

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

FORM 10-K

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

For the year ended December 31, 2023

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: 333-249833

Crown Electrokinetics Corp.

(Exact name of registrant as specified in its charter)

Delaware	47-5423944
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
1110 NE Circle Blvd Corvallis, OR	97330
(Address of principal executive offices)	(Zip Code)

(213) 600-4250

(Registrant's telephone number, including area code)

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

Title of each class	Name of each exchange on which registered
Common Stock, Par Value \$0.0001 Per Share	The Nasdaq Capital Market

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, 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	<input type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input checked="" type="checkbox"/>	Smaller reporting company	<input checked="" type="checkbox"/>
		Emerging growth company	<input checked="" type="checkbox"/>

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 voting and non-voting common equity held by non-affiliates of the registrant as of June 30, 2023 (the last business day of the registrant's most recently completed second fiscal quarter) was approximately \$8.4 million based upon a closing price of \$7.86 per share.

As of March 25, 2024, there were 51,702,036 shares of the registrant's common stock outstanding.

CROWN ELECTROKINETICS CORP.
FORM 10-K

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In this Annual Report on Form 10-K, “we,” “our,” “us,” “Crown Electrokinetics,” “Crown” and “the Company” refer to Crown Electrokinetics Corporation, unless the context requires otherwise.

Forward-Looking and Cautionary Statements

This Annual Report on Form 10-K, as well as information included in oral statements or other written statements made or to be made by us, contain statements that constitute “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements are neither historical facts nor assurances of future performance. Instead, they are based on our current beliefs, expectations and assumptions regarding the future of our business, future plans and strategies, and other future conditions. Forward-looking statements can be identified by words such as “anticipate,” “believe,” “envision,” “estimate,” “expect,” “intend,” “may,” “plan,” “predict,” “project,” “target,” “potential,” “will,” “would,” “could,” “should,” “continue,” “ongoing,” “contemplate” and other similar expressions, although not all forward-looking statements contain these identifying words. Examples of forward-looking statements include, among others, statements we make regarding:

- future financial position;
- business strategy;
- budgets, projected costs and plans;
- future industry growth;
- financing sources;
- the impact of litigation, government inquiries and investigations; and
- all other statements regarding our intent, plans, beliefs or expectations or those of our directors or officers.

Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee future results, levels of activity, performance or achievements.

The forward-looking statements in this Annual Report on Form 10-K represent our views as of the date of this Report. We undertake no obligation to publicly update any forward-looking statements whether as a result of new information, future developments or otherwise.

Market and Industry Data

Some of the market and industry data contained in this Annual Report on Form 10-K are based on independent industry publications or other publicly available information. Although we believe that these independent sources are reliable, we have not independently verified and cannot assure you as to the accuracy or completeness of this information. As a result, you should be aware that the market and industry data contained herein, and our beliefs and estimates based on such data, may not be reliable.

SUMMARY OF PRINCIPAL RISK FACTORS

This summary briefly lists the principal risks and uncertainties facing our business, which are only a select portion of those risks. A more complete discussion of those risks and uncertainties is set forth in Part I, Item 1A of this Annual Report, entitled *Risk Factors*. Additional risks not presently known to us or that we currently deem immaterial may also affect us. If any of these risks occur, our business, financial condition or results of operations could be materially and adversely affected. Our business is subject to the following principal risks and uncertainties:

- We may require additional funding to sustain our ongoing operations and to continue our research and development activities.
- We have a history of operating losses.
- We may not generate sufficient cash flows to cover our operating expenses.
- We do not directly manufacture products using Electrokinetic technology. We currently rely upon the activities of our partners and their customers in order to be profitable.
- Electrokinetic products face intense competition, which could affect our ability to increase our revenues.
- Our patents and other protective measures may not adequately protect our proprietary intellectual property, and we may be infringing on the rights of others.
- Our future growth and success is dependent upon the real estate industry's willingness to adopt smart glass and specifically our products, especially in the smart glass market which we are targeting with DynamicTint™.
- Our new products and services may not be successful.
- Our operating and financial results forecast relies in large part upon assumptions and analyses developed by us. If these assumptions or analyses prove to be incorrect, our actual operating results may be materially different from our forecasted results.
- We may be unable to meet our growing production demand, product sales, delivery plans and servicing needs, or accurately project and manage this growth nationwide or internationally, which could harm our business and prospects.
- We rely on complex machinery for our operations, and production involves a significant degree of risk and uncertainty in terms of operational performance and costs.
- If our products fail to perform as expected our ability to develop, market and sell our products and services could be harmed.
- We must successfully maintain and upgrade our information technology systems.
- Our products and services are subject to substantial regulations, which are evolving, and unfavorable changes or failure by us to comply with these regulations could substantially harm its business and operating results.
- If the trading price of our common stock fails to comply with the continued listing requirements of the NASDAQ Capital Market, we would face possible delisting, which would result in a limited public market for our common stock and make obtaining future debt or equity financing more difficult for us.
- The sale or availability for sale of substantial amounts of our common stock could adversely affect the market price of our common stock.
- We are controlled by a small group of our existing stockholders, whose interests may differ from other stockholders. Our executive officers and directors will significantly influence our activities, and their interests may differ from your interests as a stockholder.
- Our certificate of incorporation and bylaws, and certain provisions of Delaware corporate law, contain provisions that could delay or prevent a change in control even if the change in control would be beneficial to our stockholders.
- If we fail to develop and maintain proper and effective internal control over financial reporting, our ability to produce timely and accurate financial statements, comply with applicable laws and regulations, or access the capital markets could be impaired.
- We are an "emerging growth company" as defined in the JOBS Act and a "smaller reporting company" as defined in the Securities Exchange Act of 1934, as amended, or the growth Exchange Act, and are able to avail itself of reduced disclosure requirements applicable to emerging companies and smaller reporting companies, which could make our common stock less attractive to investors and adversely affect the market price of our common stock in the future.

PART I

ITEM 1. BUSINESS.

Overview

We develop and sell optical switching film that can be embedded between sheets of glass or applied to the surface of glass, or other rigid substrates such as acrylic, to electronically control opacity (“DynamicTint™”). Originally developed by Hewlett-Packard (“HP”), our technology allows a transition between clear and dark in seconds and can be applied to a wide array of windows, including commercial buildings, automotive sunroofs, and residential skylights and windows. At the core of our proprietary and patent-protected technology is a thin film that is powered by electrically charged pigment which can reduce heat gain replacing common window tints but also providing a more sustainable alternative to blinds and other traditional window treatments. We partner with leading glass and film manufacturers for mass production and distribution of DynamicTint.

Crown Fiber Optics

Our fiber optics operations are founded on the integration of smart technology into the construction and management of fiber optics networks. This endeavor is underscored by the acquisition of specialized equipment and the establishment of new partnerships aimed at bolstering its presence in high-growth markets. Crown’s venture into fiber optics, much like its innovations in smart glass, is characterized by a blend of technological advancement and strategic market positioning. The challenges encountered post-acquisition, including asset impairment and operational realignment, underscore the complexities of integrating new technologies and markets. However, these hurdles have been met with decisive actions aimed at ensuring the long-term viability and growth of the fiber optics operations. As Crown Electrokinetics continues to evolve, its expansion into fiber optics underscores a broader vision of integrating smart technology into foundational infrastructure. This strategic move not only diversifies Crown’s portfolio but also reinforces its commitment to sustainable and innovative solutions. The future of Crown’s fiber optics operations is poised on the cusp of growth, driven by technological prowess, strategic market expansion, and an unwavering focus on delivering cutting-edge solutions.

Electrokinetic Film Technology

Our electrokinetic (EK) technology was derived from proprietary ink and microfluidic technology developed at HP. Electrokinetic refers to the movement of particles within a fluid under the influence of an electric field. Our EK film technology utilizes nanometer-sized pigment particles that are electrically charged and suspended in a liquid that is sandwiched between two clear substrates that are coated with a transparent conductor oxide (TCO) film. *Figure 1*. In a non-energized state, the suspended pigment particles are distributed uniformly between the plastic films, and will absorb, transmit, or reflect light depending on the properties of the suspended pigment (dark state). When the proper electrical signal is applied to the conductive TCO layers, an electrical field is created, and the charged pigment particles collect in micro-embossed holes in a layer of polymer resin covering the transparent conductor surface. As the charged pigment particles are collected, the fluid becomes highly transparent (clear state). By applying a different electrical signal, the pigment can be dispersed back into the fluid to achieve the desired color density or opacity.

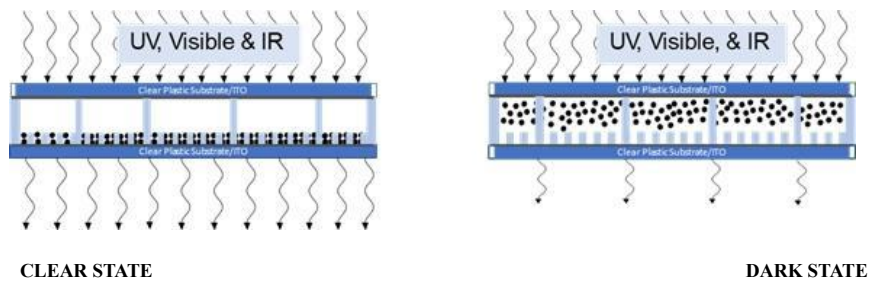


Figure 1. Schematic cross-section of electrokinetic film in clear and dark states.

Highlights

- **Clear Polyethylene Terephthalate (PET) Substrates** - Same material as window tinting films.
- **Transparent Conductor on PET** - Indium Tin Oxide (ITO) - same as most touch screens.
- **Electronic Ink** - Nanoparticles suspended in a fluid which absorb light.
- **Energy Source** - Nanoparticles are controlled through DC low voltage applied to the ITO conductor material which is powered by a lithium ion battery that is charged with a solar cell strip, no hard-wiring necessary.

Our plastic films are manufactured using industry standard roll-to-roll (R2R) processing equipment. We believe our R2R processing will have an inherently lower manufacturing cost compared to sheet-based processing methods used for other smart window technologies like electrochromic glass. There are three basic steps to making our film using R2R equipment.

- 1) **Deposition:** R2R TCO deposition on clear polyethylene terephthalate (PET) plastic film using vacuum sputtering of indium-tin oxide (ITO). The ITO on PET film can be provided by a number of suppliers. Millions of square feet of ITO on PET are currently provided for nearly all capacitance-based display touch screens.
- 2) **Embossing:** R2R embossing of UV-curable resin in a proprietary and patent protected 3-D pattern for ink pigment control and containment on one of the two plastic films. An example of the embossed pattern is shown in *Figure 2*. The R2R embossing process can be completed by various plastic film companies. We have the capability to accomplish the coating and embossing steps within its current facility in addition to working with manufacturing partners.

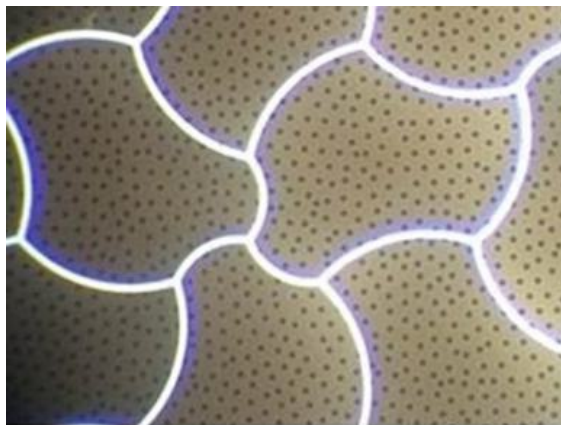


Figure 2. Microscopic Optical Image of Embossed Film

- 3) **Lamination:** The final R2R process laminates the two layers of PET together with the proprietary and patent protected pigment-containing fluid contained by the wall structure shown by the white areas in *Figure 2*. The wall area has adhesion to the upper layer of PET with ITO film thereby sealing the fluid between the two plastic layers. The fluid contains nanometer-sized pigment particles that are charged electrically and suspended in the fluid.

We believe that DynamicTint™ has the following distinct advantages over existing optical electronic film technologies:

- **Neutral Color** - Pigment is designed to be color neutral and will not affect the hue of what is viewed through the window in any clear, dark or tinted state.
- **Speed** - Transition time is typically a few seconds.
- **Affordability** - Roll-to-Roll film manufacturing using relatively inexpensive materials.
- **Low Energy Requirements** - Film is low voltage and can be powered with a small battery charged by a solar cell strip or wired to an existing electrical infrastructure including a LAN line.
- **Retro-Fit** - Film can be applied to a sheet of acrylic or thin glass, called a Smart Window Insert (“Inserts”), and placed within an existing window frame, eliminating the need to replace single pane windows with dual pane windows.
- **Sustainable** - Reduces energy used to heat or cool a room via HVAC systems and can use renewable energy to transition the film.

Smart Window Insert

Our first EK product will be the Smart Window Insert powered by DynamicTint™ which is specifically designed for retrofitting in the domestic and international commercial real estate install base. Our DynamicTint™ can be laminated to other surfaces like heat-treated glass or acrylic and the laminated sheet can be assembled in Smart Window Inserts that can be placed into the interior side of the window frame providing the dynamic tinting capability as well as additional insulation and sound proofing to the existing windows (*Figure 3*).

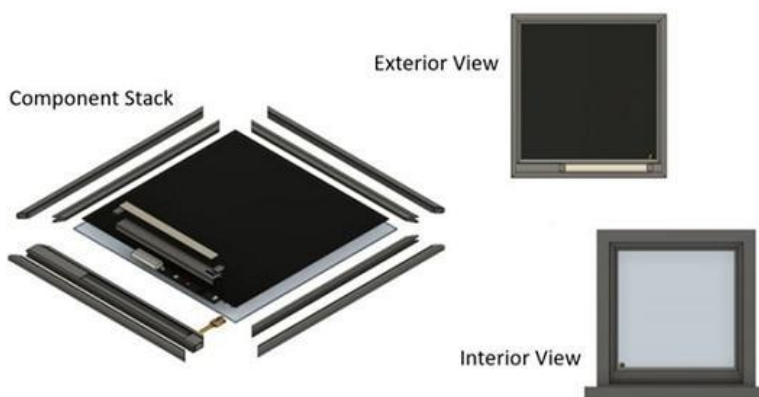


Figure 3. Window Insert with EK Film

The Insert is a custom-sized panel comprised of a rigid substrate (acrylic or thin glass) with a silicon compliant edge seal that allows for the insert to securely fit into the interior side of the window frame.

Some of the Insert's features include:

- **Solar-powered** - eliminating the need to hardwire it into the building's electrical system;
- **Wirelessly enabled** - facilitating communication with all the other installed inserts and integration with the building's management software system;
- **Sensor equipped** - enabling the Insert to auto-sense the intensity of exterior light and interior ambient light;
- **Software enabled** - can be managed via programmed macros, dynamically managed by the building, or user-controlled within an office;
- **Data collection** - allowing optimization of the Inserts/curtain wall energy performance; and
- **Lease vs Purchase** - Creative and flexible financing allows for customers to lease Inserts on a long-term basis and avoid large capital expenditures.

We believe our Smart Window Inserts can be easily installed into commercial buildings, skylights, residential windows, and windows within garage doors. In commercial buildings, our Smart Window Inserts can be used to convert existing single pane windows into dual pane windows. We also believe that there is a significant opportunity to provide Smart Window Inserts to commercial building owners who are looking to eliminate window blinds, gain energy efficiency, and reduce carbon emissions.

Sustainability

We are aware that working towards building a sustainable future is a common goal shared by many. Companies such as Walmart, Amazon and Apple are now publishing their sustainability pledges, and we are seeing a trend of pledging to make their workplaces more environmentally friendly.

Our patented technology provides a solution that helps address many sustainability issues such as:

- **Reducing waste** - as opposed to replacing single pane window units with newly manufactured dual pane windows, we allow building owners to install our retrofit DynamicTint Insert into existing single pane window frames thereby creating a dual pane window;
- **Reducing energy** - The Insert reduces HVAC energy consumption by reducing the need for constantly cooling and heating a room, reducing the customers carbon emissions. Initial field testing suggests HVAC energy savings of up to 26% could potentially result from the installation of Smart Window Inserts. According to FacilitiesNet (<https://www.facilitiesnet.com/windowsexteriorwalls/article/Smart-Window-Benefit-Energy-Savings-Reduced-Glare--17280>), the ability to control the amount of heat entering a building reduces the heat load of the building which in turn reduces your HVAC usage.;
- **Using renewable energy** – Our DynamicTint Insert is low voltage and low wattage and can be powered by a solar strip that captures the sun's energy and is integrated into the Insert itself thereby eliminating the need to hardwire the Insert to the home or building's electrical system.

Another benefit of DynamicTint is being able to optimize daylight usage, thereby reducing the usage of lights. A study done by Project Drawdown (<https://www.drawdown.org/solutions/dynamic-glass>) projected that if 30-50% of commercial building spaces install dynamic glass, the potential climate-weighted energy efficiency from cooling is estimated at 9% and lighting at 9%-depending on local climate, building location and window orientation. This can result in 0.3-0.5 gigatons of emissions reductions from decreased energy use.

At Crown, we are committed to building a product that can be self-sufficient and does not require an additional power source or hard wiring into the electrical system of a residential home or commercial building. This ensures that as we reduce a building's energy consumption, we are not adding to it and are working towards being carbon neutral.

Intellectual Property

On January 31, 2016, we entered into an IP agreement with HP to acquire a research license to determine the feasibility of incorporating HP's electrokinetic display technology in our products. On February 4, 2021, we entered into a fourth amendment to the agreement with HP. Pursuant to such amendment, among other items, the parties agreed to amend the list of patent and patent applications, which includes two additional patents (the "HP Patents") that are assignable to us by HP upon the exercise of our option to acquire the HP Patents (the "Option"). In connection with our exercise of the Option, we paid HP an aggregate amount equal to One Million Five Hundred Fifty Thousand Dollars (\$1,550,000) on February 9, 2021. From the date of the exercise of the Option until January 1, 2030, we agreed to pay to HP a royalty fee based on the cumulative gross revenue received by us from the HP Patents as follows:

Time Window	Lifetime Cumulative Gross Revenue	Royalty Rate
Prior to December 31, 2029	Less than \$70,000,000	0.00%
	\$70,000,000 - \$500,000,000	1.25%
	\$500,000,000 and beyond	1.00%
January 1, 2030 onward		0.00%

In addition, we have current patent applications in the United States and other countries that if granted, would add three additional patents to its portfolio. Our United States patents expire at various dates from March 26, 2028 through March 10, 2036.

A 2022 appraisal of our intellectual property by one of the preeminent third-party IP-valuation firms indicated a total valuation of approximately \$94 million, consisting of \$35 million relating to patents (limited to the US office building market, supplying its Smart Window Insert) and \$59 million for trade secrets.

We believe that our EK technology is adequately protected by its patent position and by its proprietary technological know-how. However, the validity of our patents has never been contested in any litigation. We also possess know-how and relies on trade secrets and nondisclosure agreements to protect its technology. We require any employee, consultant, or licensee having access to its confidential information to execute an agreement whereby such person agrees to keep such information confidential.

