);
- transactions involving the securities of other companies on the basis of material nonpublic information obtained in the course of your service with the Company;
- arrangements that affect economic exposure to changes in the prices of these securities, such as transactions in derivative securities (e.g., exchange-traded put or call options), hedging transactions, short sales and certain decisions with respect to participation in benefit plans;
- any disposition in the form of a gift of any securities of the Company;
- any distribution to holders of interests in an entity if the entity is subject to this Policy;
- any offers with respect to the transactions discussed above; and
- other unauthorized use or disclosure of nonpublic information.

There may be instances where you suffer financial harm or other hardship or are otherwise required to forego a planned transaction because of the restrictions imposed by this Policy. Personal financial emergency or other personal circumstances will not excuse a failure to comply with this Policy.

3. Insider Trading and Tipping

Insider Trading and Tipping. Directors, officers, employees and other individuals who possess material nonpublic information are prohibited from the following illegal activities, which are commonly referred to as "***insider trading***":

- Trading "on the basis" of material nonpublic information (i.e., as long as they are aware of such information). It is not a defense that the person did not "use" the material nonpublic information for purposes of the transaction.

- Disclosing material nonpublic information directly or indirectly to others who then trade based on that information, or making recommendations or expressing opinions on transactions in securities while aware of material nonpublic information (sometimes referred to as "***tipping***"). Both the person who provides the information, recommendation or opinion and the person who trades based on it may be liable.

The U.S. Securities and Exchange Commission (the "***SEC***") and the U.S. Department of Justice pursue insider trading violations vigorously. Cases involving trading through foreign accounts, trading by family members and friends and trading only a small number of shares have been successfully prosecuted. There are no exceptions from insider trading laws or this Policy based on the size of the transaction.

Controlling Person Liability. In addition, a company, as well as individual directors, officers and other supervisory personnel, may be subject to liability as "***controlling persons***" for failure to take appropriate steps to prevent insider trading by those under their supervision, influence or control.

4. Other Prohibited and Problematic Transactions

The types of transactions listed below may expose you and the Company to significant risks. Even if a transaction is not listed below, you are responsible for ensuring that it otherwise complies with the applicable provisions of this Policy, including insider trading and tipping prohibitions, the pre-clearance requirements and procedures applicable to you if you are on the Pre-Clearance List ("***Pre-Clearance Requirements***"), and Trading Blackout Periods.

- *Short Sales*. You are prohibited from making short sales (*i.e.,* the sale of a security that must be borrowed to make delivery) and "selling short against the box" (*i.e.,* a sale with a delayed delivery) with respect to Company securities.

- *Transactions in Derivative Securities*. You are prohibited from engaging in transactions in publicly-traded options, such as puts and calls, and other derivative securities with respect to the Company's securities. This prohibition extends to any hedging or similar transaction designed to decrease the risks associated with holding Company securities. Stock options, stock appreciation rights and other securities issued pursuant to Company benefit plans or other compensatory arrangements with the Company are not subject to this prohibition. Among other reasons for this prohibition, the application of securities laws to derivatives transactions can be complex, and persons engaging in derivatives transactions may subject themselves to an increased risk of violating SEC regulations and other applicable securities laws.

- *Using Company Securities as Collateral for Loans*. You are prohibited from pledging Company securities as collateral for loans except to the extent you have made such arrangements prior to the Company's adoption of this Policy. If you default on the loan, the

lender may sell the pledged securities as collateral in a foreclosure sale. This sale, even though not initiated at your request, would be considered a sale for your benefit and, if made at a time when you are aware of material nonpublic information or otherwise are not permitted to trade Company securities, may result in violations of this Policy or securities laws.

- *Holding Company Securities in Margin Accounts*. You are prohibited from holding Company securities in margin accounts. Under typical margin arrangements, if you fail to meet a margin call, the broker may be entitled to sell securities held in the margin account without your consent. This sale, even though not initiated at your request, would be considered a sale for your benefit and, if made at a time when you are aware of material nonpublic information or otherwise are not permitted to trade Company securities, may result in violations of this Policy or securities laws.

- *Placing Open Orders with Brokers*. Except in accordance with an approved trading plan, as discussed in Part III (Limited Exceptions), you should exercise caution when placing open orders, such as limit orders or stop orders, with brokers, particularly where the order is likely to remain outstanding for an extended period of time. Open orders may result in the execution of a trade at a time when you are aware of material nonpublic information or otherwise are not permitted to trade in Company securities, which may result in violations of this Policy or securities laws. Additionally, you should so inform any broker with whom you place any open order about the requirements of this Policy at the time any open order is placed.