Crown-Owned Patents

Country	Filing Date	Publication No.	Title
USA	28-Jan-19	11174328	REFRACTIVE INDEX MATCHED RESIN FOR ELECTROPHORETIC DISPLAYS AND OTHER APPLICATIONS
China	28-Jan-19	CN111918894A	REFRACTIVE INDEX MATCHED RESIN FOR ELECTROPHORETIC DISPLAYS AND OTHER APPLICATIONS
Europe	28-Jan-19	3752867	REFRACTIVE INDEX MATCHED RESIN FOR ELECTROPHORETIC DISPLAYS AND OTHER APPLICATIONS
Japan	28-Jan-19	JP 2021514422A	REFRACTIVE INDEX MATCHED RESIN FOR ELECTROPHORETIC DISPLAYS AND OTHER APPLICATIONS
Korea	28-Jan-19	KR 20200122333A	REFRACTIVE INDEX MATCHED RESIN FOR ELECTROPHORETIC DISPLAYS AND OTHER APPLICATIONS
WO	28-Jan-19	WO 2019/160675**	REFRACTIVE INDEX MATCHED RESIN FOR ELECTROPHORETIC DISPLAYS AND OTHER APPLICATIONS
USA	16-Feb-18	**	REFRACTIVE INDEX MATCHED RESIN FOR ELECTROPHORETIC DISPLAYS AND OTHER APPLICATIONS
USA	13-Jan-20	11454855	APPLICATIONS OF AN ELECTROKINETIC DEVICE FOR AN IMAGING SYSTEM
WO	13-Jan-20	WO2020/150166	APPLICATIONS OF AN ELECTROKINETIC DEVICE FOR AN IMAGING SYSTEM
USA	16-Jan-19	**	APPLICATIONS OF AN ELECTROKINETIC DEVICE FOR AN IMAGING SYSTEM
EPO	23-Jun-21		APPLICATIONS OF AN ELECTROKINETIC DEVICE FOR AN IMAGING SYSTEM
CN	8-Jul-21		APPLICATIONS OF AN ELECTROKINETIC DEVICE FOR AN IMAGING SYSTEM
Korea	5-Jul-21		APPLICATIONS OF AN ELECTROKINETIC DEVICE FOR AN IMAGING SYSTEM
JP	15-Jul-21		APPLICATIONS OF AN ELECTROKINETIC DEVICE FOR AN IMAGING SYSTEM
USA	7-Jul-16	10377909	INKS INCLUDING SEGMENT COPOLYMER GRAFTED PIGMENTS VIA AZIDE CHEMISTRY
USA	22-Nov-10	8179590	ELECTRO-OPTICAL DISPLAY
USA	29-Jul-10	8054535	ELECTROPHORETIC DISPLAY DEVICE

USA	23-Aug-17	10852615*	TWO PARTICLE ELECTROPHORETIC LAMINATE FOR USE WITH SMART WINDOWS WITH REDUCED DIFFRACTION
EPO	2-Dec-15	3256903*	TWO PARTICLE ELECTROPHORETIC LAMINATE FOR USE WITH SMART WINDOWS
EPO	2-Dec-15	3250962*	TWO PARTICLE ELECTROPHORETIC LAMINATE FOR USE WITH SMART WINDOWS WITH REDUCED DIFFRACTION
USA	23-Aug-17	10656493*	TWO PARTICLE ELECTROPHORETIC LAMINATE FOR USE WITH SMART WINDOWS
USA	30-Nov-20	11773647*	TWO PARTICLE ELECTROPHORETIC LAMINATE FOR USE WITH SMART WINDOWS WITH REDUCED DIFFRACTION
WO	2-Dec-15	WO2016/089957**	TWO PARTICLE ELECTROPHORETIC LAMINATE FOR USE WITH SMART WINDOWS
WO	2-Dec-15	WO2016/089974**	TWO PARTICLE ELECTROPHORETIC LAMINATE FOR USE WITH SMART WINDOWS WITH REDUCED DIFFRACTION
USA	18-Dec-14	9567995	WINDOW OPACITY ATTENUATION USING MICROFLUIDIC CHANNELS
USA	18-Aug-15	9816501	WINDOW OPACITY ATTENUATION USING MICROFLUIDIC CHANNELS
USA	9-Mar-18	10926859	SMART WINDOW ACTIVATION TO PREVENT LASER DISTURBANCE
USA	10-May-18	10935818	EVENT-BASED, AUTOMATED CONTROL OF VISUAL LIGHT TRANSMISSION THROUGH VEHICLE WINDOW
USA	26-Oct-16	10106018	AUTOMATED WINDSHIELD GLARE ELIMINATION ASSISTANT
USA	2-Sep-16	10144275	ENVIRONMENTAL CONTROL IN VEHICLES
GB	2-May-19	2586760	EVENT-BASED, AUTOMATED CONTROL OF VISUAL LIGHT TRANSMISSION THROUGH VEHICLE WINDOW
CN	2-May-19	CN111936331A	EVENT-BASED, AUTOMATED CONTROL OF VISUAL LIGHT TRANSMISSION THROUGH VEHICLE WINDOW
DE	2-May-19	112019000749	EVENT-BASED, AUTOMATED CONTROL OF VISUAL LIGHT TRANSMISSION THROUGH VEHICLE WINDOW
JP	2-May-19		EVENT-BASED, AUTOMATED CONTROL OF VISUAL LIGHT TRANSMISSION THROUGH VEHICLE WINDOW
PCT	2-May-19	WO2019/215544**	EVENT-BASED, AUTOMATED CONTROL OF VISUAL LIGHT TRANSMISSION THROUGH VEHICLE WINDOW
USA	11-Oct-21	11578150	REFRACTIVE INDEX MATCHED RESIN FOR ELECTROPHORETIC DISPLAYS AND OTHER APPLICATIONS
USA	24-Feb-22	US20220282567	WINDOW SYSTEM AND METHOD UTILIZING A WINDOW PANE ASSEMBLY AND LOCKING SYSTEM FOR EASY INSERTION OF A WINDOW PANE ASSEMBLY WITH ELECTRONICALLY CONTROLLABLE SCALABLE APERTURES FOR ATTENUATING OR OTHERWISE MODULATING LIGHT TRANSMISSION THROUGH SAID ASSEMBLY
USA	24-Feb-22	11841613	WINDOW SYSTEM AND METHOD UTILIZING A WINDOW PANE ASSEMBLY AND LOCKING SYSTEM FOR EASY INSERTION OF A WINDOW PANE ASSEMBLY WITH ELECTRONICALLY CONTROLLABLE SCALABLE APERTURES FOR ATTENUATING OR OTHERWISE MODULATING LIGHT TRANSMISSION THROUGH SAID ASSEMBLY
USA	29-Mar-22	**	SELF-ALIGNING MASTER AREA MULTIPLICATION FOR CONTINUOUS EMBOSsing
USA	11-Sep-22	11693289	APPLICATIONS OF AN ELECTROKINETIC DEVICE FOR AN IMAGING SYSTEM
USA	22-Jul-14	9441122	INKS INCLUDING SEGMENT COPOLYMER GRAFTED PIGMENTS VIA AZIDE CHEMISTRY (recently assigned to Crown)
USA	10-Feb-23	US20230322974	REFRACTIVE INDEX MATCHED RESIN FOR ELECTROPHORETIC DISPLAYS AND OTHER APPLICATIONS
PCT	23-Feb-23	WO2023/164083	WINDOW SYSTEM AND METHOD UTILIZING A WINDOW PANE ASSEMBLY AND LOCKING SYSTEM FOR EASY INSERTION OF A WINDOW PANE ASSEMBLY WITH ELECTRONICALLY CONTROLLABLE SCALABLE APERTURES FOR ATTENUATING OR OTHERWISE MODULATING LIGHT TRANSMISSION THROUGH SAID ASSEMBLY
USA	30-Aug-23		TWO PARTICLE ELECTROPHORETIC LAMINATE FOR USE WITH SMART WINDOWS WITH REDUCED DIFFRACTION
PCT	27-Mar-23	WO2023/177905	SELF-ALIGNING MASTER AREA MULTIPLICATION FOR CONTINUOUS EMBOSsing
USA	17-Mar-23	US20230294350	SELF-ALIGNING MASTER AREA MULTIPLICATION FOR CONTINUOUS EMBOSsing
USA	29-May-23		APPLICATIONS OF AN ELECTROKINETIC DEVICE FOR AN IMAGING SYSTEM
USA	09-Dec-23		ELECTROKINETIC DEVICE WITH IMAGING SENSOR

* Co-owned with University of Cincinnati

** Inactive

In-Licensed Patents

<u>Patent No.</u>	<u>Country</u>	<u>Patent Date</u>	<u>Status</u>	<u>Title</u>
8,183,757	USA	May 22, 2012	Issued	DISPLAY ELEMENT
8,184,357	USA	May 22, 2012	Issued	DISPLAY ELEMENT
8,331,014	USA	December 11, 2012	Issued	PIGMENT-BASED INKS
8,384,659	USA	February 26, 2013	Issued	DISPLAY ELEMENT INCLUDING ELECTRODES AND A FLUID WITH COLORANT PARTICLES
8,432,598	USA	April 30, 2013	Issued	TRANSPARENT CONDUCTOR STRUCTURE
8,896,906	USA	November 25, 2014	Issued	INKS INCLUDING BLOCK COPOLYMER GRAFTED PIGMENTS VIA AZIDE CHEMISTRY
8,018,642	USA	September 13, 2011	Issued	ELECTRO-OPTICAL DISPLAY

Business Model

We intend to manufacture our patented EK Technology under the name DynamicTint™. We intend to generate revenue by selling our Smart Window Inserts powered by DynamicTint™ to our customers.

Our first EK product will be the Smart Window Insert powered by DynamicTint™ for retrofitting in commercial buildings. Our Smart Window Inserts will allow the building owner to quickly convert a single pane window unit to a dual pane window unit. Our inserts will act as the “second pane” and will allow the building owner to enjoy all the benefits of a dual pane window without having to replace their existing single pane windows.

Our customers will be able to buy and own their Smart Window Inserts but also, at some stage, have the option to enter long-term leases of the Inserts with us.

Additional applications we are exploring with potential customers of Crown’s DynamicTint include:

- Smart Window Inserts for retrofitting of commercial buildings in markets outside the United States.
- Smart window Inserts for retrofitting of multi-family buildings.
- Residential homes: residential windows, garage door windows, windows contained in and surrounding residential front doors as well as residential skylights.
- Automotive: sunroofs.

As our DynamicTint technology requires very little energy to effect that transition from clear to dark state, a rechargeable battery coupled with a built-in solar cell eliminates the need to hardwire the inserts to the building electrical system. We believe that the potential retrofit market for its Smart Window Inserts is significantly large. Each unit will have wireless communication capability for control of the film and communication with the building HVAC system.

We have also developed a working prototype of an insert for the residential skylight, which allows a homeowner to control the amount of light entering the room. Our DynamicTint Insert does not require the homeowner to replace their skylight as it conveniently fits into the existing frame. Our skylight insert will allow a homeowner (through a Bluetooth connection or RF controller) to adjust the level of desired tint easily and quickly, thereby controlling the amount of light and heat entering the room. The DynamicTint Skylight Insert will be powered by a rechargeable lithium battery and built-in solar cell thereby eliminating the need to wire the insert to the home’s electrical system.

Partners and Customers

On March 25, 2022, we executed a Master Supply Agreement (the “BDN MSA”) with Brandywine Operating Partnerships L.P. to install its Smart Window Inserts powered by DynamicTint™ in Brandywine office buildings. The BDN MSA provides the master terms and conditions under which purchase orders will be executed for us to supply units to retrofit windows at certain locations.

In the future, we may enter into multiple specific transactions with our customers by executing purchase orders for additional buildings.

Additionally, discussions with multiple other building owners to buy our Smart Window Inserts are progressing as the regulatory and consumer pressure to reduce the level of energy consumption and carbon emissions continues to build.

Purchase Orders

On August 12, 2022, we entered into two Purchase Orders (PO’s) with Hudson Pacific Properties, L.P. (“Hudson”) for the purchase of our Smart Window Inserts™ (“Inserts”). Hudson is a unique provider of end-to-end real estate solutions for tech and media tenants. The PO’s have a value of \$85,450 and represent the first orders we received prior to the launch of our Inserts. Delivery and installation are expected to begin in Q2 2024.

On August 12, 2022, as additional consideration for the PO’s, we issued a warrant to Hudson to purchase 300,000 shares of our common stock at \$0.75 per share. The warrant has a five year life and expires on August 12, 2027.

Manufacturing

We are developing its manufacturing capabilities to meet anticipated demand for the Smart Window Insert at our facilities located in Corvallis, Oregon, for film production, and Salem, Oregon, for Smart Window Insert manufacturing.

We plan to produce its EK film at its facilities in Corvallis using its existing roll to roll (the “R2R”) embossing equipment. We intend to perform all other film manufacturing processes at our Corvallis facility upon receipt of additional manufacturing equipment currently ordered and awaiting delivery.

Our Smart Window Inserts will be produced at our Salem facility, where EK film will be laminated to glass, and then assembled into a frame. The inserts electronic components will also be integrated into the insert and the final assembled inserts will be packaged for shipment from Salem to our customers’ buildings.

The completion of our facilities in Corvallis and Salem marks our transition to being completely self-sufficient in manufacturing our products, eliminating any dependency on contract manufacturers or partners.

Commercial Office Building Market

Commercial buildings have gotten larger in the United States as their floorspace continues to grow faster than the number of commercial buildings, according to preliminary results from the U.S. Energy Information Administration’s (EIA) 2018 *Commercial Buildings Energy Consumption Survey* (CBECS). CBECS estimates that 5.9 million U.S. commercial buildings contained a total of 97 billion square feet as of 2018. The number of commercial buildings increased by 6%, and commercial square footage increased by 11% since the CBECS was last conducted in 2012.

Smart Glass Industry Trends

We believe there are favorable converging global trends in the major near-term markets for “smart glass” products. Key factors driving the growth of the smart glass market are the growing demand for smart glass for energy savings for existing commercial and residential buildings. Added to this trend are government mandates and legislation for energy-efficient construction of both commercial and residential buildings. There is a growing opportunity for smart windows in the transportation industry including automobiles, commercial trucks, buses, and passenger rail cars.

In both public and private sectors across the world, there are substantial efforts targeted toward the promotion and use of energy efficient smart glass materials, including those used in automobiles, windows and other architectural glazings.

In September 2020, Markets and Markets issued *Smart Glass Market with COVID-19 Impact by Technology (Suspended Particle Display, Electrochromic, Liquid Crystal), Application (Architecture, Transportation, Consumer Electronics), and Geography - Global Forecast to 2025*. The smart glass market size is expected to grow from USD 3.8 billion in 2020 to USD 6.8 billion by 2025, at a CAGR of 12.1% during the forecast period. The growth of the smart glass industry is driven by factors, such as the growing adoption of smart glass in automotive application and, declining prices for electrochromic material. Other major driving factors for smart glass adoption include supportive government mandates and legislation on energy efficiency. Governing bodies of various countries are increasingly encouraging the use of these energy-efficient products.

Smart glass has inherent energy-saving and auto-dimming properties, which reduce its maintenance cost. As a result, the perceived benefits of these glass products are more than the incurred investments.

We believe that the smart glass industry is in the initial phase of growth and that DynamicTint™ may have commercial applicability in many products where variable light-control is desired.

Our Technology

DynamicTint™ combines many of the favorable properties of the other smart window technologies. It has fast-switching time and unlike electrochromic (EC) technology, modulation in light level is not area dependent and the film is neutral in color in all settings. Unlike Suspended Particles Devices (SPD) and Polymer Dispersed Liquid Crystal (PDLC) technology, EK film does not need high voltage alternating current to power the film. Because of the low power requirements, EK films can be powered with batteries or combined with small area solar cells, allowing retrofit to existing windows. Furthermore, in the future EK film could be made with other colorants and it is possible with modification to the design to use two colorants in the same film, which has been demonstrated in the recent past under a research project at the University of Cincinnati. Below is a table outlining some of the typical properties of each technology.

Other Smart Glass Technologies

Variable light transmission technologies can be classified into two basic types: “active” technologies that can be controlled electrically by the user either automatically or manually, and “passive” technologies that can only react to ambient environmental conditions such as changes in lighting or temperature. Most of the technologies are “active”. One type that is passive is thermochromic technology where a rise in temperature will darken the film applied to glass.

We believe that our DynamicTint has certain performance advantages over other “smart glass” technologies and that pricing and product performance are the two main factors critical to the adoption of smart glass products. Because the non-EK smart glass technologies listed below do not have published, consistent pricing or cost data that can be relied upon, we cannot accurately report its price position relative to these other technologies. In terms of product performance, we believe that DynamicTint offers numerous advantages over other smart glass technologies as discussed below.

Technology	Can Retrofit	Power Usage	Can Tint to Black	Solar or Battery Powered	Tint Transition Speed	Light Transmission
DynamicTint™ (Electrokinetic)	✓	<0.01 W/M2	✓	✓	approx. 2 sec	3.0% - 70% or 0.4 %-50%
Electrochromic (EC)	×	0.3 - 2 W/M2 (30X EK)	×	×	5-40 min	<1% - 58%
Suspended Polymers in Particles (SPD) ¹	×	1.1 W/M2 at 100V/50hz (110X EK)	×	×	<3 sec	0.8% - 55%
Polymer Dispersed Liquid Crystal (PDLC)	×	5 - 20 W/M2 (500X EK)	×	×	1 - 3 sec	~80%

Ref. 1: SPD Film - LCF-1103DHA90 Showa Denko Material Co.

Electrochromic Glass

Electrochromic (EC) glass technology has been used as a light absorbing technology for rear view mirrors in automobiles for decades, and more recently for large-scale windows. However, the EC technology developed for windows is based on a different set of materials that are directly deposited on the heat-treated glass panels. All the current EC companies are using tungsten oxide as the main component involved in the color transition from clear to blue. Because of the nature of the chemical transition of the tungsten oxide, the EC film does not absorb as much of the blue light and so remaining light will have a strong blue hue both in the room and looking through the window. The speed of the switching time from dark to light or the reverse change is directly related to the size of the window area and the electrode design which brings electrical current to the EC material to start the chemical transition. EC technology is basically a battery-like material that requires “charging and discharging”. The time to charge/discharge the EC material in a large window can take up to 40 minutes to change from the dark state to the clear state at nominal temperatures. Also, during switching of the EC film, there can be non-uniform areas which can vary in level of tint from center to edge. The larger the area of the window, the more non-uniform during the change of state. Longer switching time can minimize the non-uniform areas. The EC materials are typically vacuum deposited directly on “defect-free” glass. The typical investment required for a large window electrochromic factory can run into the hundreds of millions of dollars, due to the large-scale vacuum equipment required, low particulate cleanroom required, and the relatively slow speed of deposition for all the various layers. Halio, formerly Kinestral Technologies, is using a chemical liquid deposition technique to replace some of the vacuum deposition steps to lower the capital investment needed for manufacturing.

Suspended Particle Glass (SPD)

SPD is a film that has suspended long and narrow particles in an encapsulated liquid polymer film with layers of ITO on either side to allow generation of an alternating current electrical field to twist the particles from a random state to a near vertical state perpendicular to the ITO plane. In the vertical state light passes through the film and in the random state the light is absorbed by the particles. The color of the film is blue since the particles used in the film do not absorb blue light as well as other colors of sunlight. No other types of particles have been created for this type of device. The film responds quickly to the electrical field, however, requires constant high AC voltage to hold the clear state. The film is manufactured on plastic and uses roll-to-roll (R2R) equipment processing. Also, because the particles are aligned when in the clear state, the film has a limited viewing angle much like older liquid-crystal displays. When viewed at a side angle, the film will appear darker. The current market for SPD has been mainly automobile sunroofs where the viewing angle of the passengers is relatively fixed at nearly perpendicular angle to the SPD film.

Polymer-Dispersed Liquid Crystal (PDLC) Film

PDLC requires an AC electric field like the SPD film described above to achieve a clear state. However, the liquid-crystal based film can only scatter light in the power-off state, therefore, most of the incoming light is transmitted through the film (~80%). Typically, the PDLC film is used for interior windows or doors to create privacy. PDLC has similar manufacturing methods using R2R equipment and plastic film with ITO conductor to the SPD film. The film is available from many Far East manufacturing companies with some able to make ~150 cm width film. The quality of the film can vary based on the manufacturing company. The film was invented at Kent State University in the 1980's and the patents have expired.

Competition

Several smart glass competitors have an operating history, including:

- SAGE Electrochromic, Inc., a wholly owned subsidiary of Saint-Gobain, which develops and manufactures electrochromic glass;
- View Glass [NASDAQ: VIEW] and Halio, formerly Kinestral Technologies, manufacture electrochromic glass at their purpose-built manufacturing facilities and both are headquartered in California; and
- Research Frontiers, Inc. [NASDAQ: REFR] licenses an electronically controlled tinted film, utilizing SPD technology, to various companies.

We expect that other competitors will emerge in the future.

Research and Development

We have been using a 6" width R2R equipment capable of handling the deposition, embossing and lamination steps of the manufacturing process for research and development. We will utilize the 12" width film for the first-generation Smart Window Insert. Larger scale manufacturing is planned at a minimum of 36" width film to address markets including appropriately sized commercial building window inserts, larger format skylights inserts, and many automobile sunroofs. Thereafter, we will develop capability to manufacture DynamicTint film of at least 72" width capability. This will allow us to address the vast majority of window sizes for most applications.

As a result of our research and development efforts, we believe that our EK technology is now, or with additional development will become, usable in a number of commercial products. Such products may include one or more of the following fields: "smart" windows, doors, skylights and partitions; self-dimmable automotive sunroofs, windows, sun visors, and mirrors.

We have devoted most of our financial resources to research and development activities with the goal of producing commercially viable EK products and has developed working samples of our EK technology.

Our main goals in research and development include:

- developing wider ranges of light transmission,
- reducing the voltage required to operate DynamicTint,
- obtaining data and developing improved materials regarding environmental stability and longevity, and
- quantifying the degree of energy savings expected by users of our technology.

Crown Fiber Optics

On January 3, 2023, we acquired substantially all of the assets (the “Asset Acquisition”) of Amerigen 7 LLC (“Amerigen”), which was engaged in the business of construction of 5G fiber optics infrastructure, for cash consideration of approximately \$0.65 million. The Asset Acquisition included approximately 12 employees, customer contracts, and certain operating liabilities. On December 20, 2022, we incorporated our wholly-owned subsidiary Crown Fiber Optics Corp. (“Crown Fiber Optics”) in Delaware, to own and operate the business acquired from Amerigen.

We are a new entrant in providing contracting services to the fiber optics and telecommunications infrastructure industry throughout the United States. Since our entrance into the construction of fiber optic networks, we have expanded our scope and service offerings organically and through one acquisition. Today, we are focused on providing construction services to the fiber optic industry. We are focused on adding management depth to expand our industry knowledge, to develop strong customer relationships, and to hire and retain a skilled workforce.

Crown Fiber Optics supplies telecommunications providers with a comprehensive portfolio of specialty services, including program management; planning; engineering and design; aerial, and underground fiber construction.

Construction, Maintenance, and Installation Services. Crown Fiber Optics provides a range of construction, maintenance, and installation services, including the placement and splicing of fiber, copper, and coaxial cables. Crown Fiber Optics excavates trenches to place these cables; places related structures, such as poles, anchors, conduits, manholes, cabinets, and closures; places drop lines from main distribution lines to a consumer’s home or business; and maintains and removes these facilities. Crown Fiber Optics provides these services for both telephone companies, internet service providers and cable multiple system operators in connection with the deployment, expansion, or maintenance of new and existing networks. Crown Fiber Optics can also provide tower construction, lines and antenna installation, foundation and equipment pad construction, small cell site placement for wireless carriers, and equipment installation and material fabrication and site testing services. In addition, Crown Fiber Optics provides underground facility locating services for telecommunications providers. Crown Fiber Optics’ underground facility locating services include locating telephone, cable television, power, water, sewer, and gas lines.

Fiber Optics Business Strategy

Capitalize on Long-Term Growth Drivers. Crown Fiber Optics is positioned to benefit from the increased demand for network telecommunications bandwidth that is necessary to ensure reliable video, voice, and data services. Developments in consumer and business applications within the telecommunications industry, including advanced digital and video service offerings, continue to increase demand for greater wireline and wireless network capacity and reliability. Telecommunications network operators are increasingly deploying fiber optic cable technology deeper into their networks and closer to consumers and businesses in order to respond to consumer demand, competitive realities, and public policy support. Additionally, wireless carriers are upgrading their networks and contemplating next generation mobile solutions in response to the significant demand for wireless broadband, driven by the proliferation of smart phones, mobile data devices and other advances in technology. Increasing wireless data traffic and emerging wireless technologies are United States. Furthermore, significant consolidation and merger activity among telecommunications providers could also provide increased demand for our services as networks are integrated.

Selectively Increase Market Share. We believe Crown Fiber Optics’ reputation for providing high quality services and the ability to provide those services nationally creates opportunities to expand market share. Crown Fiber Optics’ operating structure and multiple points of contact within customer organizations positions it favorably to win new opportunities and maintain strong relationships with its customers.

Crown Fiber Optics recently purchased five micro trenchers to gain a strategic advantage over other companies competing in our market. Micro trenching is a technique to place fiber optic cables underground and is gaining acceptance across multiple markets. Micro trenchers are difficult to obtain as the demand for the equipment is significant. Crown Fiber Optics has a commitment from our equipment vendor for an additional 15 micro trenchers. We believe this advantage will allow it to gain market share and market advantage over our competitors.

Pursue Selective Acquisitions. Crown Fiber Optics may pursue acquisitions that are operationally and financially beneficial as they provide incremental revenue, geographic diversification, and complement existing operations. We generally target companies for acquisition that have defensible leadership positions in their market niches, the opportunity to generate profitability that meets or exceeds industry averages, proven operating histories, sound management and certain clearly identifiable cost synergies.

Fiber Optics Customer Relationships

Crown Fiber Optics has recently established relationships with many leading telecommunications providers, including telephone companies, cable multiple system operators, wireless carriers, and telecommunication equipment and infrastructure providers. Crown Fiber Optics' customer base is primarily concentrated in the Arizona region. We believe that a substantial portion of Crown Fiber Optics' total contract revenues and operating income will continue to be generated from a concentrated group of customers and that the identity and proportion of contract revenues arising from work for top customers will fluctuate.

Crown Fiber Optics performs a significant amount of our services under master service agreements and other contracts that contain customer-specified service requirements. These agreements include discrete pricing for individual tasks. Crown Fiber Optics generally possesses multiple agreements with each of its significant customers. To the extent that such agreements specify exclusivity, there are often exceptions, including the ability of the customer to issue work orders valued above a specified dollar amount to other service providers, the performance of work with the customer's own employees, and the use of other service providers when jointly placing facilities with another utility. In most cases, a customer may terminate an agreement for convenience. Historically, multi-year master service agreements have been awarded primarily through a competitive bidding process; however, occasionally we are able to negotiate extensions to these agreements. Crown Fiber Optics provides the remainder of its services pursuant to contracts for specific projects. These contracts may be long-term (with terms greater than one year) or short-term (with terms less than one year) and often include customary retainage provisions under which the customer may withhold 5% to 10% of the invoiced amounts pending project completion and closeout.

Fiber Optics Cyclical and Seasonality

The cyclical nature of the industry Crown Fiber Optics serves affects demand for its services. The capital expenditure and maintenance budgets of Crown Fiber Optics' customers, and the related timing of approvals and seasonal spending patterns, influence its contract revenues and results of operations. Factors affecting Crown Fiber Optics' customers and their capital expenditure budgets include, but are not limited to, overall economic conditions, including the cost of capital, the introduction of new technologies, the customers' debt levels and capital structures, our customers' financial performance, and the customers' positioning and strategic plans. Other factors that may affect Crown Fiber Optics' customers and their capital expenditure budgets include new regulations or regulatory actions impacting the customers' businesses, merger or acquisition activity involving the customers, and the physical maintenance needs of the customers' infrastructure.

Crown Fiber Optics' operations exhibit seasonality and may be impacted by adverse weather changes as it performs a significant portion of work outdoors. Consequently, adverse weather, which is more likely to occur with greater frequency, severity, and duration during the winter, as well as reduced daylight hours, impact Crown Fiber Optics' operations during the fiscal quarters ending in December and March. Additionally, extreme weather conditions such as major or extended winter storms, droughts and tornados, and natural disasters, such as floods, hurricanes, tropical storms, whether as a result of climate change or otherwise, could also impact the demand for our services, or impact our ability to perform our services.

Fiber Optics Competition

The specialty contracting services industry in which we operate is highly fragmented and includes a large number of participants. Crown Fiber Optics competes with several large multinational corporations and numerous regional and privately owned companies. In addition, a portion of Crown Fiber Optics' customers directly perform many of the same services that it provides. Relatively few barriers to entry exist in the markets in which Crown Fiber Optics' operate. As a result, any organization that has adequate financial resources, access to technical expertise, and the necessary equipment may become a competitor and the degree to which an existing competitor participates in the markets that Crown Fiber Optics operates may increase rapidly. The principal competitive factors for Crown Fiber Optics' services include geographic presence, quality of service, worker and general public safety, price, breadth of service offerings, and industry reputation. Crown Fiber Optics believes that it compares favorably to its competitors when evaluated against these factors.

Fiber Optics Subcontractors and Materials

Crown Fiber Optics may contract with subcontractors to perform a significant amount of its work and to manage fluctuations in work volumes and to reduce the amount it expend on fixed assets and working capital. These subcontractors are typically small, privately owned companies that provide their own employees, vehicles, tools and insurance coverage. No individual subcontractor is financially significant to us.

For a majority of the contract services Crown Fiber Optics performs, it is provided the majority of the required materials by its customers. Because Crown Fiber Optics' customers retain the financial and performance risk associated with materials they provide, we do not include the costs associated with those materials in our contract revenues or costs of earned revenues. Under contracts that require Crown Fiber Optics to supply part or all of the required materials, it typically does not depend upon any one source for those materials.

Risk Management and Insurance

Claims arising in Crown Fiber Optics' business generally include workers' compensation claims, various general liability and damage claims, and claims related to motor vehicle collisions, including personal injury and property damage. For claims within our insurance program, we retain the risk of loss, up to certain limits, for matters related to automobile liability, general liability (including damages associated with underground facility locating services), workers' compensation, and employee group health. Additionally, within our aggregate coverage limits and above our base layer of third-party insurance coverage, we have retained the risk of loss at certain levels of exposure. We carefully monitor claims and actively participate with our insurers and our third-party claims administrator in determining claims estimates and adjustments. We accrue the estimated costs of claims as liabilities and include estimates for claims incurred but not reported. Due to fluctuations in our loss experience from year to year, insurance accruals have varied and can affect our operating margins. Our business could be materially and adversely affected if we experience an increase of insurance claims at certain amounts, or in excess of our coverage limits.

Regulation

Crown Fiber Optics is subject to various federal, state, and local government regulations, including laws and regulations relating to environmental protection, work-place safety, and other business requirements.

Environmental. A significant portion of the work Crown Fiber Optics performs is associated with the underground networks of its customers and it often operates in close proximity to pipelines or underground storage tanks that may contain hazardous substances. Crown Fiber Optics could be subject to potential material liabilities in the event it fails to comply with environmental laws or regulations or if it causes or is responsible for the release of hazardous substances or causes other environmental damages. In addition, failure to comply with environmental laws and regulations could result in significant costs including remediation costs, fines, third-party claims for property damage, loss of use, or personal injury, and, in extreme cases, criminal sanctions.

Workplace Safety. Crown Fiber Optics is subject to the requirements of the federal Occupational Safety and Health Act ("OSHA") and comparable state statutes that regulate the protection of the health and safety of workers. The failure to comply with OSHA or other workplace safety requirements could result in significant liabilities, fines, penalties, or other enforcement actions and affect our ability to perform the services that we have been contracted to provide to our customers.

Business. Crown Fiber Optics is subject to a number of state and federal laws and regulations, including those related to utility oversight contractor licensing and the operation of Crown Fiber Optic' fleet. If Crown Fiber Optics is not in compliance with these laws and regulations, it may be unable to perform services for its customers and may also be subject to fines, penalties, and the suspension or revocation of our licenses.

Employees and Human Capital

Crown Electrokinetics Corp. has seventeen full-time employees. Ten of the employees are associated with the our film division with the remaining seven performing business development, legal, finance, marketing, investor relations, and administrative functions. Crown Fiber Optics has 25 employees, and the rest perform business development, finance, marketing, investor relations, and administrative functions. Our employees have extensive industrial experience in leading technology, ink-based manufacturing and 5G construction companies. We believe that our success is dependent upon, among other things, the services of our senior management, the loss of which could have a material adverse effect upon our prospects. None of our employees are represented by a labor union or covered by a collective bargaining agreement.

As we continues to grow, we will add additional manufacturing engineering, marketing, and administrative personnel.

Our Corporate Information

Our primary business location is the R&D and Manufacturing facility located at 1110 NE Circle Blvd., Corvallis, OR 97330. We also have an office located at 11601 Wilshire Blvd., Suite 2240, Los Angeles, CA 90025 and a yard located at 12600 S 182nd Pl #10, Gilbert, AZ 85296. Our telephone number is +1 (213) 660-4250, our e-mail address is info@crownek.com, and our Internet website addresses are www.crownek.com and www.crown-fiberoptics.com. We were incorporated in the State of Delaware on April 20, 2015.

ITEM 1A. RISK FACTORS.

Investing in our common stock involves a high degree of risk. You should carefully consider each of the following risks, together with all other information set forth in this Annual Report on Form 10-K, including the financial statements and the related notes and “Management’s Discussion and Analysis of Financial Conditions and Results of Operations”, before making a decision to purchase, hold or sell our common stock. The occurrence of any of the following risks could harm our business, financial condition, results of operations and/or growth prospects or cause our actual results to differ materially from those contained in forward-looking statements we have made in this report and those we may make from time to time. If any of the following risks actually occurs, our business, financial condition, results of operations and future growth prospects would likely be materially and adversely affected. In these circumstances, the market price of our common stock would likely decline and you may lose all or part of your investments. Additional risks and uncertainties not presently known to us or that we currently deem immaterial also may impair our business operations.

Risks Related to Our Business

Source and Need for Capital.

As we take steps in the commercialization and marketing of our technology or respond to potential opportunities and/or adverse events, our working capital needs may change. We anticipate that if our cash and cash equivalents are insufficient to satisfy our liquidity requirements, we will require additional funding to sustain our ongoing operations and to continue our research and development activities.

We have funded most of our activities through sales of our securities to investors. Our eventual success and generation of positive cash flow will be dependent upon the extent of commercialization of products using our technology. We can give no assurances that we will generate sufficient cash flows in the future (through sales of our common stock, exercise of options and warrants, royalty fees, or otherwise) to satisfy our liquidity requirements or sustain future operations, or that additional funding, if required, will be available when needed or, if available, on favorable terms.

History of Operating Losses.

We have experienced net losses from operations, and we may continue to incur net losses from operations in the future. We have incurred substantial costs and expenses in researching and developing our electrokinetic technology. Our net loss was approximately \$29.0 million for the year ended December 31, 2023. This includes non-cash accounting charges during the year ended December 31, 2023 of approximately \$12.8 million, resulting from stock-based compensation expenses related to our stock options and restricted stock, loss on issuance of debt, and depreciation and amortization. Our net loss was approximately \$14.4 million for the year ended December 31, 2022. Non-cash accounting charges for the year ended December 31, 2022 were \$2.6 million resulting from stock-based compensation expenses related to our stock options and restricted stock, loss on issuance of debt, and depreciation and amortization offset by the gain on forgiveness of our PPP loan.

We expect to continue to incur losses from operations and negative cash flows, which raise substantial doubt about our ability to continue as a Going Concern.

We anticipate incurring additional losses until such time, if ever, that we can obtain marketing approval to sell, and then generate significant sales, of our technology that is currently in development. We will need substantial additional financing to fund our operations and to develop and commercialize our technology. These factors raise substantial doubt about our ability to continue as a going concern.

We will seek to obtain additional capital through the sale of debt or equity financings or other arrangements to fund operations; however, there can be no assurance that we will be able to raise needed capital under acceptable terms, if at all. The sale of additional equity may dilute existing stockholders and newly issued shares may contain senior rights and preferences compared to currently outstanding shares of common stock. Issued debt securities may contain covenants and limit our ability to pay dividends or make other distributions to stockholders. If we are unable to obtain such additional financing, future operations would need to be scaled back or discontinued. Due to the uncertainty in our ability to raise capital, we believe that there is substantial doubt in our ability to continue as a going concern.

We may not generate sufficient cash flows to cover our operating expenses.

As noted above, we have incurred recurring losses since inception and expect to continue to incur losses as a result of costs and expenses related to our research and continued development of our technology and our corporate general and administrative expenses. Our limited capital resources and operations to date have been substantially funded through sales of our securities. As of December 31, 2023, we had negative working capital of approximately \$1.9 million, cash of approximately \$1.1 million, shareholders’ equity of approximately \$4.7 million and an accumulated deficit of approximately \$117.0 million. In the event that we are unable to generate sufficient cash from our operating activities or raise additional funds, we may be required to delay, reduce or severely curtail our operations or otherwise impede our on-going business efforts, which could have a material adverse effect on our business, operating results, financial condition and long-term prospects.

We have never declared a cash dividend and do not intend to declare a cash dividend in the foreseeable future.

We have never declared or paid cash dividends on our common stock. Payment of dividends on our common stock is within the discretion of our Board of Directors and will depend upon our future earnings, capital requirements, financial condition and other relevant factors. We do not anticipate declaring or paying any cash dividends on our common stock in the foreseeable future.

We currently rely upon our vendors to provide elements of the manufacturing tooling.

We currently depend upon the activities of our vendors to provide certain tooling elements of our manufacturing process. We do not have full control over their processes which may mean risks in the form of delivery timing and quality of tooling components.

Electrokinetic products face intense competition, which could affect our ability to increase our revenues.

The market for electrokinetic products is intensely competitive and we expect competition to increase in the future. We compete based on the functionality and the quality of our product. Many of our current and potential competitors have significantly greater financial, technical, marketing and other resources than we have. In addition, many of our competitors have well-established relationships with our current and potential customers and have extensive knowledge of our industry. If our competitors develop new technologies or new products, improve the functionality or quality of their current products, or reduce their prices, and if we are unable to respond to such competitive developments quickly either because our research and development efforts do not keep pace with our competitors or because of our lack of financial resources, we may be unable to compete effectively.

Declining production of automobiles and real estate could harm our business.

Our commercialization efforts could be negatively impacted if the global production of automobiles and real estate construction declines significantly. If such commercialization is reduced, our revenues, results of operations and financial condition could be negatively impacted.

We are dependent on key personnel.