5. Trading Blackout Periods

To limit the likelihood of trading at times when there is a significant risk of insider trading exposure, the Company has instituted Quarterly Blackout Periods (the "***Trading Blackout Periods***"). The Company may also institute special trading blackout periods from time to time. Whether or not you are subject to a blackout period, you remain subject to the prohibitions on trading on the basis of material nonpublic information and any other applicable restrictions in this Policy. There are no unconditional "safe harbors" for trades made at particular times, and you should exercise good judgment at all times. Even when a trading window is open you may be restricted from trading if you possess material nonpublic information or are otherwise restricted by this Policy.

Quarterly Blackout Periods. Except as discussed in Part III (Limited Exceptions), all employees, consultants, contractors and other agents of the Company are subject to and must refrain from conducting transactions involving the Company's securities during the Quarterly Blackout Periods. Quarterly Blackout Periods start 14 days prior to the end of each fiscal quarter and end at the start of the second trading day following the date the financial results for the previous fiscal quarter are publicly disclosed.

Special Blackout Periods. From time to time, the Company may also prohibit you from engaging in transactions involving the Company's securities when, in the judgment of the Compliance Officer, a trading blackout is warranted. The Company will generally impose special blackout periods when there are material developments known to the Company that have not yet been disclosed to the public. However, special blackout periods may be declared for any reason. The Company will notify those persons subject to a special blackout period. Each person who has been notified that they are subject to a special blackout period may not engage in any transaction involving the Company's securities until instructed otherwise by the Compliance Officer, and should not disclose to others the fact of such suspension of trading.

Regulation BTR Blackouts. Directors and officers may also be subject to trading blackouts pursuant to Regulation Blackout Trading Restriction ("***Regulation BTR***"), under U.S. federal securities laws. In general, Regulation BTR prohibits any director or officer from engaging in certain transactions involving

Company securities during periods when 401(k) plan participants are prevented from purchasing, selling or otherwise acquiring or transferring an interest in certain securities held in individual account plans. Any profits realized from a transaction that violates Regulation BTR are recoverable by the Company, regardless of the intentions of the director or officer effecting the transaction. In addition, individuals who engage in such transactions are subject to sanction by the SEC as well as potential criminal liability. The Company will notify directors and officers if they are subject to a blackout trading restriction under Regulation BTR. Failure to comply with an applicable trading blackout in accordance with Regulation BTR is a violation of law and this Policy.

6. Pre-Clearance of Trades

Except as discussed in Part III (Limited Exceptions), all employees, consultants, contractors and other agents of the Company must refrain from engaging in any transaction involving the Company's securities without first obtaining pre-clearance of the transaction from the Compliance Officer. The Compliance Officer may not engage in a transaction involving the Company's securities unless the Chief Executive Officer has pre-cleared the transaction.

Pre-clearance of a trade, however, is not a defense to a claim of insider trading and does not excuse you from otherwise complying with insider trading laws or this Policy. Further, pre-clearance of a transaction does not constitute an affirmation by the Company or the Compliance Officer that you are not in possession of material nonpublic information. The Compliance Officer is under no obligation to approve a transaction submitted for pre-clearance, and may determine not to permit the transaction.

7. Consequences for Violations

Civil and Criminal Penalties. Potential penalties for insider trading violations, tipping or controlling person liability include criminal and civil fines and penalties, imprisonment and other consequences.

Company Disciplinary Actions. If the Company has a reasonable basis to conclude that you have failed to comply with this Policy, you may be subject to disciplinary action, up to and including dismissal for cause, regardless of whether or not your actions result in a violation of law. It is not necessary for the Company to wait for the filing or conclusion of any civil or criminal action against you before taking disciplinary action. In addition, the Company may give stop transfer and other instructions to its transfer agent with respect to transactions that the Company considers to be in contravention of this Policy.

8. Personal Responsibility

The ultimate responsibility for complying with this Policy and applicable laws and regulations rests with you. You should use your best judgment at all times and consult with your personal legal and financial advisors, as needed. We advise you to seek assistance if you have any questions at all. The rules relating to insider trading can be complex, and a violation of insider trading laws can carry severe consequences.

You should be alert to possible violations and promptly report violations or suspected violations of this Policy to the Compliance Officer. If your situation requires that your identity be kept secret, your anonymity will be preserved to the greatest extent reasonably possible. If you wish to remain anonymous, send a letter addressed to the Chief Financial Officer at Manchester Technology Center, Hexagon Tower, Delaunays Road, Blackley, Manchester, M9 8GQ U.K. If you make an anonymous report, please provide as much detail as possible, including any evidence that you believe may be relevant to the issue.

9. Compliance Officer

Please direct any questions, requests or reports as to any of the matters discussed in this Policy to the Chief Financial Officer of the Company (the "***Compliance Officer***"). The Compliance Officer is generally responsible for the administration of this Policy. The Compliance Officer may select others to assist with the execution of his or her duties.