Our continued success will depend, to a significant extent, on the services of our directors, executive management team, key personnel and certain key scientists. If one or more of these individuals were to leave our company, there is no guarantee that we could replace them with qualified individuals in a timely or economically satisfactory manner or at all. The loss or unavailability of any or all of these individuals could harm our ability to execute our business plan, maintain important business relationships and complete certain product development initiatives, which would have a material adverse effect on our business, results of operations and financial conditions.

Dependence on electrokinetic technology.

Our success depends upon the viability of electrokinetic technology which has yet to be fully proven. We have not fully ascertained the performance and long-term reliability of our technology, and therefore there is no guarantee that our technology will be successfully incorporated into all of the products which we are targeting for use of electrokinetic technology. We expect that different product applications for electrokinetic technology will have different performance and reliability specifications. We expect that our licensees will primarily be responsible for reliability testing, but that we may also continue to do reliability testing so that we can more effectively focus our research and development efforts toward constantly improving the performance characteristics and reliability of products using electrokinetic technology.

Our patents and other protective measures may not adequately protect our proprietary intellectual property, and we may be infringing on the rights of others.

Our intellectual property, particularly our proprietary rights in our electrokinetic technology, is critical to our success. We have acquired various patents, and filed other patent applications, for various applications and aspects of our electrokinetic technology. In addition, we generally enter into confidentiality and invention agreements with our employees and consultants. Such patents and agreements and various other measures we take to protect our intellectual property from use by others may not be effective for various reasons generally applicable to patents and their granting and enforcement. In addition, the costs associated with enforcing patents, confidentiality and invention agreements or other intellectual property rights may be expensive. Our inability to protect our proprietary intellectual property rights or gain a competitive advantage from such rights could harm our ability to generate revenues and, as a result, our business and operations.

The extent to which the coronavirus ("COVID-19") outbreak impacts our business, results of operations and financial condition will depend on future developments, which cannot be predicted.

The COVID-19 pandemic has caused us to modify our business practices (including employee travel, employee work locations, and cancellation of physical participation in meetings, events and conferences), and we may take further actions as may be required by government authorities or that we determine are in the best interests of our employees, customers and business partners. There is no certainty that such measures will be sufficient to mitigate the risks posed by the virus or otherwise be satisfactory to government authorities.

The extent to which COVID-19 impacts our business, results of operations and financial condition will depend on future developments, which are uncertain and cannot be predicted, including, but not limited to, the duration and spread of the outbreak, its severity, the actions to contain the virus or treat its impact, and how quickly and to what extent normal economic and operating conditions can resume. Even after the coronavirus outbreak has subsided, we may continue to experience materially adverse impacts to our business as a result of its global economic impact, including any recession that has occurred or may occur in the future.

Our future growth and success is dependent upon the real estate industry's willingness to adopt smart glass and specifically our products, especially in the smart glass market which we are targeting with DynamicTint™.

Our growth is highly dependent upon the adoption of smart glass by the real estate industry. Although we anticipate growing demand for our products, there is no guarantee of such future demand, or that our products will remain competitive in the market.

If the market for smart glass in general and our products in particular do not develop as we expect, or develop more slowly than we expect, or if demand for our products decreases in our markets, our business, prospects, financial condition and operating results could be harmed. The market for our products could be affected by numerous factors, such as:

- perceptions about smart glass features, quality, safety, performance and cost;
- competition, including from other types of smart glass or traditional glass;
- the cost premium of smart glass in contrast to traditional glass;
- government regulations and economic incentives;
- reduced construction activity, including as a result of the short and long-term effect of COVID-19; and
- concerns about our future viability.

Our new products and services may not be successful.

We announced our first smart glass product in 2020 and we anticipate launching additional products and services in the future. Existing and new products and services we may launch in the future may not be well received by our business customers, may not help us to generate new business customers, may adversely affect the attrition rate of existing business customers, may increase our business customer acquisition costs and may increase the costs to service our business customers. Any profits we may generate from these or other new products or services may be lower than profits generated from our other products and services and may not be sufficient for us to recoup our development or business customer acquisition costs incurred. New products and services may also have lower gross margins, particularly to the extent that they do not fully utilize our existing infrastructure. In addition, new products and services may require increased operational expenses or business customer acquisition costs and present new and difficult technological and intellectual property challenges that may subject us to claims or complaints if business customers experience service disruptions or failures or other quality issues. To the extent our new products and services are not successful, it could have a material adverse effect on our business, financial condition, cash flows or results of operations.

If we are unable to establish and maintain confidence in our long-term business prospects among business customers, analysts and within our industries, then our financial condition, operating results, and business prospects may suffer materially.

Business customers may be less likely to purchase our products if they are not convinced that our business will succeed or that our service and support and other operations will continue in the long term. Similarly, suppliers and other third parties will be less likely to invest time and resources in developing business relationships with us if they are not convinced that its business will succeed. Accordingly, in order to build and maintain its business, we must maintain confidence among business customers, suppliers, analysts, ratings agencies and other parties in our long-term financial viability and business prospects. Maintaining such confidence may be complicated by certain factors, such as our limited operating history, negative press, business customer unfamiliarity with our products, any delays in scaling manufacturing, delivery and service operations to meet demand, competition and uncertainty regarding the future of smart glass or our other products and services, our quarterly production and sales performance compared with market expectations, and any other negative publicity related to us. Many of these factors are largely outside our control, and any negative perceptions about our long-term business prospects, even if exaggerated or unfounded, such as speculation regarding the sufficiency or stability of our management team, could harm our business and make it more difficult to raise additional funds if needed.

Our operating and financial results forecast relies in large part upon assumptions and analyses developed by us. If these assumptions or analyses prove to be incorrect, our actual operating results may be materially different from our forecasted results.

Our projected financial and operating information reflect current estimates of future performance. Whether actual operating and financial results and business developments will be consistent with our expectations and assumptions as reflected in our forecasts depends on a number of factors, many of which are outside our control, including, but not limited to:

- market acceptance of our products;
- success and timing of development activity;
- competition, including from established and future competitors;
- our ability to manage our growth;
- our ability to satisfy the manufacturing and production demands associated with customer orders;
- whether we can manage relationships with key suppliers;
- our ability to retain existing key management, integrate recent hires and attract, retain and motivate qualified personnel; and
- the overall strength and stability of domestic and international economies.

Unfavorable changes in any of these or other factors, most of which are beyond our control, could materially and adversely affect our business, results of operations and financial results.

Disruption of supply or shortage of materials, in particular for glass, could harm our business.

Our business is dependent on the continued supply of certain materials, including glass, acrylic, as well as other chemicals such as indium tin oxide, certain pigments and polyethylene for use in our products, and we may experience a sustained interruption in the supply or shortage of such materials. Any such supply interruption or shortage could materially and negatively impact our business, prospects, financial condition and operating results. The available supply may be unstable, depending on market conditions and global demand for these materials and could adversely affect our business and operating results.

Increases in cost of materials could harm our business.

Certain materials necessary to produce our products, including glass, acrylic, as well as other chemicals such as indium tin oxide, certain pigments and polyethylene, are sourced from a limited number of suppliers. Any disruption in the supply of materials from such suppliers could disrupt production of our products until such time as a different supplier is fully qualified. As a result, we may experience an increase in costs or inability to meet customer demand. Furthermore, shortages or increased demand of such materials and other economic conditions may cause us to experience significant increases in freight charges and the cost of materials. Substantial increases in the prices for our materials or prices charged to us would increase our operating costs and could reduce our margins if we cannot recoup the increased costs through increased product prices. Any attempts to increase product prices in response to increased material costs could result in cancellations of product orders and reservations and therefore materially and adversely affect our brand, image, business, prospects and operating results.

We may be unable to meet our growing production demand, product sales, delivery plans and servicing needs, or accurately project and manage this growth nationwide or internationally, which could harm our business and prospects.

In the past, we've experienced, and we may experience in the future, delays or other complications in the design, manufacture, launch, and production ramp of our products, including DynamicTint™ or may not realize our manufacturing cost targets, which could harm our brand, business, prospects, financial condition and operating results. Our manufacturing facility may require significant cash investments and management resources for these plans, and we may not meet our expectations with respect to additional sales of our products. In addition, we've introduced in the past, and we may introduce in the future, new manufacturing technologies, techniques and processes. There is no guarantee that we will be able to successfully and timely introduce and scale any such new processes or features.

Our production plans for our products are based on many key assumptions, including:

- **Ability to utilize manufacturing capacity to achieve the planned production yield.** We assume that we will be able to sustain and further expand our high-volume production and our products at our Corvallis and Salem facilities, including with the introduction of new product features, without exceeding our projected costs and on our projected timeline; and
- **Suppliers' ability to support our needs.** We assume that we will be able to maintain suppliers for the necessary components on terms and conditions that are acceptable to us and that we will be able to obtain high-quality components on a timely basis and in the necessary quantities to support high-volume production.

If one or both of the foregoing assumptions turns out to be incorrect, our ability to meet our projections, including for production, on time and at volumes and prices that are profitable, the demand for and deliveries of our products, as well as our business, prospects, operating results and financial condition, may be materially and adversely impacted.

Concurrent with developing, launching and ramping our products, our success will depend on our ability to continue to significantly increase our sales, deliveries, and servicing, while allocating our available resources among multiple products simultaneously. Although we have a plan for selling and delivering increased volumes of our products, we have limited experience developing, manufacturing, selling, servicing and allocating our available resources at the scale to which we expect to grow. If we are unable to realize our plans, our brand, business, prospects, financial condition and operating results could be materially damaged.

We continuously evaluate, and as appropriate evolve, our operations and product offerings in order to maximize our reach and optimize our costs. However, there is no guarantee that each step in our evolving strategy will be perceived as intended by developers, tenants, and the construction industry. Likewise, as we develop and grow our products and services in North America, and possibly worldwide, our success will depend on our ability to correctly forecast demand in different markets.

We may also face difficulties meeting our sales and delivery goals in both existing markets as well as new markets into which we expand. There is no assurance that we will be able to ramp our business to meet our sales and delivery targets in North America or even globally, or that our projections on which such targets are based will prove accurate. This ongoing expansion in North America and potentially internationally, which includes planned entry into markets in which we have limited or no experience selling, delivering, and servicing our products at scale, and which may pose legal, regulatory, labor, cultural and political challenges that we have not previously encountered, may not have the desired effect of increasing sales and expanding our brand presence to the degree we are anticipating. Moreover, we may not be successful in managing our national and future international operations if we are unable to avoid cost overruns and other unexpected operating costs, adapt our products and conduct our operations to meet local requirements and regulations, implement required local infrastructure, systems and processes, and find and hire as needed additional sales, service, construction and administrative personnel. If we fail to manage our growth effectively, it could result in negative publicity and damage to our brand and have a material adverse effect on our business, prospects, financial condition and operating results.

We rely on complex machinery for our operations, and production involves a significant degree of risk and uncertainty in terms of operational performance and costs.

We rely heavily on complex machinery for our operations and the production of our products that suffers unexpected malfunctions from time to time and requires repairs and spare parts to resume operations, which may not be available when needed. Unexpected malfunctions of our production equipment may significantly affect intended operational efficiency. In addition, the operational performance and costs associated with this equipment can be difficult to predict and may be influenced by factors outside of our control, such as, but not limited to, failures by suppliers to deliver necessary machinery components in a timely manner and at prices and volumes acceptable to us, which could have a material adverse effect on our operational performance, cash flows, financial condition or prospects.

If our products fail to perform as expected, our ability to develop, market and sell our products and services could be harmed.

If our products contain defects in design and manufacture that cause them not to perform as expected or that require repair, or certain features of our products take longer than expected to become enabled or are legally restricted, our ability to develop, sell, and service our products could be harmed. Although we attempt to remedy any issues we observe in our products as effectively and rapidly as possible, such efforts may not be timely, may hamper production or may not be to the satisfaction of our business customers. While we perform extensive internal testing on the products we manufacture, we currently have a limited frame of reference by which to evaluate detailed long-term quality, reliability, durability and performance characteristics of our products. There can be no assurance that we will be able to detect and fix any defects in our products prior to their sale to business customers.

Our inability to provide products or services in a timely manner, legal restrictions on product features, or defects in our products or services, including products and services of third parties that we incorporate into our offerings, could adversely affect our reputation, result in delivery delays, product recalls, product liability claims, and significant warranty and other expenses, and subject us to claims or litigation. In addition, our inability to meet business customers' expectations with respect to our products or services could increase attrition rates or affect our ability to generate new business customers and thereby have a material adverse effect on our business, financial condition, cash flow or results of operations.

We may choose to or be compelled to undertake product recalls or take other similar actions, which could adversely affect our brand image and financial performance.

Any product recall with respect to our products may result in adverse publicity, damage our brand and adversely affect our business, prospects, operating results and financial condition. In the future, we may at various times, voluntarily or involuntarily, initiate a recall if any of our products prove to be defective or noncompliant with applicable laws and regulations. Such recalls, whether voluntary or involuntary or caused by systems or components engineered or manufactured by us or our suppliers, could involve significant expense and could adversely affect our brand image in our target markets, as well as our business, prospects, financial condition and results of operations.

We must successfully maintain and upgrade our information technology systems.

We rely on various information technology systems to manage our operations, including general, non-proprietary information technology systems in our facility and proprietary information technology systems in our products. As necessary, we implement modifications and upgrades to these systems, and replace certain of our legacy systems with successor systems with new functionality.

The technology and capital equipment we employ may become old or obsolete, which could require significant capital expenditures for upkeep and upgrade over time. Our products and services interact with the hardware and software technology of systems and devices located at our business customers' property. We may be required to implement new technologies or adapt existing technologies in response to changing market conditions, business customer preferences, industry standards or inability to secure necessary intellectual property licenses, which could require significant capital expenditures. Our inability to adapt to changing technologies, market conditions or subscriber preferences in a timely manner could have a material adverse effect on our business, financial condition, cash flows or results of operations.

There are inherent costs and risks associated with modifying or changing these systems and implementing new systems, including potential disruption of our internal control structure, substantial capital expenditures, additional administration and operating expenses, retention of sufficiently skilled personnel to implement and operate the new systems, demands on management time and other risks and costs of delays or difficulties in transitioning to new systems or of integrating new systems into our current systems. While management seeks to identify and remediate issues, we can provide no assurance that our identification and remediation efforts will be successful or that we will not encounter additional issues as we complete the implementation of these and other systems. In addition, our information technology system implementations may not result in productivity improvements at a level that outweighs the costs of implementation, or at all. The implementation of new information technology systems may also cause disruptions in our business operations and have an adverse effect on our business, cash flows and operations.

We rely on certain third-party providers of licensed software and services integral to the operations of our business.

Certain aspects of the operation of our business may depend on third-party software and service providers. With regard to licensed software technology, we may become dependent upon the ability of third parties to maintain, enhance or develop their software and services on a timely and cost-effective basis, to meet industry technological standards and innovations to deliver software and services that are free of defects or security vulnerabilities, and to ensure their software and services are free from disruptions or interruptions. Further, these third-party services and software licenses may not always be available to us on commercially reasonable terms or at all.

If the third-party software or services become obsolete, fail to function properly, are incompatible with future versions of our products or services, or are defective or otherwise fail to address our needs, there is no assurance that we would be able to replace the functionality provided by any future third-party software or services with software or services from alternative providers. Any of these factors could have a material adverse effect on our financial condition, cash flows or results of operations.

Any unauthorized control or manipulation of our products' systems could result in loss of confidence in us and our products and harm our business.

Our products contain complex information technology systems. We have designed, implemented and tested security measures intended to prevent unauthorized access to our information technology networks, our products and our systems. However, hackers may attempt to gain unauthorized access to modify, alter and use such networks, products and systems to gain control of, or to change, our products' functionality, user interface and performance characteristics, or to gain access to data stored in or generated by our products. We encourage reporting of potential vulnerabilities in the security of our products via our security vulnerability reporting policy, and we aim to remedy any reported and verified vulnerability. However, there can be no assurance that vulnerabilities will not be exploited in the future before they can be identified, or that our remediation efforts are or will be successful.

Any unauthorized access to or control of our products or their systems or any loss of data could result in legal claims or proceedings. In addition, regardless of their veracity, reports of unauthorized access to our products, their systems or data, as well as other factors that may result in the perception that our products, their systems or data are capable of being "hacked," could negatively affect our brand and harm our business, prospects, financial condition and operating results.

If our security controls are breached or unauthorized or inadvertent access to business customers' information or other data are otherwise obtained, our services may be perceived as insecure, we may lose existing business customers or fail to attract new business customers, our business may be harmed, and we may incur significant liabilities.

Our future products may involve the collection, storage, transmission and processing of personal, payment, credit and other confidential and private information of our business customers, and may in certain cases permit access to our business customers' property or help secure them. Such future products that may present privacy and data risks may be subject to privacy and data protection laws and regulations. We also maintain and process other confidential and proprietary information in our business, including our employees' and contractors' personal information and confidential business information. We rely on proprietary and commercially available systems, software, tools and monitoring to protect against unauthorized use or access of the information we process and maintain. Our services and the networks and information systems we utilize in our business are at risk for breaches as a result of third-party action, employee, vendor or partner error, malfeasance, or other factors. For example, we may experience instances of our employees, contractors and other third parties improperly accessing our and/or our business customers' systems and information in violation of our internal policies and procedures.

Criminals and other nefarious actors may use increasingly sophisticated methods, including cyberattacks, phishing, social engineering and other illicit acts to capture, access or alter various types of information, to engage in illegal activities such as fraud and identity theft, and to expose and exploit potential security and privacy vulnerabilities in corporate systems and websites. Unauthorized intrusion into the portions of our systems and networks and data storage devices that process and store business customers' confidential and private information, the loss of such information or the deployment of malware or other harmful code to our services or our networks or systems may result in negative consequences, including the actual or alleged malfunction of our products or services. In addition, third parties, including our partners and vendors, could also be sources of security risks to us in the event of a failure of their own security systems and infrastructure. The threats we face continue to evolve and are difficult to predict due to advances in computer capabilities, new discoveries in the field of cryptography and new and sophisticated methods used by criminals. There can be no assurances that our defensive measures will prevent cyber-attacks or that we will discover network or system intrusions or other breaches on a timely basis or at all. We cannot be certain that we will not suffer a compromise or breach of the technology protecting the systems or networks that house or access our products and services or on which our or our partners or vendors process or store personal information or other sensitive information or data, or that any such incident will not be believed or reported to have occurred. Any such actual or perceived compromises or breaches to systems, or unauthorized access to, or acquisition or loss of, data, whether suffered by us, our partners or vendors or other third parties, whether as a result of employee error or malfeasance or otherwise, could harm our business. They could, for example, cause interruptions in operations, loss of data, loss of confidence in our services and products and damage to our reputation and could limit the adoption of our services and products. They could also subject us to costs, regulatory investigations and orders, litigation, contract damages, indemnity demands and other liabilities and materially and adversely affect our business customer base, sales, revenue, and profits. Any of these could, in turn, have a material adverse impact on our business, financial condition, cash flows or results of operations.

Further, if a high profile security breach occurs with respect to another provider of smart glass, our existing and potential business customers may lose trust in the security of our services or in smart glass generally, which could adversely impact our ability to retain existing business customers or attract new ones. Even in the absence of any security breach, business customers' concerns about security, privacy or data protection may deter them from using our service. Our insurance policies covering errors and omissions and certain security and privacy damages and claim expenses may not be sufficient to compensate for all potential liability. Although we maintain cyber liability insurance, we cannot be certain that our insurance coverage will be adequate for liabilities actually incurred or that insurance will continue to be available to us on economically reasonable terms, or at all.

Our products and our website, systems, and data we maintain may be subject to intentional disruption, other security incidents, or alleged violations of laws, regulations, or other obligations relating to data handling that could result in liability and adversely impact our reputation and future sales.

We may face significant challenges with respect to information security and maintaining the security and integrity of our systems and other systems used in our business, as well as with respect to the data stored on or processed by these systems. Advances in technology, an increased level of sophistication, and an increased level of expertise of hackers, new discoveries in the field of cryptography or others can result in a compromise or breach of the systems used in its business or of security measures used in our business to protect confidential information, personal information, and other data.

The availability and effectiveness of our products, and our ability to conduct our business and operations, depend on the continued operation of information technology and communications systems, some of which we have yet to develop or otherwise obtain the ability to use. Systems used in our business, including data centers and other information technology systems, will be vulnerable to damage or interruption. Such systems could also be subject to break-ins, sabotage and intentional acts of vandalism, as well as disruptions and security incidents as a result of non-technical issues, including intentional or inadvertent acts or omissions by employees, service providers, or others. We anticipate using outsourced service providers to help provide certain services, and any such outsourced service providers face similar security and system disruption risks as us. Some of the systems used in our business will not be fully redundant, and our disaster recovery planning cannot account for all eventualities. Any data security incidents or other disruptions to any data centers or other systems used in our business could result in lengthy interruptions in our service.

Our products and services are subject to substantial regulations, which are evolving, and unfavorable changes or failure by us to comply with these regulations could substantially harm its business and operating results.

Smart glass is subject to substantial regulation under international, federal, state, and local laws. We incur significant costs in complying with these regulations and may be required to incur additional costs to comply with any changes to such regulations, and any failures to comply could result in significant expenses, delays, or fines. We may become subject to laws and regulations applicable to the supply, manufacture, import, sale and service of smart glass internationally. For example, in countries outside of the U.S., we may be required to meet standards relating to safety that are often materially different from requirements in the U.S., thus resulting in additional investment into the products and systems to ensure regulatory compliance in those countries. This process may include official review and certification of our products by foreign regulatory agencies prior to market entry, as well as compliance with foreign reporting and recall management systems requirements.

We are subject to various government regulations that could impose substantial costs upon us and negatively impact our ability to operate our manufacturing facility.

As a manufacturing company, including with respect to its facility in Corvallis, Oregon, we are and will be subject to complex environmental, manufacturing, health and safety laws and regulations, including laws relating to the use, handling, storage, recycling, disposal and human exposure to hazardous materials. The costs of compliance, including remediating contamination if any is found on our properties and any changes to our operations mandated by new or amended laws, may be significant. We may also face unexpected delays in obtaining permits and approvals required by such laws in connection with its manufacturing facility, which would hinder our operation of this and future facilities. Such costs and delays may adversely impact our business prospects and operating results. Furthermore, any violations of these laws may result in substantial fines and penalties, remediation costs, third party damages, or a suspension or cessation of our operations. We may also be subject to anti-corruption, anti-bribery, anti-money laundering, financial and economic sanctions, and similar laws. Non-compliance with such laws can subject us to administrative, civil, and criminal fines and penalties, collateral consequences, remedial measures and legal expenses, all of which could adversely affect our business, results of operations, financial condition and reputation.

There may be laws in jurisdictions we have not yet entered or laws we are unaware of in jurisdictions we have entered that may restrict our sales or other business practices. The laws in this area can be complex, difficult to interpret and may change over time. Continued regulatory limitations and other obstacles that may interfere with our ability to commercialize our products could have a negative and material impact on our business, prospects, financial condition, and results of operations.

Many of our products must comply with local building codes and ordinances, and failure of our products to comply with such codes and ordinances may have an adverse effect on its business.

Many of our products must comply with local building codes and ordinances. Building codes may also affect the products our customers are allowed to use, and, consequently, changes in building codes may also affect the sale of our products. These codes and ordinances are subject to future government review and interpretation. If our products fail to comply with such local building codes or ordinances, our ability to market and sell such products would be impaired. Also, should these codes and ordinances be amended or expanded, or should new laws and regulations be enacted, we could incur additional costs or become subject to requirements or restrictions that require us to modify our products or adversely affect our ability to market and sell our products. If our products do not adequately or quickly adapt to building standards, we may lose market share to competitors, which would adversely affect our business, results of operation, financial condition, and cash flows. Furthermore, failure of our products to comply with such codes or ordinances could subject it to negative publicity or damage its reputation.

Compliance with the regulations of the U.S. Occupational Safety and Health Administration (“OSHA”) can be costly, and non-compliance with such requirements may result in potentially significant monetary penalties, operational delays, negative publicity and adverse effect on our financial condition.

Our operations are subject to regulation under OSHA and other state and local laws and regulations. OSHA establishes certain employer responsibilities, including maintenance of a workplace free of recognized hazards likely to cause death or serious injury, compliance with standards promulgated by the applicable regulatory authorities and various recordkeeping, disclosure and procedural requirements. Changes to OSHA requirements, or stricter interpretation or enforcement of existing laws or regulations, could result in increased costs. If we fail to comply with applicable OSHA regulations, even if no work-related serious injury or death occurs, we may be subject to civil or criminal enforcement and be required to pay substantial penalties, incur significant capital expenditures or suspend or limit operations. Any such accidents, citations, violations, injuries or failure to comply with industry best practices may subject us to adverse publicity, damage our reputation and competitive position and adversely affect our business.

We have incurred, and we will continue to incur, capital and operating expenditures and other costs in the ordinary course of business in complying with OSHA and other state, local and foreign laws and regulations. While we have invested, and we will continue to invest, substantial resources in worker health and safety programs, there can be no assurance that we will avoid significant liability exposure. Personal injury claims for damages, including for bodily injury or loss of life, could result in substantial costs and liabilities, which could materially and adversely affect our financial condition, results of operations or cash flows. In addition, if our safety record were to substantially deteriorate, or if we suffered substantial penalties or criminal prosecution for violation of health and safety regulations, business customers could cancel existing contracts and not award future business to us, which could materially adversely affect our liquidity, cash flows and results of operations.

We are subject to labor and employment laws and regulations, which could increase our costs and restrict our operations in the future.

Our business is subject to a variety of employment laws and regulations and may become subject to additional requirements in the future. Although we believe we are in material compliance with applicable employment laws and regulations, in the event of a change in requirements, we may be required to modify our operations or to utilize resources to maintain compliance with such laws and regulations. Moreover, we may be subject to various employment-related claims, such as individual or class actions or government enforcement actions relating to alleged employment discrimination, employee classification and related withholding, wage-hour disputes, labor standards or healthcare and benefit issues. Our failure to comply with applicable employment laws and regulations and related legal actions against us may affect our ability to compete or have a material adverse effect on our business, financial condition, cash flows or results of operations.

We may fail to obtain or maintain necessary licenses or otherwise fail to comply with applicable laws and regulations.

Our business focuses on contracts and transactions with business customers and therefore is subject to a variety of laws, regulations and licensing requirements that govern our interactions with business customers, including those pertaining to privacy and data security, business customer financial transactions and warranties. Our business may become subject to additional such requirements in the future. In certain jurisdictions, we are also required to obtain licenses or permits to comply with standards governing marketing and sales efforts, servicing of business customers, monitoring station employee selection and training and to meet certain standards in the conduct of our business. These laws and regulations are dynamic and subject to potentially differing interpretations, and various legislative and regulatory bodies may expand current laws or regulations or enact new laws and regulations regarding these matters. We strive to comply with all applicable laws and regulations relating to our interactions with business customers. It is possible, however, that these requirements may be interpreted and applied in a manner that is inconsistent from one jurisdiction to another and may conflict with other rules or our practices. Our non-compliance with any such law or regulations could also expose us to claims, proceedings, litigation and investigations by private parties and regulatory authorities, as well as substantial fines and negative publicity, each of which may materially and adversely affect our business. Delays in obtaining, or failing to obtain, approvals or rights, such as permitting, interconnection, or land usage approvals or rights, could affect our business customers' builds. We may incur significant expenses to comply with such laws and regulations, and increased regulation of matters relating to our interactions with business customers could require us to modify our operations and incur significant additional expenses, which could have an adverse effect on our business, financial condition and results of operations. If we expand the scope of our products or services or our operations in new markets, we may be required to obtain additional licenses and otherwise maintain compliance with additional laws, regulations or licensing requirements.

Changes in these laws or regulations or their interpretation, as well as new laws, regulations or licensing requirements which may be enacted, could dramatically affect how we do business, acquire business customers, and manage and use information we collect from and about current and prospective customers and the costs associated therewith. In addition, federal, state and local governmental authorities have considered, and may in the future consider, implementing consumer protection rules and regulations, which could impose significant constraints on our sales channels.

We are subject to requirements relating to environmental and safety regulations and environmental remediation matters which could adversely affect its business, results of operation and reputation.

We are subject to federal, state and local environmental laws and regulations governing, among other things, solid and hazardous waste storage, treatment and disposal, and remediation of releases of hazardous materials. Our suppliers are also subject to federal, state and local environmental laws and regulations, and their use of hazardous materials may adversely impact their operations and the availability of raw materials. While we adapt our manufacturing and distribution processes to the environmental control standards of regulatory authorities, we cannot completely eliminate the risk of accidental contamination or injury from hazardous or regulated materials, including injury of its employees, individuals who handle its products, or others who claim to have been exposed to our products, nor can we completely eliminate the unanticipated interruption or suspension of operations at its facilities due to such events. We may be held liable for significant damages or fines in the event of contamination or injury, and such assessed damages or fines could have an adverse effect on its financial performance and results of operations.

There are capital, operating and other costs associated with compliance with these environmental laws and regulations. Environmental laws and regulations may become more stringent in the future, which could increase costs of compliance or require us to manufacture with alternative technologies and materials. Non-compliance with such regulations may include litigation, regulation, fines, increased insurance premiums, mandates to temporarily halt production, workers' compensation claims, or other actions that impact the company brand, finances, or ability to operate.

Our insurance strategy may not be adequate to protect us from all business risks.

We may be subject, in the ordinary course of business, to losses resulting from products liability, accidents, acts of God and other claims against us, for which we may have no insurance coverage. A loss that is uninsured or which exceeds policy limits may require us to pay substantial amounts, which could adversely affect our financial condition and operating results.

We are subject to all of the ordinary course operating hazards and risks that may come with the provision of our products and services and business operations. In addition to contractual provisions limiting our liability to business customers and third parties, we maintain insurance policies in such amounts and with such coverage and deductibles as required by law and that we believe are reasonable and prudent. Nevertheless, such insurance may not be adequate to protect us from all the liabilities and expenses that may arise from claims for personal injury, death or property damage arising in the ordinary course of our business and current levels of insurance may not be able to be maintained or be available at economical prices. If a significant liability claim is brought against us that is not covered by insurance, then we may have to pay the claim with our own funds, which could have a material adverse effect on our business, financial condition, cash flows or results of operations. We may not be able to secure additional product liability insurance coverage on commercially acceptable terms or at reasonable costs when needed, particularly if we do face liability for our products and are forced to make a claim under our policy.

Our business may be adversely affected by any disruptions caused by union activities.

Although our employees are currently not unionized and we have not experienced any work stoppages since our inception, it is not uncommon for employees at manufacturing companies to belong to a union, which can result in higher employee costs and increased risk of work stoppages. Although we work diligently to provide the best possible work environment for our employees, our employees may decide to join or seek recognition to form a labor union in the future, or we may be required to become a union signatory. If a work stoppage occurs, it could delay the manufacture and sale of our products and have a material adverse effect on our business, prospects, operating results or financial condition.

Adverse developments in the credit markets may impair our ability to secure debt financing.

In past economic downturns, such as the financial crisis in the United States that began in mid-2007 and during other times of extreme market volatility, many commercial banks and other financial institutions stopped lending or significantly curtailed their lending activity. In addition, in an effort to stem losses and reduce their exposure to segments of the economy deemed to be high risk, some financial institutions limited routine refinancing and loan modification transactions and even reviewed the terms of existing facilities to identify bases for accelerating the maturity of existing lending facilities. The United States and global economies suffered dramatic downturns as a result of COVID-19, a deterioration in the credit markets and related financial crisis, as well as a variety of other factors including, among other things, extreme volatility in security prices, severely diminished liquidity and credit availability, ratings downgrades of certain investments and declining valuations of others. If these conditions recur or persist, it may be difficult for us to obtain desired financing to finance the growth of our investments on acceptable economic terms, or at all.

COVID-19 has, and until fully resolved could again, result in, among other things, increased draws by borrowers on revolving lines of credit and increased requests by borrowers for amendments, modifications and waivers of their credit agreements to avoid default or change payment terms, increased defaults by such borrowers and/or increased difficulty in obtaining refinancing at the maturity dates of their loans. The duration and effectiveness of responsive measures implemented by governments and central banks cannot be predicted. The commencement, continuation, or cessation of government and central bank policies and economic stimulus programs, including changes in monetary policy involving interest rate adjustments or governmental policies, may contribute to the development of or result in an increase in market volatility, illiquidity and other adverse effects that could negatively impact the credit markets and us.

If we are unable to consummate credit facilities on commercially reasonable terms, our liquidity may be reduced significantly. If we are unable to repay amounts outstanding under any facility we may enter into and are declared in default or are unable to renew or refinance any such facility, it would limit our ability to initiate significant originations or to operate our business in the normal course. These situations may arise due to circumstances that we may be unable to control, such as inaccessibility of the credit markets, a severe decline in the value of the U.S. dollar, a further economic downturn or an operational problem that affects third parties or us, and could materially damage our business. Moreover, we are unable to predict when economic and market conditions may become more favorable. Even if such conditions improve broadly and significantly over the long term, adverse conditions in particular sectors of the financial markets could adversely impact our business.

Loss of a major customer could result in a decrease in our future sales and earnings.

We anticipate that a limited number of customers in any given period may account for a substantial portion of our total net revenue for the foreseeable future. The business risks associated with this concentration, including increased credit risks for these and other customers and the possibility of related bad debt write-offs, could negatively affect our margins and profits. Additionally, the loss of a major customer, whether through competition or consolidation, or a disruption in sales to such a customer, could result in a decrease of our future sales and earnings.

If we are unable to achieve our targeted manufacturing costs for our products, our financial condition and operating results will suffer.

While we are continuing to and expect in the future to realize cost reductions by both us and our suppliers, including through increased production, there is no guarantee we will be able to achieve sufficient cost savings to reach our gross margin and profitability goals, or our other financial targets. We incur significant costs related to procuring the materials required to manufacture our products and compensating our personnel. If our efforts to continue to decrease manufacturing costs are not successful, we may incur substantial costs or cost overruns in utilizing and increasing the production capability of our manufacturing facility. Many of the factors that impact our manufacturing costs are beyond our control, such as potential increases in the costs of our materials and components. If we are unable to continue to control and reduce our manufacturing costs, our operating results, business and prospects will be harmed.

We are exposed to fluctuations in currency exchange rates, which could affect our financial results.

Foreign exchange rates are influenced by many factors outside of our control, including but not limited to: changing supply and demand for a particular currency, monetary policies of governments (including exchange-control programs, restrictions on local exchanges or markets and limitations on foreign investment in a country or an investment by residents of a country in other countries), changes in balances of payments and trade, trade restrictions and currency devaluations and revaluations. The resulting fluctuations in the exchange rates for the other currencies could have an adverse effect on our financial condition and results of operations.

We are subject to collection risks.

We may face normal collection risks with business customers and suppliers. If we fail to collect from our business customers, our business and operating results could be adversely affected.

Future transactions could pose risks.

We frequently evaluate strategic opportunities both within and outside our existing lines of business. We expect from time to time to pursue additional business opportunities and may decide to eliminate or acquire certain businesses, products or services. There are various risks and uncertainties associated with potential acquisitions and divestitures, including: (i) availability of financing; (ii) difficulties related to integrating previously separate businesses into a single unit, including product and service offerings, distribution and operational capabilities and business cultures; (iii) general business disruption; (iv) managing the integration process; (v) diversion of management's attention from day-to-day operations, (vi) assumption of costs and liabilities of an acquired business, including unforeseen or contingent liabilities or liabilities in excess of the amounts estimated; (vii) failure to realize anticipated benefits and synergies, such as cost savings and revenue enhancements; (viii) potentially substantial costs and expenses associated with acquisitions and dispositions; (ix) failure to retain and motivate key employees; and (x) difficulties in applying our internal control over financial reporting and disclosure controls and procedures to an acquired business. Any or all of these risks and uncertainties, individually or collectively, could have material adverse effect on our business, financial condition, cash flow or results of operations. We can offer no assurance that any such strategic opportunities will prove to be successful. Among other negative effects, our pursuit of such opportunities could cause our cost of investment in new business customers to grow at a faster rate than our recurring revenue and fees collected at the time of sale. Additionally, any new product or service offerings could require developmental investments or have higher cost structures than our current arrangements, which could reduce operating margins and require more working capital.

Crown Fiber Optics is dependent on the communications industry and may be susceptible to the risks associated with it, which could materially adversely affect its business, financial position or results of operations.

As the owner, lessor and provider of communications services and distribution systems serving the communications industry, Crown Fiber Optics is impacted by the risks associated with the communications industry. Therefore, our success is to some degree dependent on the communications industry, which could be adversely affected by economic conditions in general, changes in consumer trends and preferences, changes in communications technology designed to enhance the efficiency of communications distribution systems (including lit fiber networks and wireless equipment), and other factors over which we and our tenants have no control. As we are subject to risks inherent in substantial investments in a single industry, a decrease in the communications business or development and implementation of any such new technologies would likely have an adverse effect on our revenues.

Any failure of Crown Fiber Optics' physical infrastructure or services could lead to significant costs and disruptions.

Crown Fiber Optics' business depends on providing customers with highly reliable service. The services provided are subject to failure resulting from numerous factors, including human error, power loss, improper maintenance, physical or electronic security breaches, fire, earthquake, hurricane, flood and other natural disasters, water damage, the effect of war, terrorism and any related conflicts or similar events worldwide, and sabotage and vandalism. Problems within Crown Fiber Optics' networks or facilities, whether within our control or the control of third-party providers, could result in service interruptions or equipment damage. We may not be able to efficiently upgrade or change Crown Fiber Optics' networks or facilities to meet new demands without incurring significant costs that we may not be able to pass on to customers. Given the service guarantees that may be included in Crown Fiber Optics' agreements with customers, such disruptions could result in customer credits; however, we cannot assume that customers will accept these credits as compensation in the future, and we may face additional liability or loss of customers.

Risks Related to our Common Stock

If the trading price of our Common Stock fails to comply with the continued listing requirements of the Nasdaq Capital Market, we would face possible delisting, which would result in a limited public market for our Common Stock and make obtaining future debt or equity financing more difficult for us.

Companies listed on Nasdaq are subject to delisting for, among other things, failure to maintain a minimum closing bid price of \$1.00 per share for 30 consecutive business days. On October 19, 2023, we received a letter from Nasdaq indicating that for at least the previous 30 consecutive business days, the closing bid price of our C common stock fell below the minimum \$1.00 per share requirement pursuant to Nasdaq Listing Rule 5550(a)(2) and 5810(c)(3)(A) (the "Nasdaq Listing Rules").