10. Additional Information

Delivery of Policy. This Policy will be delivered to all directors, officers, employees and agents of the Company when they commence service with the Company. In addition, this Policy (or a summary of this Policy) will be circulated periodically. Each director, officer, employee and agent of the Company is required to acknowledge that he or she understands, and agrees to comply with, this Policy.

Amendments. We are committed to continuously reviewing and updating our policies and procedures. The Company therefore reserves the right to amend, alter or terminate this Policy at any time and for any reason, subject to applicable law. A current copy of the Company's policies regarding insider trading may be obtained by contacting the Compliance Officer.

* * *

Nothing in this Insider Trading Policy creates or implies an employment contract or term of employment or a right to continued employment.

The policies in this Insider Trading Policy do not constitute a complete list of Company policies or a complete list of the types of conduct that can result in discipline, up to and including discharge.

PART II

MATERIAL NONPUBLIC INFORMATION: WHAT IT IS AND YOUR OBLIGATIONS

1. Definitions

"Material" Information. Information should be regarded as material if there is a substantial likelihood a reasonable investor would consider it important in deciding whether to buy, hold or sell securities or would view the information as significantly altering the total mix of information in the marketplace about the issuer of the security. Any information that could reasonably be expected to affect the market price of a security is likely to be material, regardless of whether it is positive or negative.

It is not possible to define all categories of "material" information. However, some examples of information that would often be regarded as material include information with respect to:

- Financial results, key metrics, financial condition, earnings pre-announcements, guidance, projections or forecasts, particularly if inconsistent with the Company's guidance or the expectations of the investment community;
- Restatements of financial results, or material impairments, write-offs or restructurings;
- Changes in independent auditors, or notification that the Company may no longer rely on an audit report;
- Business plans or budgets;
- Creation of significant financial obligations, or any significant default under or acceleration of any financial obligation;
- Impending bankruptcy or financial liquidity problems;
- Significant developments involving business relationships, including execution, modification or termination of significant agreements or orders with customers, suppliers, distributors, manufacturers or other business partners;
- Significant information relating to the operation of a product or service, such as new products or services, major modifications or performance issues, defects or recalls, significant pricing changes or other announcements of a significant nature;
- Significant developments in research and development or relating to intellectual property;
- Significant legal or regulatory developments, whether positive or negative, actual or threatened, including litigation or resolving litigation;
- Major events involving the Company's securities, including calls of securities for redemption, adoption of stock repurchase programs, option repricings, stock splits, changes in dividend policies, public or private securities offerings, modification to the rights of security holders or notice of delisting;

- Significant corporate events, such as a pending or proposed merger, joint venture or tender offer, a significant investment, the acquisition or disposition of a significant business or asset or a change in control;

- Major personnel changes, such as changes in senior management or lay-offs;

- Data breaches or other cybersecurity events;

- Updates regarding any prior material disclosure that has materially changed;

- The existence of a special blackout period; and

- Significant disruptions in the Company's operations or loss, potential loss, breach or unauthorized access of the Company's property or assets, including the Company's facilities and information technology infrastructure.

If you have any questions as to whether information should be considered "material," you should consult with the Compliance Officer. In general, it is advisable to resolve any close questions as to the materiality of any information by assuming that the information is material.

"Nonpublic" Information. Generally, information is considered nonpublic if the information has not been broadly disseminated to the public for a sufficient period to be reflected in the price of the security. As a general rule, information should be considered nonpublic until at least two ***full trading days*** have elapsed after the information is broadly distributed to the public in a press release, a public filing with the SEC, a pre-announced public webcast or another broad, non-exclusionary form of public communication. However, depending upon the form of the announcement and the nature of the information, it is possible that information may not be fully absorbed by the marketplace until a later time. Any questions as to whether information is nonpublic should be directed to the Compliance Officer.

The term "***trading day***" means a day on which national stock exchanges and the National Association of Securities Dealers, Inc. Automated Quotation System are open for trading. A "***full***" trading day has elapsed when, after the public disclosure, trading in the relevant security has opened and then closed.

2. <u>Confidentiality of Nonpublic Information</u>

This Policy also prohibits the unauthorized use or disclosure of nonpublic information relating to the Company or other companies, including the Company's distributors, vendors, customers, collaborators, suppliers and competitors. All nonpublic information you acquire in the course of your service with the Company may only be used for legitimate Company business purposes. In addition, nonpublic information of others should be handled in accordance with the terms of any relevant nondisclosure agreements, and the use of any such nonpublic information should be limited to the purpose for which it was disclosed.

You must use all reasonable efforts to safeguard nonpublic information in the Company's possession. You may not disclose nonpublic information about the Company or any other company, unless required by law, or unless (i) disclosure is required for legitimate Company business purposes, (ii) you are authorized to disclose the information and (iii) appropriate steps have been taken to prevent misuse of that information (including entering an appropriate nondisclosure agreement that restricts the disclosure and use of the information, if applicable). This restriction also applies to internal communications within the Company and to communications with agents of the Company. In cases where disclosing nonpublic information to third parties is required, you should coordinate with the Compliance Officer.

3. No Trading on Material Nonpublic Information

Except as discussed in in Part III (Limited Exceptions), you may not, directly or indirectly through others, engage in any transaction involving the Company's securities while aware of material nonpublic information relating to the Company. It is not an excuse that you did not "use" the information in your transaction.

Similarly, you may not engage in transactions involving the securities of any other company if you are aware of material nonpublic information affecting that company, except to the extent the transactions are analogous to those described in Part III (Limited Exceptions). For example, you may be involved in a proposed transaction involving a prospective business relationship or transaction with another company. If information about that transaction constitutes material nonpublic information for that other company, you would be prohibited from engaging in transactions involving the securities of that other company (as well as transactions involving Company securities, if that information is material to the Company). Additionally, information need not directly involve a company to be considered material to it. For example, news of a merger between two companies may be material to an, otherwise uninvolved, third company in the same sector or industry. It is important to note that "materiality" is different for different companies. Information that is not material to the Company may be material to another company.

4. No Disclosing Material Nonpublic Information for the Benefit of Others

You may not disclose material nonpublic information concerning the Company or any other company to friends, family members or any other person or entity not authorized to receive such information where such person or entity may benefit by trading on the basis of such information. In addition, you may not make recommendations or express opinions on the basis of material nonpublic information as to trading in the securities of companies to which such information relates. You are prohibited from engaging in these actions whether or not you derive any profit or personal benefit from doing so. The prohibition against disclosure of material nonpublic information includes disclosure (even anonymous disclosure) via the internet, blogs, investor forums or chat rooms where companies and their prospects are discussed.

5. Obligation to Disclose Material Nonpublic Information to the Company

You may not enter into any transaction, whether or not it is described in Part III (Limited Exceptions), unless you have disclosed any material nonpublic information that you become aware of in the course of your service with the Company, and that senior management is not aware of, to the Compliance Officer. If you are a member of senior management, the information must be disclosed to the Chief Executive Officer, and if you are the Chief Executive Officer or a director, you must disclose the information to the Company's board of directors ("***Board of Directors***"), before any transaction is permissible.

6. Responding to Outside Inquiries for Information

If you receive an inquiry from someone outside of the Company, such as a stock analyst, for information, you should refer the inquiry to the Chief Financial Officer. The Company is required under Regulation FD (Fair Disclosure) of the U.S. federal securities laws to avoid the selective disclosure of material nonpublic information. In general, the regulation provides that when a public company discloses material nonpublic information, it must provide broad, non-exclusionary access to the information. Violations of this regulation can subject the Company to SEC enforcement actions, which may result in injunctions and severe monetary penalties. The Company has established procedures for releasing material information in a manner that is designed to achieve broad public dissemination of the information

immediately upon its release in compliance with applicable law. Please consult the Company's Regulation FD Policy for more details.

7. Protected Activity Not Prohibited

Nothing in this Policy, or any related guidelines or other documents or information provided in connection with this Policy, shall in any way limit or prohibit you from engaging in any of the protected activities set forth in the Company's Whistleblower Policy, as amended from time to time.

PART III

LIMITED EXCEPTIONS TO THIS POLICY

The following are certain limited exceptions to the restrictions imposed by the Company under this Policy. Please be aware that even if a transaction is subject to an exception to this Policy, you will need to separately assess whether the transaction complies with applicable law (for example, "short-swing" trading restrictions under Section 16, to the extent applicable). You are responsible for complying with applicable law at all times.

1. Transactions Pursuant to a Trading Plan that Complies with SEC Rules

The SEC has enacted rules that provide an affirmative defense against alleged violations of U.S. federal insider trading laws for transactions pursuant to trading plans that meet certain requirements. In general, these rules, as set forth in Rule 10b5-1 under the Securities Exchange Act of 1934, as amended, provide for an affirmative defense if you enter into a contract, provide instructions or adopt a written plan for trading securities when you are not aware of material nonpublic information. The contract, instructions or plan must (i) specify the amount, price and date of the transaction, (ii) specify an objective method for determining the amount, price and date of the transaction and/or (iii) place any subsequent discretion for determining the amount, price and date of the transaction in another person who is not, at the time of the transaction, aware of material nonpublic information.

Transactions made pursuant to a written trading plan that (i) complies with the affirmative defense set forth in Rule 10b5-1 and (ii) is approved by the Compliance Officer are not subject to the restrictions in this Policy against trades made while aware of material nonpublic information or to the blackout periods established under this Policy. In approving a trading plan, the Compliance Officer may, in furtherance of the objectives expressed in this Policy, impose criteria in addition to those set forth in Rule 10b5-1. You should therefore confer with the Compliance Officer prior to entering into any trading plan.