While the notification had no immediate effect on the listing of our common stock on Nasdaq, in accordance with the Nasdaq Listing Rules, we have been provided an initial period of 180 calendar days from the date of notification, or until April 16, 2024, to regain compliance with the minimum bid price requirement, during which time our common stock continued to trade on Nasdaq. The letter states that the Nasdaq staff will provide written notification that we have achieved compliance with the Nasdaq Listing Rules if at any time before April 16, 2024, the bid price of our Common Stock closes at \$1.00 per share or more for a minimum of ten (10) consecutive business days.

A hearing was scheduled with Nasdaq to occur in the second quarter of 2024 to discuss our approach to regain compliance and maintaining its listing.

If we do not regain compliance with the Nasdaq Listing Rules by April 16, 2024, we may be eligible for an additional 180 calendar day compliance period. To qualify, we will be required to meet the continued listing requirement for market value of publicly held shares and all other initial listing standards for The Nasdaq Capital Market, with the exception of the rule regarding bid price, and will need to provide written notice of our intention to cure the deficiency during the second compliance period, for example, by effecting a reverse stock split, if necessary. However, if it appears to the Nasdaq staff that we will not be able to cure the deficiency, or if we are otherwise not eligible, Nasdaq will notify us that our securities will be subject to delisting. In the event of such a notification, we may appeal the Nasdaq staff's determination to delist its securities. There can be no assurance that we will be eligible for the additional 180 calendar day compliance period, if applicable, or that the Nasdaq staff would grant our request for continued listing subsequent to any delisting notification. Further, even if we are successful in our hearing before the Panel, we cannot guarantee that the price of our common stock will comply with the Nasdaq Listing Rules for continued listing on the Nasdaq Capital Market in the future.

If we cannot comply with the Nasdaq Listing Rules either now or in the future, our common stock would be subject to delisting and would likely trade on the over-the-counter market. If our common stock were to trade on the over-the-counter market, selling shares of our common stock could be more difficult because smaller quantities of shares would likely be bought and sold, transactions could be delayed, and security analysts' coverage of us may be reduced. In addition, broker-dealers have certain regulatory burdens imposed upon them, which may discourage broker-dealers from effecting transactions in shares of our common stock, further limiting the liquidity of our common stock. As a result, the market price of our common stock may be depressed, and you may find it more difficult to sell shares of our common stock. Such delisting from the Nasdaq and continued or further declines in our stock price could also greatly impair our ability to raise additional necessary capital through equity or debt financing.

If our shares of common stock become subject to the penny stock rules, it would become more difficult to trade our shares.

The SEC has adopted rules that regulate broker-dealer practices in connection with transactions in penny stocks. Penny stocks are generally equity securities with a price of less than \$5.00, other than securities registered on certain national securities exchanges or authorized for quotation on certain automated quotation systems, provided that current price and volume information with respect to transactions in such securities is provided by the exchange or system. If we do not retain a listing on the Nasdaq Capital Market (the "Exchange") or another national securities exchange and if the price of our common stock is less than \$5.00, our common stock could be deemed a penny stock. The penny stock rules require a broker-dealer, before a transaction in a penny stock not otherwise exempt from those rules, to deliver a standardized risk disclosure document containing specified information. In addition, the penny stock rules require that before effecting any transaction in a penny stock not otherwise exempt from those rules, a broker-dealer must make a special written determination that the penny stock is a suitable investment for the purchaser and receive (i) the purchaser's written acknowledgment of the receipt of a risk disclosure statement; (ii) a written agreement to transactions involving penny stocks; and (iii) a signed and dated copy of a written suitability statement. These disclosure requirements may have the effect of reducing the trading activity in the secondary market for our common stock, and therefore stockholders may have difficulty selling their shares.

Our stock price may be volatile, which could result in substantial losses to investors and litigation.

In addition to changes to market prices based on our results of operations and the factors discussed elsewhere in this “Risk Factors” section, the market price of and trading volume for our common stock may change for a variety of other reasons, not necessarily related to our actual operating performance. The capital markets have experienced extreme volatility that has often been unrelated to the operating performance of particular companies. These broad market fluctuations may adversely affect the trading price of our common stock. In addition, the average daily trading volume of the securities of small companies can be very low, which may contribute to future volatility. Factors that could cause the market price of our common stock to fluctuate significantly include:

- the results of operating and financial performance and prospects of other companies in our industry;
- strategic actions by us or our competitors, such as acquisitions or restructurings;
- announcements of innovations, increased service capabilities, new or terminated customers or new, amended or terminated contracts by our competitors;
- the public’s reaction to our press releases, other public announcements, and filings with the Securities and Exchange Commission;
- lack of securities analyst coverage or speculation in the press or investment community about us or market opportunities in the smart glass industry;
- changes in government policies in the United States and, as our international business increases, in other foreign countries;
- changes in earnings estimates or recommendations by securities or research analysts who track our common stock or failure of our actual results of operations to meet those expectations;
- market and industry perception of our success, or lack thereof, in pursuing our growth strategy;
- changes in accounting standards, policies, guidance, interpretations or principles;
- any lawsuit involving us, our services or our products;
- arrival and departure of key personnel;
- sales of common stock by us, our investors or members of our management team; and
- changes in general market, economic and political conditions in the United States and global economies or financial markets, including those resulting from natural or man-made disasters.

Any of these factors, as well as broader market and industry factors, may result in large and sudden changes in the trading volume of our common stock and could seriously harm the market price of our common stock, regardless of our operating performance. This may prevent you from being able to sell your shares at or above the price you paid for your shares, if at all. In addition, following periods of volatility in the market price of a company’s shares, stockholders often institute securities class action litigation against that company. Our involvement in any class action suit or other legal proceeding could divert our senior management’s attention and could adversely affect our business, financial condition, results of operations and prospects.

The sale or availability for sale of substantial amounts of our common stock could adversely affect the market price of our common stock.

Sales of substantial amounts of shares of our common stock after the completion of the offering, or the perception that these sales could occur, could adversely affect the market price of our common stock and could impair our future ability to raise capital through common stock offerings. Our executive officers and directors beneficially own, collectively, a substantial percentage of our outstanding common stock. If one or more of them were to sell a substantial portion of the shares they hold, it could cause our stock price to decline.

In addition, as of December 31, 2023, there were outstanding warrants to purchase an aggregate of 1,760,095 shares of our common stock at a weighted-average exercise price of \$18.96 per share, all of which were exercisable as of such date. As of December 31, 2023, we also had outstanding options to purchase 382,779 shares of our common stock, of which 156,522 have vested, with strike prices ranging from \$0.15 per share to \$5.49 per share. The exercise of options or warrants at prices below the market price of our common stock could adversely affect the price of shares of our common stock. Additional dilution may result from the issuance of shares of our capital stock in connection with acquisitions or in connection with other financing efforts. Any issuance of our common stock that is not made solely to then-existing stockholders proportionate to their interests, such as in the case of a stock dividend or stock split, will result in dilution to each stockholder.

We are controlled by a small group of our existing stockholders, whose interests may differ from other stockholders. Our executive officers and directors will significantly influence our activities, and their interests may differ from your interests as a stockholder.

Our executive officers and directors beneficially own, collectively, a substantial percentage of our outstanding common stock.

Accordingly, these stockholders have had, and will continue to have, significant influence in determining the outcome of any corporate transaction or any other matter submitted for approval to our stockholders, including mergers, consolidations and the sale of our assets, director elections and other significant corporate actions. They will also have significant influence in preventing or causing a change in control of our company. In addition, without the consent of these stockholders, we could be prevented from entering into transactions that could be beneficial to us. The interests of these stockholders may differ from your interests as a stockholder, and they may act in a manner that advances their best interests and not necessarily those of other stockholders.

Our certificate of incorporation and bylaws, and certain provisions of Delaware corporate law, contain provisions that could delay or prevent a change in control even if the change in control would be beneficial to our stockholders.

Delaware law, as well as our certificate of incorporation and bylaws, contain anti-takeover provisions that could delay or prevent a change in control of our company, even if the change in control would be beneficial to our stockholders. These provisions could lower the price that future investors might be willing to pay for shares of our common stock. These anti-takeover provisions:

- authorize our board of directors to create and issue, without stockholder approval, preferred stock, thereby increasing the number of outstanding shares, which can deter or prevent a takeover attempt;
- prohibit stockholder action by written consent, thereby requiring all stockholder actions to be taken at a meeting of our stockholders;
- establish a three-tiered classified board of directors requiring that not all members of our board be elected at one time;
- establish a supermajority requirement to amend our amended and restated bylaws and specified provisions of our amended and restated certificate of incorporation;
- prohibit cumulative voting in the election of directors, which would otherwise allow less than a majority of stockholders to elect director candidates;
- establish limitations on the removal of directors;
- empower our board of directors to fill any vacancy on our board of directors, whether such vacancy occurs as a result of an increase in the number of directors or otherwise;

- provide that our board of directors is expressly authorized to adopt, amend or repeal our bylaws;
- provide that our directors will be elected by a plurality of the votes cast in the election of directors;
- establish advance notice requirements for nominations for election to our board of directors or for proposing matters that can be acted on by our stockholders at stockholder meetings; and
- limit the ability of our stockholders to call special meetings of stockholders.

If equity research analysts do not publish research or reports about our business, or if they issue unfavorable commentary or downgrade our common stock, the market price of our common stock will likely decline.

The trading market for our common stock will rely in part on the research and reports that equity research analysts, over whom we have no control, publish about us and our business. We may never obtain research coverage by securities and industry analysts. If no securities or industry analysts commence coverage of our company, the market price for our common stock could decline. In the event we obtain securities or industry analyst coverage, the market price of our common stock could decline if one or more equity analysts downgrade our common stock or if those analysts issue unfavorable commentary, even if it is inaccurate, or cease publishing reports about us or our business.

As a newly Nasdaq-listed company, we will incur material increased costs and become subject to additional regulations and requirements.

As a newly Exchange-listed public company, we will incur material additional legal, accounting and other expenses including recruiting and retaining qualified independent directors, payment of annual Exchange fees, and satisfying Exchange standards for companies listed with it. Because our common stock is listed on the Exchange, we must meet certain financial and liquidity criteria to maintain such listing. If we violate Exchange listing requirements, our common stock may be delisted. If we fail to meet any of the Exchange's listing standards, our common stock may be delisted. In addition, our board of directors may determine that the cost of maintaining our listing on a national securities exchange outweighs the benefits of such listing. A delisting of our common stock from the Exchange may materially impair our stockholders' ability to buy and sell our common stock and could have an adverse effect on the market price of, and the efficiency of the trading market for, our common stock. The delisting of our common stock could significantly impair our ability to raise capital and the value of your investment.

We do not anticipate paying any dividends on our common stock for the foreseeable future.

We have not paid any dividends on our common stock to date, and we do not anticipate paying any such dividends in the foreseeable future. We anticipate that any earnings experienced by us will be retained to finance the implementation of our operational business plan and expected future growth.

If we fail to develop and maintain proper and effective internal control over financial reporting, our ability to produce timely and accurate financial statements, comply with applicable laws and regulations, or access the capital markets could be impaired.

As a public company, we have significant requirements for enhanced financial reporting and internal control over financial reporting. The process of designing and implementing effective internal control over financial reporting is a continuous effort that requires us to anticipate and react to changes in our business and the economic and regulatory environments and to expend significant resources to maintain internal control over financial reporting that is adequate to satisfy our reporting obligations as a public company. If we are unable to establish or maintain appropriate internal control over financial reporting, it could cause us to fail to meet our reporting obligations on a timely basis, result in material misstatements in our financial statements, increase compliance costs, negatively impact share trading prices, and otherwise harm its results of operations.

In addition, we are required, pursuant to Section 404(a) of the Sarbanes-Oxley Act, or Section 404, to furnish a report by management on our assessment of the effectiveness of our internal control over financial reporting.

This assessment will include disclosure of any material weaknesses identified in our internal control over financial reporting. The rules governing the standards that must be met for our management to assess our internal control over financial reporting are complex and require significant documentation, testing and possible remediation. Testing and maintaining our internal control over financial reporting may divert our management's attention from other matters that are important to its business.

Our independent registered public accounting firm is not required to formally attest to the effectiveness of our internal control over financial reporting until after we are no longer an "emerging growth company" as defined in the JOBS Act. We may not be able to conclude on an ongoing basis that we have effective internal control over financial reporting in accordance with Section 404 or our independent registered public accounting firm may not issue an unqualified opinion. If either we are unable to conclude that we have effective internal control over financial reporting or our independent registered public accounting firm is unable to provide us with an unqualified report, investors could lose confidence in our reported financial information, which could have a material adverse effect on the trading price of our common stock.

We are an "emerging growth company" as defined in the JOBS Act and a "smaller reporting company" as defined in the Securities Exchange Act of 1934, as amended, or the Exchange Act, and are able to avail itself of reduced disclosure requirements applicable to emerging growth companies and smaller reporting companies, which could make our common stock less attractive to investors and adversely affect the market price of our common stock in the future.

We are an "emerging growth company," as defined in the JOBS Act. We will remain an emerging growth company until the earlier of (i) the last day of our fiscal year in which we total annual gross revenue of at least \$1.07 billion; (ii) the last day of our first fiscal year following the fifth anniversary of our initial public offering; (iii) the date on which we have issued more than \$1 billion in non-convertible debt securities during the previous three years; or (iv) the date on which we are deemed to be a "large accelerated filer" under the rules of the SEC, which means the market value of our common stock that is held by non-affiliates exceeds \$700.0 million. For so long as we remain an emerging growth company, we are permitted and intend to rely on exemptions from certain disclosure requirements that are applicable to other public companies that are not emerging growth companies. These exemptions include:

- not being required to comply with the auditor attestation requirements of Section 404;
- not being required to comply with any requirement that may be adopted by the Public Company Accounting Oversight Board ("PCAOB") regarding mandatory audit firm rotation or a supplement to the auditor's report providing additional information about the audit and the financial statements;
- providing only two years of audited financial statements in addition to any required unaudited interim financial statements and a correspondingly reduced "Management's Discussion and Analysis of Financial Condition and Results of Operations" disclosure for certain filings;
- reduced disclosure obligations regarding executive compensation; and
- exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholders approval of any golden parachute payments not previously approved.

In addition, 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 allows an emerging growth company to delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have elected to use the extended transition period for new or revised accounting standards during the period in which we remain an emerging growth company; however, we may adopt certain new or revised accounting standards early. Changes in rules of U.S. generally accepted accounting principles or their interpretation, the adoption of new guidance or the application of existing guidance to changes in our business could significantly affect our financial position and results of operations. In addition, our independent registered public accounting firm will not be required to provide an attestation report on the effectiveness of our internal control over financial reporting so long as we qualify as an "emerging growth company," which may increase the risk that material weaknesses or significant deficiencies in our internal control over financial reporting go undetected. Likewise, so long as we qualify as a "smaller reporting company" or an "emerging growth company," we may elect not to provide stockholders or investors with certain information, including certain financial information and certain information regarding compensation of our executive officers, that we would otherwise have been required to provide in filings we make with the SEC, which may make it more difficult for investors and securities analysts to evaluate our company.

We are a “smaller reporting company” as defined in the Exchange Act. We may continue to be a smaller reporting company even after we are no longer an emerging growth company. We may take advantage of certain of the scaled disclosures available to smaller reporting companies until the fiscal year following the determination that our voting and non-voting common stock held by non-affiliates is more than \$250.0 million measured on the last business day of our second fiscal quarter, or our annual revenue are more than \$100.0 million during the most recently completed fiscal year and our voting and non-voting common stock held by non-affiliates is more than \$700.0 million measured on the last business day of our second fiscal quarter.

We may choose to take advantage of some, but not all, of the available exemptions as an emerging growth company and a smaller reporting company. We will take advantage of reduced reporting burdens. We cannot predict whether investors will find our common stock less attractive if we 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 stock price may be more volatile.

We are required by Section 404 of the Sarbanes-Oxley Act to evaluate the effectiveness of its internal control over financial reporting. If we are unable to achieve and maintain effective internal controls, our operating results and financial condition could be harmed.

We are an emerging growth company, and thus we are exempt from the auditor attestation requirement of Section 404(b) of Sarbanes-Oxley until such time as we no longer qualify as an emerging growth company. Regardless of whether we qualify as an emerging growth company, we will still need to implement substantial internal control systems and procedures in order to satisfy the reporting requirements under the Exchange Act and applicable requirements.

Due to the recent implementation of the Reverse Stock Split, the liquidity of our Common Stock may be adversely effected.

We effected the Reverse Stock Split of our outstanding common stock on August 14, 2023. The liquidity of the shares of our common stock may be affected adversely by any reverse stock split given the reduced number of shares of our common stock that are outstanding following the Reverse Stock Split, especially if the market price of our common stock does not increase as a result of the Reverse Stock Split. Following the Reverse Stock Split, the resulting market price of our common stock may not attract new investors and may not satisfy the investing requirements of those investors. Although we believe that a higher market price of our common stock may help generate greater or broader investor interest, there can be no assurance that the Reverse Stock Split resulted in a share price that will attract new

Risks Related to our Indebtedness

The requirement that we service our indebtedness could limit the cash flow available for our operations and have other consequences that could adversely affect our business, and we may not have sufficient cash flow from our business to pay our debt obligations.

We may also incur additional indebtedness to meet future financing needs. Interest payments, fees, covenants and restrictions under agreements governing our current or future indebtedness, including the Notes, could have significant consequences, including the following: impairing our ability to successfully continue to commercialize our current or future products; limiting our ability to obtain additional financing on satisfactory terms; increasing our vulnerability to general economic downturns, competition and industry conditions; requiring the dedication of a substantial portion of our cash flow from operations to service our indebtedness; inhibiting our flexibility to plan for, or react to, changes in our business; and diluting the interests of our existing stockholders if we issue shares of our common stock upon conversion of the convertible Notes. The occurrence of any one of these events could have an adverse effect on our business, financial condition, operating results or cash flows and ability to satisfy our obligations under the indenture governing the Notes and any other indebtedness.

Our ability to make payments of the principal and interest on, or to refinance the amounts payable under, our current or future indebtedness, including the Notes, while still making necessary investments in our business, will depend on our operating and financial performance, including our ability to generate sufficient cash flow from operations, which may be subject to economic, financial, competitive and other factors beyond our control. If we are unable to generate such cash flow, we may be required to sell assets, restructure existing debt or obtain additional debt financing or equity capital on terms that may be onerous or highly dilutive. Our ability to refinance any future indebtedness will depend on the capital markets and our financial condition at such time. We may not be able to engage in any of these activities or secure desirable terms, which could result in a default on our debt obligations.

Our financial condition and results of operations could be adversely affected if we do not effectively manage our current or future debt.

Our obligations related to our outstanding or any future indebtedness could adversely affect our ability to take advantage of corporate opportunities, which could adversely affect our business, financial condition, and results of operations, including, but not limited to, the following:

- our ability to obtain any necessary financing in the future for working capital, capital expenditures, debt service requirements, or other purposes may be limited, or financing may be unavailable;
- a substantial portion of our cash flows must be dedicated to the payment of principal and interest on our indebtedness and other obligations and will not be available for use in our business;
- lack of liquidity could limit our flexibility in planning for, or reacting to, changes in our business and the markets in which we operate;
- our debt obligations will make us more vulnerable to changes in general economic conditions and/or a downturn in our business, thereby making it more difficult for us to satisfy our obligations; and
- if we fail to make required debt payments or to comply with other covenants in our debt agreements, we would be in default under the terms of these agreements, which could permit our creditors to accelerate repayment of the debt and could cause cross-defaults under other debt agreements.

We may also incur additional indebtedness to meet future financing needs. If we incur any additional debt, the related risks that we and our subsidiaries face could intensify. Finally, we may in the future be in non-compliance with the terms of certain of our debt instruments. To the extent we are in non-compliance with the terms of such debt instruments, we may, among other things, be required to make payments to the holders of such instruments.

ITEM 1B. UNRESOLVED STAFF COMMENTS.

None.

ITEM 1C. CYBERSECURITY

Risk Management and Strategy

We rely heavily on our information technology (IT) systems across various aspects of our operations, from product development to customer relations. Given the innovative nature of our business, particularly in the realms of smart glass and fiber optics, ensuring the security, integrity, and availability of data is paramount. We operate in an environment where the protection of intellectual property and sensitive data, including proprietary technology information and customer data, is critical. We are therefore committed to a comprehensive cybersecurity strategy that encompasses not only compliance with relevant privacy laws but also proactive risk management.

Our cybersecurity framework is overseen by its Information Technology (IT) Team. The IT team is geared towards developing and refining a risk-informed decision-making process, emphasizing the early identification and mitigation of cybersecurity risks. The Software Engineer leads the charge in implementing a cybersecurity risk management program, employing a mix of technological tools, rigorous processes, and external assessments to safeguard our assets. Regular training programs, including those focused on phishing and secure data handling, are mandatory for all employees, reinforcing the culture of cybersecurity awareness.

Despite robust security measures, we acknowledge the possibility of cyber threats breaching its defenses. To this end, we have policies and plans, that ensures a swift and effective response to cybersecurity incidents. This includes a structured procedure for incident detection, analysis, containment, and recovery, underscored by the Software Engineer for material incident evaluation and communication.

Given the integration of third-party services within our operational framework, we extend our cybersecurity vigilance to our partners and suppliers. This includes contractual safeguards and continuous monitoring to manage and mitigate risks presented by external entities.

Governance

Board's Roles and Responsibilities

The governance of cybersecurity within our is structured to ensure a clear delineation of oversight responsibilities. The Board of Directors, particularly through its Audit Committee, plays a crucial role in supervising our cybersecurity posture. The Audit Committee is composed of individuals with deep expertise in risk management, finance, and technology, enabling it to provide informed oversight of cybersecurity risks. Periodic briefings that are held ensures that the Board of Directors remains actively engaged in guiding and evaluating our cybersecurity strategy.

Management's Roles and Responsibilities

Operational responsibility for cybersecurity falls to the management, led by the IT department. The management team is tasked with executing our cybersecurity strategy, focusing on risk assessment, incident prevention, and response. This includes conducting vulnerability assessments, ensuring continuous monitoring, and staying updated on cybersecurity trends and threats. The Software Engineer, with extensive experience in information security, works in close coordination with other key management roles to ensure a unified approach to cybersecurity across our company.

Our approach to cybersecurity is integral to its operations, reflecting a commitment to safeguarding its innovative technologies and sensitive data. Through a combination of strategic oversight by the Board of Directors and diligent execution by management, we aim to uphold the highest standards of cybersecurity resilience and integrity.

ITEM 2. PROPERTIES.

On March 8, 2016, we entered into a lease agreement with Oregon State University, to lease 1,700 square feet of office and laboratory space located at HP Campus Building 11, 1110 NE Circle Blvd, Corvallis, Oregon, for approximately \$400 monthly. On July 1, 2016, we entered into the first amendment to the lease agreement which increased the monthly lease expense to approximately \$1,200. On October 1, 2017, we entered into a sublease agreement, which provides for additional office space and the monthly lease payment increased to approximately \$1,800. The lease expired on June 30, 2018 and we extended the lease through June 30, 2019. The monthly lease payment increased to approximately \$4,500 for the months ended June 30, 2018 through November 30, 2018, and increased to approximately \$7,550 for the months ended December 31, 2018 through June 30, 2019. On July 1, 2019, we entered into the fourth amendment to our lease with Oregon State University, which extends the lease expiration date to June 30, 2022. On July 1, 2020, we entered into the fifth amendment to our lease with Oregon State University which adjusts the Operating Expense Reimbursement payment due dates from monthly to quarterly, with the payments due in advance on the first of July, October, January and April. On September 1, 2021, we entered into the seventh amendment which expanded the lease to include approximately 703 square feet of lab space, 576 square feet of cubicle space, 1096 square feet of Highbay lab space, and 376 square feet of High bay storage space in a building commonly known as Building 11. Effective September 1, 2021, the quarterly operating expense will be \$31,647 covering all utility and facility tooling costs. On January 24, 2022, we entered into the eighth amendment which expanded the lease to include approximately 703 square feet of lab space, 768 square feet of cubicle space, 2,088 square feet of Highbay lab space, and 376 square feet of High bay storage space in a building commonly known as Building 11. The sublease expires June 30, 2025. On January 20, 2023, we entered into the ninth amendment to our lease with Oregon State University which reduces the amount of cubicle space from 768 square feet to 288 square feet. Effective January 20, 2023 the quarterly operating expense will be \$41,323 covering all utility and facility tooling costs.

On March 4, 2021, we entered into a lease agreement with Hudson 11601 Wilshire, LLC, to lease 3,500 square feet of office space located in Los Angeles, California. The lease term is 39 months and expires on June 30, 2024. The monthly lease expense is as follows:

• Months 1-12	-	\$18,375
• Months 13-24	-	\$19,018
• Months 25-36	-	\$19,683
• Months 37-39	-	\$20,372

On May 4, 2021, we entered into a lease agreement HP Inc. to lease 3,694 square feet of office and laboratory space at HP Campus Building 10, 1110 NE Circle Blvd, Corvallis, Oregon. On January 26, 2022, we amended the lease commencement date to January 26, 2022. The lease term is 60 months and expires on January 31, 2027. We may extend the lease for an additional 60-month period.

On October 5, 2021, we entered into a lease agreement with Pacific N.W. Properties, LLC to lease 26,963 square feet of warehouse, manufacturing, production, and office space located in Salem, Oregon. The lease commencement date was December 9, 2021 and expires on February 28, 2027.

On October 16, 2023, we entered into a lease agreement with Burnham 182, LLC, to lease 40,524 square feet of vacant land, including a 1,225 square foot Quonset hut and mobile office, located in Mesa, Arizona. This lease provides yard space with which to store equipment for the Crown Fiber Optics business in Phoenix. The lease term is 36 months and expires on October 31, 2026. The monthly lease expense is as follows:

• Months 1-12	-	\$9,321
• Months 13-24	-	\$9,726
• Months 25-36	-	\$10,131

We paid a security deposit totaling \$31,450 at lease inception date.

On October 31, 2023, we entered into a lease agreement with NFS Leasing, Inc. to lease certain equipment. The equipment will be physically located at a property which is owned and operated by Burnham 182, LLC located in Mesa, Arizona. The lease term is 48 months, and the lease commencement date is November 30, 2023. The monthly lease expense is \$23,060. We paid a security deposit totaling \$23,060 at lease inception date. We have the option to purchase the equipment at fair market value, not to exceed 25% of the total sale price or extend the monthly payments on a month-to-month basis or for a fixed term at a mutually agreed to price and term, upon the expiration of the lease.

We believe that our facilities are adequate to meet our needs for the immediate future and that, should it be needed, we will be able to secure additional space to accommodate the expansion of our operations.

ITEM 3. LEGAL PROCEEDINGS.

From time to time, we are also involved in various other claims and legal actions that arise in the ordinary course of business. Although the results of litigation and claims cannot be predicted with certainty, we do not believe that the ultimate resolution of these actions will have a material adverse effect on our financial position, results of operations, liquidity or capital resources.

Future litigation may be necessary to defend ourselves and our partners by determining the scope, enforceability and validity of third party proprietary rights or to establish our proprietary rights. The results of any current or future litigation cannot be predicted with certainty, and regardless of the 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 began trading on the Nasdaq Capital Market on January 26, 2021 under the symbol "CRKN."

Holders of Record

We are authorized to issue up to 800,000,000 shares of common stock, par value \$0.0001 per share, and 50,000,000 shares of preferred stock. As of December 31, 2023, there were 25,744,158 shares of common stock issued and outstanding and 48 shareholders of record. The number of record holders does not include persons who held shares of our common stock in "street name" accounts through brokers, banks and other financial institutions.

Dividend Policy

We have not declared or paid any cash dividends on our common stock during the year ended December 31, 2023 and the year ended December 31, 2022, and do not currently anticipate paying cash dividends in the foreseeable future.

Recent Sales of Unregistered Securities

Other than those previously disclosed in our current reports on Form 8-K as filed with the SEC, there have been no unregistered sales of our equity securities during the period covered by this Annual Report.

ITEM 6. [RESERVED]

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS.

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with the consolidated financial statements and related notes thereto included elsewhere in this report. This discussion contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those discussed below. Factors that could cause or contribute to such differences include, but are not limited to, those identified below and those discussed in the section titled "Risk Factors" included elsewhere in this report.

As an "emerging growth company" under the Jumpstart Our Business Startups Act of 2012, we can take advantage of an extended transition period for complying with new or revised accounting standards. This allows an emerging growth company to delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We are electing to delay our adoption of such new or revised accounting standards. As a result of this election, our consolidated financial statements may not be comparable to the financial statements of other public companies.

Management's plans and basis of presentation:

We were incorporated in the State of Delaware on April 20, 2015. Effective October 6, 2017, our name was changed to Crown Electrokinetics Corp. from 3D Nanocolor Corp.

On January 26, 2021, we completed our public offering, and our common stock began trading on the Nasdaq Capital Market (Nasdaq) under the symbol "CRKN." We commercialize technology for smart or dynamic glass. Our electrokinetic glass technology is an advancement on microfluidic technology that was originally developed by HP Inc.

On December 20, 2022, we incorporated Crown Fiber Optics Corp., a Delaware based entity, to own and operate our acquired business from the acquisition of Amerigen 7, LLC ("Amerigen 7") in January 2023. Crown Fiber Optics is accounted for as our wholly-owned subsidiary.

Reverse Stock Split

On August 11, 2023, our Board of Directors authorized a reverse stock split ("Reverse Stock Split") at an exchange ratio of one-for-60 basis. The number of authorized shares and the par value of the common stock was not adjusted as a result of the Reverse Stock Split. In connection with the Reverse Stock Split, the conversion ratio for our outstanding preferred stock was proportionately adjusted such that the common stock issuable upon conversion of such preferred stock was decreased in proportion to the Reverse Stock Split. All references to common stock and options to purchase common stock share data, per share data and related information contained in the condensed consolidated financial statements have been adjusted to reflect the effect of the Reverse Stock Split.

Business Combination

On January 3, 2023, we acquired certain assets related to the construction of 5G fiber optics infrastructure and distributed antenna systems from Amerigen 7 LLC (the "Asset Acquisition"), for cash consideration of approximately \$0.7 million. The Asset Acquisition included approximately 12 employees, customer contracts, and certain operating liabilities. The Asset Acquisition was accounted for as a business combination in accordance with Accounting Standards Codification 805, Business Combinations. The initial purchase price may be adjusted as needed per the terms of the arrangement agreement.

ATM Offering

We entered into a Sales Agreement with A.G.P./Alliance Global Partners (the “Sales Agents”) dated March 30, 2022 (the “Sales Agreement”), pursuant to which we may, from time to time, sell up to \$5 million in shares (the “Placement Shares”) of our common stock through the Sales Agents, acting as our sales agent and/or principal, in a continuous at-the-market offering (the “ATM Offering”). We will pay the Sales Agents a commission of up to 3.0% of the aggregate gross proceeds we receive from all sales of our common stock under the Sales Agreement. The Placement Shares were offered and sold pursuant to our shelf registration statement on Form S-3 (Registration No. 333- 262122) and the related base prospectus included in the registration statement, as supplemented by the prospectus supplement dated March 30, 2022.

On October 5, 2022, we entered into the first amendment to the Sales Agreement (the “First Amendment to the Sales Agreement”). Pursuant to the First Amendment to the Sales Agreement, we may from time to time, sell up to \$3.5 million in Placement Shares of our common stock through the Sales Agents in a continuous At-the-Market Offering (the Amended ATM Offering”). According to the First Amendment to the Sales Agreement, we will pay the Sales Agents a commission of up to 3.0% of the aggregate gross proceeds we receive from all sales of its common stock in the Amended ATM Offering.

As of December 31, 2022, we received net proceeds on sales of 3,368,146 shares of common stock under the Sales Agreement of approximately \$1.25 million (after deducting \$0.05 million in commissions and expenses) at a weighted average price of \$0.385 per share.

During the year ended December 31, 2023, we received net proceeds on sales of 19,658,733 shares of common stock of approximately \$8.2 million (after deducting \$0.3 million in commissions and expenses) at a weighted average price of \$0.44 per share.

Preferred Stock

On July 8, 2022, our Board of Directors authorized 7,000 shares of Series D Convertible Preferred Stock, par value of \$0.0001 per share (“Series D Preferred Stock”). Each share of Series D Preferred Stock has a stated value of \$1,000 per share, will be convertible into shares of our common stock at an initial conversion price of \$1.30 per share and will be entitled to a dividend of 12%. On July 26, 2022, we entered into a securities purchase agreement with certain accredited investors (the “Series D Purchasers”), pursuant to which we sold an aggregate of 1,058 shares of our Series D Preferred Stock for an aggregate purchase price of approximately \$1.06 million. In connection with the issuance of the 1,058 shares of Series D Preferred Stock, we issued 814,102 warrants to purchase shares of our common stock with an exercise price of \$1.30 per share.

We filed the first amendment to its Series D preferred stock, which modified the conversion price of the Series D Preferred Stock from \$1.30 to \$0.50 per share.

On February 1, 2023, our Board of Directors authorized 77,000 shares of Series E Convertible Preferred Stock, par value of \$0.0001 per share (“Series E Preferred Stock”), in connection with our 2023 Line of Credit (defined herein). Each share of Series E Preferred Stock is convertible into 1,000 shares of our common stock at the option of the holders. The holders of the Series E Preferred Stock shall receive dividends on an as converted basis together with the holders of our common stock. The Series E preferred stock has no voting rights and does not have a preference upon any liquidation, dissolution or winding-up of the company.

Holders of Series E Preferred Stock are prohibited from converting shares of Series E Preferred Stock into shares of common stock if, as a result of such conversion, such holder, together with its affiliates, would beneficially own more than a specified percentage (to be initially set at 4.99% and thereafter adjusted by the holder to a number between 4.99% and 9.99%) of the total number of shares of common stock issued and outstanding immediately after giving effect to such conversion.

On June 4, 2023, we entered into Exchange Agreements (the “Exchange Agreements”): (i) with the October Investors for the exchange of October Notes in the aggregate principal amount of \$2,616,740 for 2,622 shares of our newly created Series F Convertible Preferred Stock (“Series F Preferred Stock”), in the aggregate; (ii) with the January Investors for the exchange of January Notes in the aggregate principal amount of \$205,276 for 206 shares of Series F Preferred Stock, in the aggregate; (iii) with the Demand Noteholders for the exchange of Demand Notes in the principal amount of \$570,279 for 576 shares of Series F Preferred Stock, in the aggregate; and (iv) with the Series D Purchasers for the exchange of 1,197 shares of Series D Preferred Stock for 1,847 shares of Series F Preferred Stock, in the aggregate.

In addition, in connection with the Exchange Agreements, we issued, subject to stockholder approval, new five-year warrants to purchase an aggregate of 592,129 shares of common stock (the “Series F Warrants”) to the October Investors, the January Investors, and the Series D Purchasers. The Series F Warrants are exercisable at an exercise price of \$8.868 per share of common stock, subject to certain adjustments as set forth in the Series F Warrants. The holders may exercise the Series F Warrants on a cashless basis if the shares of our common stock underlying the Series F Warrants are not then registered pursuant to an effective registration statement.

On June 13, 2023, we entered into a Securities Purchase Agreement (the “F-1 Purchase Agreement”) with certain accredited investors (the “F-1 Purchasers”), pursuant to which, at the closing of the transactions contemplated by the F-1 Purchase Agreement (the “F-1 Closing”) the F-1 Purchasers agreed to purchase an aggregate of 3,583 shares of our newly created Series F-1 Convertible Preferred Stock (“Series F-1 Preferred Stock”) for an aggregate purchase price of approximately \$2,327,760. In addition, in connection with the issuance of the Series F-1 Preferred Stock, the F-1 Purchasers received five-year warrants to purchase an aggregate of 398,377 shares of common stock (the “Series F-1 Warrants”). The Series F-1 Warrants are exercisable at an exercise price of \$8.994 per share of our common stock, subject to certain adjustments as set forth in the Series F-1 Warrants. The holders may exercise the Series F-1 Warrants on a cashless basis if the shares of our common stock underlying the Warrants are not then registered pursuant to an effective registration statement.

On June 14, 2023, we entered into a Securities Purchase Agreement (the “F-2 Purchase Agreement”) with certain accredited investors (the “F-2 Purchasers”), pursuant to which, at the closing of the transactions contemplated by the F-2 Purchase Agreement (the “F-2 Closing”) the F-2 Purchasers agreed to purchase an aggregate of 1,153 shares of our newly created Series F-2 Convertible Preferred Stock (“Series F-2 Preferred Stock”) for an aggregate purchase price of approximately \$748,735. In addition, in connection with the issuance of the Series F-2 Preferred Stock, the F-2 Purchasers received five-year warrants to purchase an aggregate of 124,926 shares of common stock (the “Series F-2 Warrants”). The Series F-2 Warrants are exercisable at an exercise price of \$9.228 per share of our common stock, subject to certain adjustments as set forth in the Series F-2 Warrants. The holders may exercise the Series F-2 Warrants on a cashless basis if the shares of our common stock underlying the Series F-2 Warrants are not then registered pursuant to an effective registration statement.

Senior Secured Convertible Notes

On October 19, 2022, we entered into a securities purchase agreement with certain accredited investors as purchasers (the “October Investors”), whereby we sold, and the October Investors purchased, approximately \$5.4 million in principal amount of senior secured convertible notes (the “October Notes”) and warrants (the “October Warrants”).

The October Notes were issued with a conversion price at a 54% premium to the most recent closing price, an original issue discount of 35%, did not bear interest, and matured upon the earlier of twelve months from the date of issuance or the closing of a change of control transaction (as defined in the October Notes). The October Notes were convertible into shares of our common stock, at a conversion price per share of \$29.40, subject to adjustment under certain circumstances described in the October Notes. To secure its obligations thereunder, we granted a security interest over all of our assets to the collateral agent for the benefit of the October Investors, pursuant to a security agreement, subject to exceptions for certain strategic transactions. The October Warrants are exercisable for five (5) years to purchase an aggregate of 362,664 shares of common stock at an exercise price of \$19.20, subject to adjustment under certain circumstances described in the Warrants. On February 28, 2023, we entered into waiver agreements (the “Waiver Agreements”) with the October Investors pursuant to which, among other things, the maturity date of the October Notes was extended. In connection with the Waiver Agreements, we issued warrants (the “Waiver Warrants”) to the October Investors. The Waiver Warrants were exercisable for five (5) years to purchase an aggregate of 96,894 shares of our common stock at an exercise price of \$19.20 per share, subject to adjustment under certain circumstances described in the Waiver Warrants.