The SEC rules regarding trading plans are complex and must be complied with completely to be effective. The description provided above is only a summary, and the Company strongly advises that you consult with your legal advisor if you intend to adopt a trading plan. While trading plans are subject to review and approval by the Company, the individual adopting the trading plan is ultimately responsible for compliance with Rule 10b5-1 and ensuring that the trading plan complies with this Policy.

The Company will determine which individuals may use trading plans. Trading plans must (1) be filed with the Compliance Officer, (2) comply with the requirements of Rule 10b5-1, and (3) be accompanied with an executed certificate stating that the trading plan complies with Rule 10b5-1 and any other criteria established by the Company. If the Compliance Officer is the requester, then the Company's Chief Executive Officer must approve the written 10b5-1 trading plan. The Company may publicly disclose information regarding trading plans.

2. Receipt and Vesting of Stock Options, Restricted Stock, Restricted Stock Units and Stock Appreciation Rights

The trading restrictions under this Policy do not apply to the acceptance or purchase of stock options, restricted stock, restricted stock units or stock appreciation rights issued or offered by the Company. The trading restrictions under this Policy also do not apply to the vesting, cancellation or forfeiture of stock options, restricted stock, restricted stock units or stock appreciation rights in accordance with applicable plans and agreements.

3. Exercise of Stock Options for Cash; Net Share Withholding

The trading restrictions under this Policy do not apply to the exercise of stock options for cash under the Company's equity incentive plans. Likewise, the trading restrictions under this Policy do not apply to the exercise of stock options in a stock-for-stock exercise with the Company or an election to have the Company withhold securities to cover tax obligations in connection with an option exercise (x) as required by either the Company's board of directors (or a committee thereof) or the award agreement governing such equity award or (y) as you elect, if permitted by the Company, so long as that election is irrevocable and made in writing at a time when a trading blackout is not in place and the individual is not in possession of material nonpublic information. However, the trading restrictions under this Policy do apply to (i) the sale of any securities issued upon the exercise of a stock option, (ii) a cashless exercise of a stock option through a broker, since this involves selling a portion of the underlying shares to cover the costs of exercise, and (iii) any other market sale for the purpose of generating the cash needed to pay the exercise price of an option.

4. Purchases from an Employee Stock Purchase Plan

The trading restrictions in this Policy do not apply to elections with respect to participation in any employee stock purchase plan that the Company adopts or to purchases of securities under the plan. However, the trading restrictions do apply to any subsequent sales of any such securities.

5. Certain 401(k) Plan Transactions

The trading restrictions in this Policy do not apply to purchases of Company stock in a 401(k) plan resulting from periodic contributions to the plan based on your payroll contribution election. The trading restrictions do apply, however, to elections you make under the 401(k) plan to (i) increase or decrease the amount of your contributions under a 401(k) plan, if such increase or decrease will increase or decrease the amount of your contributions that will be allocated to a Company stock fund (ii) increase or decrease the percentage of your contributions that will be allocated to a Company stock fund, (iii) move balances into or out of a Company stock fund, (iv) borrow money against a 401(k) plan account if the loan will result in liquidation of some or all of your Company stock fund balance, and (v) pre-pay a plan loan if the pre-payment will result in the allocation of loan proceeds to a Company stock fund.

6. Certain Transfers by Will and for Tax Planning Purposes

The trading restrictions in this Policy do not apply to transfers by will or the laws of descent or distribution and, provided that prior written notice is provided to the Compliance Officer, distributions or transfers (such as certain tax planning or estate planning transfers) that effect only a change in the form of beneficial interest without changing your pecuniary interest in the Company's securities.

7. Other Exceptions

Stock splits, stock dividends and similar transactions. The trading restrictions under this Policy do not apply to a change in the number of securities held as a result of a stock split or stock dividend applying equally to all securities of a class, or similar transactions.

Change in form of ownership. Transactions that involve merely a change in the form in which you own securities are permissible. For example, you may transfer shares to an *inter vivos* trust of which you are the sole beneficiary during your lifetime.

Other. Any other exception from this Policy must be approved by the Compliance Officer, in consultation with the Board of Directors or an independent committee of the Board of Directors.

PART IV
COMPLIANCE WITH SECTION 16
OF THE SECURITIES EXCHANGE ACT

1. Obligations Under Section 16

Section 16 and the related rules and regulations set forth (i) reporting obligations, (ii) limitations on "short-swing" transactions and (iii) limitations on short sales and other transactions applicable to directors, officers, large shareholders and certain other persons. The Company has provided, or will provide, memoranda and other materials addressing these matters.

The Company has designated certain persons as being required to comply with Section 16 and the related rules and regulations because of their positions with the Company. The persons subject to Section 16 may change from time to time as appropriate to reflect the election of new officers or directors, any change in the responsibilities of officers or other employees and any promotions, demotions, resignations or departures.

Even if you are not designated by the Company as being required to comply with Section 16, you may be subject to Section 16 reporting obligations because of, for example, your shareholdings.

2. Notification Requirements to Facilitate Section 16 Reporting

To facilitate timely reporting of transactions pursuant to Section 16 requirements, each person subject to Section 16 reporting requirements must provide, or must ensure that his or her broker provides, the Company with detailed information (e.g., trade date, number of shares, exact price, etc.) regarding his or her transactions involving the Company's securities, including gifts, transfers, pledges and transactions pursuant to a trading plan, both prior to (to confirm compliance with pre-clearance procedures, if applicable) and promptly following execution.

3. Personal Responsibility Under Section 16

The obligation to file Section 16 reports, and to otherwise comply with Section 16, is personal. The Company is not responsible for the failure to comply with Section 16 requirements.

Exhibit 23.1

INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM'S CONSENT

We consent to the incorporation by reference in the Registration Statements of SmartKem, Inc. on Forms S-8 (No. 333-254904, 333-264184, 333-269557, 333-278631), and Forms S-3 (No. 333-264182, 333-273392, 333-278630, 333-281608) of our report dated March 31, 2025, which includes an explanatory paragraph as to the Company's ability to continue as a going concern, with respect to our audit of the consolidated financial statements of SmartKem, Inc. and subsidiaries as of December 31, 2024 and 2023 and for the years ended December 31, 2024 and 2023, which report is included in this Annual Report on Form 10-K of SmartKem, Inc. and subsidiaries for the year ended December 31, 2024 and 2023.

/s/ Marcum LLP

Marcum LLP
New York, NY
March 31, 2025

Exhibit 31.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER
PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Ian Jenks, certify that:

1. I have reviewed this annual report on Form 10-K of SmartKem, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 31, 2025
/s/ Ian Jenks
Ian Jenks
Chief Executive Officer

Exhibit 31.2

CERTIFICATION OF CHIEF FINANCIAL OFFICER
PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Barbra Keck, certify that:

1. I have reviewed this annual report on Form 10-K of SmartKem, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 31, 2025
/s/ Barbra Keck
Barbra Keck
Chief Financial Officer

Exhibit 32.1

Certification of Chief Executive Officer Pursuant to 18 U.S.C. Section 1350,
As Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

In connection with this Annual Report of SmartKem, Inc. (the "Company") on Form 10-K for the year ended December 31, 2024 (the "Report") as filed with the Securities and Exchange Commission on the date hereof, the undersigned, Ian Jenks, Chief Executive Officer of the Company, hereby certifies, to the knowledge of the undersigned, pursuant to 18 U.S.C. Section 1350, that:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: March 31, 2025
/s/ Ian Jenks
Ian Jenks
Chief Executive Officer

Exhibit 32.2

Certification of Chief Financial Officer Pursuant to 18 U.S.C. Section 1350,
As Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

In connection with this Annual Report of SmartKem, Inc. (the "Company") on Form 10-K for the year ended December 31, 2024 (the "Report") as filed with the Securities and Exchange Commission on the date hereof, the undersigned, Barbra Keck, Chief Financial Officer of the Company, hereby certifies, to the knowledge of the undersigned, pursuant to 18 U.S.C. Section 1350, that:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: March 31, 2025
/s/ Barbra Keck
Barbra Keck
Chief Financial Officer

Exhibit 97.1

SMARTKEM, INC.

COMPENSATION RECOVERY POLICY

(Adopted and approved on January 4, 2024)

1. Purpose

SmartKem, Inc. (collectively with its subsidiaries, the "**Company**") is committed to promoting high standards of honest and ethical business conduct and compliance with applicable laws, rules and regulations. As part of this commitment, the Company has adopted this Compensation Recovery Policy (this "**Policy**"). This Policy is designed to comply with the requirements of Section 10D of the Securities Exchange Act of 1934, as amended (the "**Exchange Act**"), Rule 10D-1 promulgated thereunder and the rules of the national securities exchange on which the Company's securities are traded and explains when the Company will pursue recovery of Incentive Compensation awarded or paid to a Covered Person. Please refer to Exhibit A attached hereto (the "**Definitions Exhibit**") for the definitions of capitalized terms used throughout this Policy.

2. Recovery of Recoverable Incentive Compensation

In the event of a Restatement, the Company will pursue, reasonably promptly, recovery of all Recoverable Incentive Compensation from a Covered Person without regard to such Covered Person's individual knowledge or responsibility related to the Restatement. Notwithstanding the foregoing, if the Company is otherwise required by this Policy to undertake a Restatement, the Company will not be required to recover the Recoverable Incentive Compensation if the Compensation Committee determines, after exercising a normal due process review of all the relevant facts and circumstances, that (a) a Recovery Exception exists and (b) it would be impracticable to seek such recovery under such facts and circumstances.

If such Recoverable Incentive Compensation was not awarded or paid on a formulaic basis, the Company will pursue recovery of the amount that the Compensation Committee determines in good faith should be recovered.

3. Other Actions

The Compensation Committee may, subject to applicable law, pursue recovery of Recoverable Incentive Compensation in the manner it chooses, including by pursuing reimbursement from the Covered Person of all or part of the compensation awarded or paid, by electing to withhold unpaid compensation, by set-off, or by rescinding or canceling unvested stock or option awards.

In the reasonable exercise of its business judgment under this Policy, the Compensation Committee may in its sole discretion determine whether and to what extent additional action is appropriate to address the circumstances surrounding a Restatement to minimize the likelihood of any recurrence and to impose such other discipline as it deems appropriate.

4. No Indemnification or Reimbursement

As required by applicable law, notwithstanding the terms of any other policy, program, agreement or arrangement, in no event will the Company or any of its affiliates indemnify or reimburse a Covered Person for any loss of Recoverable Incentive Compensation under this Policy and, to the extent prohibited by law, neither the Company nor any of its affiliates will pay premiums on any insurance policy that would cover a Covered Person's potential obligations with respect to Recoverable Incentive Compensation under this Policy.

5. Administration of Policy

The Compensation Committee will have full authority to administer this Policy. The Compensation Committee will, subject to the provisions of this Policy and Rule 10D-1 of the Exchange Act, and the Company's applicable exchange listing standards, make such determinations and interpretations and take such actions in connection with this Policy as it deems necessary, appropriate or advisable. It is intended that this Policy be interpreted in a manner that is consistent with the requirements of Section 10D of the Exchange Act, Rule 10D-1 thereunder and any applicable rules or standards adopted by the Securities and Exchange Commission or any national securities exchange on which the Company's securities are listed. All determinations and interpretations made by the Compensation Committee will be final, binding and conclusive.

6. Other Claims and Rights

The requirements of this Policy are in addition to, and not in lieu of, any legal and equitable claims the Company or any of its affiliates may have or any actions that may be imposed by law enforcement agencies, regulators, administrative bodies, or other authorities. Further, the exercise by the Compensation Committee of any rights pursuant to this Policy will not impact any other rights that the Company or any of its affiliates may have with respect to any Covered Person subject to this Policy.

7. Acknowledgement by Covered Persons; Condition to Eligibility for Incentive Compensation

The Company will provide notice and seek acknowledgement of this Policy from each Covered Person, provided that the failure to provide such notice or obtain such acknowledgement will have no impact on the applicability or enforceability of this Policy. After the Effective Date (and also with respect to any Incentive Compensation Received on or after October 2, 2023 pursuant to a preexisting contract or arrangement), any grant of Incentive Compensation to a Covered Person will be deemed to have been made subject to the terms of this Policy, whether or not such Policy is specifically referenced in the documentation relating to such grant and this Policy shall be deemed to constitute an integral part of the terms of any such grant. All Incentive Compensation subject to this Policy will remain subject to this policy, even if already paid, until the Policy ceases to apply to such Incentive Compensation and any other vesting conditions applicable to such Incentive Compensation are satisfied.

8. Amendment; Termination

The Board or the Compensation Committee may amend or terminate this Policy at any time. In the event that Section 10D of the Exchange Act, Rule 10D-1 thereunder or the rules of the national securities exchange on which the Company's securities are traded are modified or supplemented, whether by law,

regulation or legal interpretation, such modification or supplement shall be deemed to modify or supplement this Policy to the maximum extent permitted by applicable law.

9. Effectiveness

Except as otherwise determined in writing by the Compensation Committee, this Policy will apply to any Incentive Compensation that is Received by a Covered Person on or after the Effective Date. This Policy will survive and continue notwithstanding any termination of a Covered Person's employment with the Company and its affiliates.

10. Successors

This Policy shall be binding and enforceable against all Covered Persons and their successors, beneficiaries, heirs, executors, administrators, or other legal representatives.

Exhibit A

SMARTKEM, INC.

COMPENSATION RECOVERY POLICY

DEFINITIONS EXHIBIT

"**Applicable Period**" means the three completed fiscal years of the Company immediately preceding the earlier of (i) the date the Board, a committee of the Board, or the officer or officers of the Company authorized to take such action if Board action is not required, concludes (or reasonably should have concluded) that a Restatement is required or (ii) the date a court, regulator, or other legally authorized body directs the Company to prepare a Restatement. The "Applicable Period" also includes any transition period (that results from a change in the Company's fiscal year) within or immediately following the three completed fiscal years identified in the preceding sentence.

"**Board**" means the Board of Directors of the Company.

"**Compensation Committee**" means the Company's committee of independent directors responsible for executive compensation decisions, or in the absence of such a committee, a majority of the independent directors serving on the Board.

"**Covered Person**" means any person who is, or was at any time, during the Applicable Period, an Executive Officer of the Company. For the avoidance of doubt, a Covered Person may include a former Executive Officer that left the Company, retired, or transitioned to an employee role (including after serving as an Executive Officer in an interim capacity) during the Applicable Period.

"**Effective Date**" means May 31, 2024.

"**Executive Officer**" means the Company's president, principal executive officer, principal financial officer, principal accounting officer (or if there is no such accounting officer, the controller), any vice-president in charge of a principal business unit, division, or function (such as sales, administration, or finance), any other officer who performs a policy-making function, or any other person (including an officer of the Company's parent(s) or subsidiaries) who performs similar policy-making functions for the Company.

"**Financial Reporting Measure**" means a measure that is determined and presented in accordance with the accounting principles used in preparing the Company's financial statements, and any measure that is derived wholly or in part from such measure (including but not limited to, "non-GAAP" financial measures, such as those appearing in the Company's earnings releases or Management Discussion and Analysis). Stock price and total shareholder return (and any measures derived wholly or in part therefrom) shall be considered Financial Reporting Measures.

"**Recovery Exception:**" A recovery of Recoverable Incentive Compensation shall be subject to a "Recovery Exception" if the Compensation Committee determines in good faith that: (i) pursuing such recovery would violate home country law of the jurisdiction of incorporation of the Company where that law was adopted prior to November 28, 2022 and the Company provides an opinion of home country

counsel to that effect acceptable to the Company's applicable listing exchange; (ii) the direct expense paid to a third party to assist in enforcing this Policy would exceed the Recoverable Incentive Compensation and the Company has (A) made a reasonable attempt to recover such amounts and (B) provided documentation of such attempts to recover to the Company's applicable listing exchange; or (iii) recovery would likely cause an otherwise tax-qualified retirement plan, under which benefits are broadly available to employees of the Company, to fail to meet the requirements of Section 401(a)(13) or Section 411(a) of the Internal Revenue Code of 1986, as amended, and regulations thereunder.

"**Incentive Compensation**" means any compensation that is granted, earned, or vested based wholly or in part upon the attainment of a Financial Reporting Measure. Incentive Compensation does not include any base salaries (except with respect to any salary increases earned wholly or in part based on the attainment of a Financial Reporting Measure performance goal); bonuses paid solely at the discretion of the Compensation Committee or Board that are not paid from a "bonus pool" that is determined by satisfying a Financial Reporting Measure performance goal; bonuses paid solely upon satisfying one or more subjective standards and/or completion of a specified employment period; non-equity incentive plan awards earned solely upon satisfying one or more strategic measures or operational measures; and equity awards that vest solely based on the passage of time and/or attaining one or more non-Financial Reporting Measures. Incentive Compensation includes any Incentive Compensation Received on or after May 31, 2024 pursuant to a preexisting contract or arrangement.

"**Received:**" Incentive Compensation is deemed "Received" in the Company's fiscal period during which the Financial Reporting Measure specified in the Incentive Compensation award is attained, even if the payment or grant of the Incentive Compensation occurs after the end of that period.

"**Recoverable Incentive Compensation**" means the amount of any Incentive Compensation (calculated on a pre-tax basis) Received by a Covered Person during the Applicable Period that is in excess of the amount that otherwise would have been Received if the calculation were based on the Restatement. For Incentive Compensation based on (or derived from) stock price or total shareholder return where the amount of Recoverable Incentive Compensation is not subject to mathematical recalculation directly from the information in the applicable Restatement, the amount will be determined by the Compensation Committee based on a reasonable estimate of the effect of the Restatement on the stock price or total shareholder return upon which the Incentive Compensation was Received (in which case, the Company will maintain documentation of such determination of that reasonable estimate and provide such documentation to the Company's applicable listing exchange).

"**Restatement**" means an accounting restatement of any of the Company's financial statements filed with the Securities and Exchange Commission under the Exchange Act, or the Securities Act of 1933, as amended, due to the Company's material noncompliance with any financial reporting requirement under U.S. securities laws, regardless of whether the Company or Covered Person misconduct was the cause for such restatement. "Restatement" includes any required accounting restatement to correct an error in previously issued financial statements that is material to the previously issued financial statements (commonly referred to as "Big R" restatements), or that would result in a material misstatement if the error were corrected in the current period or left uncorrected in the current period (commonly referred to as "little r" restatements).