On January 19, 2023, we entered into a warrant inducement agreement with certain holders of the October Notes, and issued 6.4 million warrants, with a fair value of \$2.06 million, to purchase shares of our common stock.

In March 2023, we entered into the waiver agreements with holders of the October Notes to eliminate the minimum pricing covenant as it related to our at-the-market facility. As consideration for this agreement, we provided the holders with two options to choose from (i) to take an additional five percent original issue discount (“OID”) on their October Note principal or (ii) to be issued shares of common stock with a value equal to the five percent OID, and to issue total shares of 31,724 as converted using the Nasdaq minimum price of \$9.42. Six of the note holders elected option (i), and we increased the respective principal balance of the notes by approximately \$0.2 million. The remaining noteholders elected option (ii), and as of December 31, 2023, no shares of common stock have been issued. We recorded expense of \$0.3 million associated with the commitment to issue shares of our common stock.

In May 2023, we entered into an inducement agreements with the investors to reduce the conversion price of the October Notes in an aggregate principal amount equal to \$1.5 million, convertible into 161,603 shares of our common stock at \$9.28 per share. The remaining investors agreed to reduce the conversion price of the October Notes in an aggregate principal amount equal to \$1.4 million, convertible into 127,393 shares of our common stock at \$10.93 per share.

We elected to account for the October Notes under the fair value option. For the inducement agreements that were entered into as described above, we accounted for the change in the terms through the fair value adjustment of \$2.7 million, which is included in the change in fair value of notes on the consolidated statements of operations, upon the settlement of \$0.2 million principal balance of the October Notes as part of the exchange agreements, and \$1.0 million principal balance of the October Notes in June 2023 based on the issuance of 248,981 shares of our common stock.

On January 3, 2023, we entered into a Securities Purchase Agreement (the “January Purchase Agreement”) with certain accredited investors as purchasers (the “January Investors”). Pursuant to the January Purchase Agreement, we sold, and the January Investors purchased, \$1.2 million in principal amount of senior secured notes (the “January Notes”) and 41,667 warrants (“January Warrants”), each January Warrant entitling the holder to purchase one share of Common Stock.

On May 8, 2023, the lead lender and collateral agent for the January Notes agreed to grant us an extension of the maturity date thereof until May 15, 2023 in exchange for the issuance by us to the January Investors, on a pro rata basis, of 11,833 shares of our common stock, subject to approval by our stockholders. Then, on May 15, 2023, the lead lender and collateral agent for the January Notes agreed to grant us an extension of the maturity date thereof until May 23, 2023 in exchange for the issuance by us to the January Investors, on a pro rata basis, of 66,667 shares of our Common Stock, subject to approval by our stockholders. Subsequently, on May 23, 2023, the lead lender and collateral agent for the January Notes agreed to grant us an extension of the maturity date thereof until May 31, 2023 in exchange for the issuance by us to the January Investors, on a pro rata basis, of 25,000 shares of our common stock, subject to approval by our stockholders. Thereafter, on May 31, 2023, the lead lender and collateral agent for the January Notes agreed to grant us an extension of the maturity date thereof until June 12, 2023 in exchange for the issuance by us to the January Investors, on a pro rata basis, of 100,000 shares of our common stock, subject to approval by our stockholders. On June 30, 2023, we and the remaining January Investors agreed to extend the maturity date of the January Notes until July 31, 2023, in exchange for 41,667 shares of common stock, pending stockholder approval. On July 11, 2023, one of the remaining January Investors agreed with us to accept 152,085 shares of our common stock as payment in full of their January Note, which such obligations were approximately \$931,000. On July 14, 2023, another of the remaining January Investors agreed with us to accept 25,143 shares of common stock as payment in full of their January Note, which such obligations were approximately \$132,000.

Between May 17, 2023 and May 30, 2023, we issued secured demand promissory notes (the “Demand Notes”) to certain investors (the “Demand Noteholders”) in an aggregate principal amount equal to \$570,681. In connection with the issuance of the Demand Notes, subject to stockholder approval, we agreed to issue to the Demand Noteholders an aggregate of 123,561 shares our common stock.

2023 Line of Credit

On February 2, 2023, we entered into a line of credit (the “Line of Credit”) securing a line of credit up to \$100.0 million. The Line of Credit will be used to fund expenses related to the fulfillment of contracts with customers of our wholly-owned subsidiary, Crown Fiber Optics. The Line of Credit expires February 2, 2024, unless the Line of Credit is extended for one or two additional years in accordance with its terms. On February 2, 2023, we withdrew \$2.0 million under the Line of Credit.

Upon drawing down on the Line of Credit, we issued a Secured Promissory Note (the “LOC Note”) which was due and payable 60 days from the issuance date. The Promissory Note is non-interest bearing and secured by our assets. The LOC Note was convertible into shares of our common stock, at a conversion price per share of \$0.50 per share, subject to adjustment under certain circumstances described in the LOC Note.

In April 2023, we entered into a first amendment to the LOC Note, pursuant to which the lender agreed to extend the maturity date of the LOC Note balance until May 1, 2023 in exchange for 33,333 shares of our common stock. The LOC Note was further amended to accrue interest at the 15% per annum from the original funding date of the LOC Note. We recorded a change in fair value adjustment of \$0.2 million related to the commitment to issue 33,333 shares of our common stock.

On May 15, 2023, we entered into that certain Third Amendment to the Convertible Promissory Note (the “LOC Note Amendment”), pursuant to which the maturity date of the LOC Note was extended until June 7, 2023 in exchange for, subject to stockholder approval, 33,333 shares of our common stock and 4,000 shares of our existing Series E Preferred Stock, which are convertible into 66,667 shares of our common stock. We recorded a change in fair value adjustment of \$0.7 million related to the commitment to issue 4,000 shares of Series E Preferred Stock.

On May 16, 2023, we made a second draw of \$0.2 million under the Line of Credit. Upon drawing down on the Line of Credit, we issued a second Secured Promissory Note (the “2nd LOC Note”) which was due and payable on July 16, 2023. The 2nd LOC Note accrued interest at the 15% per annum from the original funding date of the 2nd LOC Note.

On May 26, 2023, we made a third draw of \$0.2 million under the Line of Credit. Upon drawing down on the Line of Credit, we issued a third Secured Promissory Note (the “3rd LOC Note”) which was due and payable on June 2, 2023. The 3rd LOC Note included a \$0.2 million commitment fee and did not bear interest. With the 3rd LOC Note, we recorded a change in fair value adjustment of \$0.2 million related to the commitment fee.

On May 26, 2023, we entered into a fourth amendment to the LOC Note, pursuant to which we agreed to issue to the lender a convertible promissory note in the principal amount of \$0.2 million due June 2, 2023 in exchange for 4,000 shares of our Series E Preferred Stock, which are convertible into 66,667 shares of our common stock. We recorded a change in fair value adjustment of \$0.6 million related to the commitment to issue 4,000 shares of our Series E preferred stock.

On June 13, 2023, we partially redeemed the principal of the LOC Note. In addition to the accrued interest and commitment fees, the total redeemed balance was approximately \$2.1 million. With the settlement of the 2nd LOC and the 3rd LOC Note, we recorded a change in fair value adjustment of \$0.1 million.

On June 30, 2023, we amended the 2nd LOC Note and the 3rd LOC Note to extend the maturity dates of each until July 16, 2023. In connection with the amendments, we agreed to issue to the lender 5,000 shares of our Series E Preferred Stock, which are convertible into 83,333 shares of our common stock. Additionally, we agreed to issue an additional 8,000 shares of our Series E Preferred Stock, which is convertible into 133,333 shares of our common stock, to the lender for failure to comply with a covenant in the line of credit, as amended. We recorded a change in fair value adjustment of \$2.0 million related to the commitment to issue 13,000 shares of our Series E Preferred Stock.

During July 2023, we repaid the outstanding balance of the 2nd LOC Note and 3rd LOC Note for cash of \$0.4 million. As of December 31, 2023, there was no outstanding balance related to the 2nd LOC Note and 3rd LOC Note.

Equity Line of Credit

On July 20, 2023, we entered into an equity line of credit (“ELOC”) with Keystone Capital Partners, LLC (“Keystone Capital Partners”) whereby we have the right to sell up to an aggregate of \$50.0 million of newly issued shares of our common stock. On July 20, 2023, we issued 21,841 shares of our common stock to Keystone Capital Partners as an initial fee for commitment to purchase our common stock.

Master Supply Agreements

On December 27, 2021, we executed a Master Supply Agreement (the “HPP MSA”) with Hudson Pacific Properties L.P. for the installation of our energy saving Smart Window Inserts in several office properties across its West Coast portfolio. The HPP MSA provides the master terms and conditions under which purchase orders will be executed for us to supply units to retrofit windows at certain locations.

Prior to this, on September 27, 2021, we entered into a Master Supply Agreement with MetroSpaces Inc., Crown’s first commercial customer, install its Smart Window Inserts in MetroSpaces’ 70,000 square-foot Houston, Texas office building.

On March 25, 2022, we executed a Master Supply Agreement (the “BDN MSA”) with Brandywine Operating Partnerships L.P. to install its Smart Window Inserts powered by DynamicTint™ in Brandywine office buildings. The BDN MSA provides the master terms and conditions under which purchase orders will be executed for Crown to supply units to retrofit windows at certain locations.

On March 1, 2023, we executed a Master Supply Agreement with North Sky Communications, LLC (“Contractor”) for the purpose of performing certain subcontract work under Contractor’s primary contract. The agreement provides the terms and conditions under which purchase orders will be executed for us to perform work on various projects.

On September 15, 2023, we executed a Master Supply Agreement with Mears Group, Inc. to perform work on various projects for the benefit of the customer and other project owners. The agreement provides the terms and conditions under which purchase orders will be executed for us to perform work on various projects.

On October 31, 2023, we executed a Master Supply Agreement with Blue Edge Infrastructure, LLC. to provide construction services including project/program management, design, construction and related services for wireless telecommunication sites.

Additionally, discussions with multiple other building owners to buy our Smart Window Inserts are progressing as the regulatory and consumer pressure to reduce the level of energy consumption and carbon emissions, continues to build.

Purchase Orders

On August 12, 2022, we entered into two Purchase Orders (PO's) with Hudson Pacific Properties, L.P. ("Hudson") for the purchase of our Inserts. Hudson is a unique provider of end-to-end real estate solutions for tech and media tenants. The PO's have a value of \$85,450 and represent the first orders we received prior to the launch of our Inserts.

On August 12, 2022, as additional consideration for the PO's, issued a warrant to Hudson to purchase 300,000 shares of our common stock at \$0.75 per share. The warrant has a five-year life and expires on August 12, 2027.

On August 29, 2023, we engaged with Mears Group for comprehensive outside plant construction services related to the fiber optic cable route project titled "BH_Bugsy to 23rd Ave Thunderbird_Seg 4.1." The agreement includes extensive services such as trenching and placing conduits, handhole and manhole installations, cable pulling across various fiber optic counts, directional boring, and the placement of marker posts. These operations are essential for establishing and enhancing the fiber optic infrastructure within the specified area, ensuring robust connectivity and network performance.

On November 10, 2023, we entered into a supply agreement with Blue Edge Infrastructure, LLC for various fiber optics construction and testing services, detailed in a purchase order. The services, which include uni-directional OTDR testing, power meter testing, fusion splicing, closure installation, vault setting, trench cutting and sealing, and microduct or conduit placement, are critical for the development and maintenance of fiber optic networks.

Consolidated Results of Operations for the year ended December 31, 2023 as compared to the year ended December 31, 2022 (in thousands):

	Year Ended December 31, 2023	Year Ended December 31, 2022
Revenue	\$ 153	\$ -
Cost of revenue, excluding depreciation and amortization	(886)	-
Depreciation and amortization	(933)	(503)
Research and development	(2,231)	(4,107)
Selling, general and administrative	(14,759)	(10,498)
Goodwill impairment	(652)	-
Loss from operations	(19,308)	(15,108)
Other income (expense):		
Other expense	(1,293)	(74)
Interest expense	(9,417)	(7)
Loss on extinguishment of debt	(2,345)	-
Gain on issuance of convertible notes	64	-
Loss on extinguishment of warrant liability	(504)	-
Change in fair value of derivative liability	401	-
Change in fair value of notes	(7,040)	(149)
Change in fair value of warrants	10,458	1,023
Net loss	\$ (28,984)	\$ (14,315)

Revenue

Revenue is solely generated by Crown Fiber Optics, and was \$0.2 million for the year ended December 31, 2023. No revenue was recognized for the year ended December 31, 2022.

Cost of Revenue, excluding depreciation and amortization

Cost of revenue is solely generated by Crown Fiber Optics, and was \$0.9 million for the year ended December 31, 2023. No cost of revenue was recognized for the year ended December 31, 2022.

Depreciation and Amortization

Depreciation and amortization expense for the year ended December 31, 2023 and 2022, was \$0.9 million and \$0.5 million, respectively. The increase of \$0.4 million is primarily due to impairment of intangible assets of \$0.2 million for acquisition of Amerigen 7, and depreciation allocation to cost of revenue of \$48,000.

Research and Development

Research and development expenses were \$2.2 million for the year ended December 31, 2023 compared to \$4.1 million for the year ended December 31, 2022. The decrease of \$1.9 million is primarily related to a reduction in salaries and benefits of \$1.6 million and further by a decrease in stock compensation of \$0.3 million.

Selling, General and Administrative

Selling, general and administrative ("SG&A") expenses were \$14.8 million and \$10.5 million for the year ended December 31, 2023 and 2022, respectively. The \$4.3 million increase in SG&A expenses is primarily due to increase in salary expense of \$5.6 million, increase in disposal of assets of \$0.3 million, increase in miscellaneous expenses of \$0.4 million, decrease in insurance expense of \$0.3 million and a decrease in stock compensation of \$1.7 million.

Goodwill Impairment

Goodwill impairment resulted Crown Fiber Optics, and was \$0.7 million for the year ended December 31, 2023. No goodwill impairment was recognized for the year ended December 31, 2022.

Other Income (Expense)

Other expense for the year ended December 31, 2023 was \$9.7 million consisted of \$7.0 million change in fair value of our convertible notes, \$9.4 million of interest expense, \$2.8 million loss on extinguishment of debt, \$1.3 million of other expense, offset by \$10.4 million change in fair value of our warrant liability. Other income for the year ended December 31, 2022 was \$0.8 million and consisted of \$1.0 million for the change in fair value of our warrant liability, offset by \$0.1 million for the change in fair value of our convertible notes and \$0.1 million of other expense.

Liquidity

	Year Ended December 31, 2023	Year Ended December 31, 2022
Cash at the beginning of the period	\$ 821	\$ 6,130
Net cash used in operating activities	(16,160)	(11,140)
Net cash used in investing activities	(2,818)	(812)
Net cash provided by financing activities	19,214	6,643
Cash at the end of the period	\$ 1,059	\$ 821

We had an accumulated deficit of approximately \$117.0 million, and a net loss of \$29.0 million, and used approximately \$16.2 million in net cash in operating activities for the year ended December 31, 2023. We expect to continue to incur ongoing administrative and other expenses, including public company expenses.

During the twelve months ended December 31, 2023, in connection with its October Notes, we entered into a warrant inducement and exercise agreement with certain holders. Under the terms of the agreement, the holders exercised 106,764 warrants with a fair value of approximately \$0.8 million and we issued 106,764 new warrants to purchase shares of its common stock with a fair value of \$1.3 million. We recognized a loss on extinguishment of the warrants of approximately \$0.5 million which is included in other expense on the accompanying consolidated statement of operations. We did not enter into any new warrant and exercise agreements during the twelve months ended December 31, 2023.

On January 3, 2023, we received net proceeds of \$1.0 million from the issuance of senior secured notes with a principal balance of \$1.2 million and a debt discount of \$0.2 million.

On February 2, 2023, we withdrew \$2.0 million under the Line of Credit. Upon drawing down on the Line of Credit, we issued the LOC Note which is due and payable 60 days from the issuance date.

On April 4th, 2023, we made a \$0.3 million payment on the LOC balance.

On May 16, 2023, we made a second draw of \$0.2 million under the line of credit. Upon drawing down on the line of credit, we issued the 2nd LOC Note which was due and payable July 16, 2023. The 2nd LOC Note shall accrue interest at the 15% per annum from the original funding date of the 2nd LOC Note.

On May 26, 2023, we made a third draw of \$0.2 million under the line of credit. Upon drawing down on the line of credit, we issued a third Secured Promissory Note (the "3rd LOC Note") which became due and payable June 2, 2023. The 3rd LOC Note included a \$0.2 million commitment fee and does not bear interest.

On June 13, 2023, we partially redeemed the principal of the LOC Note and fully redeemed the principal of the 2nd LOC Note and the 3rd LOC Note in addition to all accrued interest and commitment fees owing for approximately \$2.1 million.

On July 25, 2023, we entered into the Demand Secured Promissory Note Agreement ("Q3 Demand Notes") with two investors for a purchase price of \$20,000 each and with an original issue discount of \$12,000. Upon settlement, we are obligated to pay a total of \$0.1 million in principle for the issuance of both notes. The Q3 Demand Notes were due and payable at any time upon demand by the holder after the earlier of (i) the consummation of our first securities offering after the issuance of the Q3 Demand Notes and (ii) January 25, 2024, but we have agreed extended terms with the lender to pay the balance down by Q2 2024.

We have obtained additional capital through the sale of debt or equity financings or other arrangements including through our existing ATM Offering, \$10.0 million standing letter of credit, the Line of Credit, and the ELOC to fund operations; however, there can be no assurance that we will be able to raise needed capital under acceptable terms, if at all. The sale of additional equity may dilute existing stockholders and newly issued shares may contain senior rights and preferences compared to currently outstanding shares of common stock. Issued debt securities may contain covenants and limit our ability to pay dividends or make other distributions to stockholders. If we are unable to obtain such additional financing, future operations would need to be scaled back or discontinued. Due to the uncertainty in our ability to raise capital, we believe that there is substantial doubt in our ability to continue as a going concern for twelve months from the issuance of these consolidated financial statements.

Cash Flows

Net Cash Used in Operating Activities

For the year ended December 31, 2023, net cash used in operating activities was \$16.2 million, which primarily consisted of our net loss of \$29.0 million, adjusted for non-cash expenses of \$12.8 million which primarily consisted of stock-based compensation expenses totaling \$0.7 million, amortization of right of use assets of \$1.3 million, change in fair value of notes of \$7.0 million, amortization of deferred debt issuance costs of \$9.3 million, loss on extinguishment of debt of \$2.3 million, depreciation and amortization of \$0.9 million, goodwill impairment of \$0.7 million, loss on extinguishment of warrant liability of \$0.5 million and other expenses of \$0.5 million, offset by the change in fair value of our warrant liability of \$10.5 million. The net change in operating assets and liabilities was \$0.5 million, consisting primarily of a decrease of \$0.1 million in prepaid and other current assets, a decrease of \$0.1 million in accounts receivable, a decrease in lease liability of \$1.3 million offset by an increase of \$0.6 million in accounts payable and an increase of \$0.4 million in accrued expenses.

For the year ended December 31, 2022, net cash used in operating activities was \$11.1 million, which primarily consisted of our net loss of \$14.3 million, adjusted for non-cash expenses of \$2.7 million which primarily consisted of stock-based compensation expenses totaling \$2.4 million, amortization of right of use assets of \$0.5 million, and depreciation and amortization of \$0.5 million and other expenses of \$0.3 million, offset by the change in fair value of our warrant liability of \$1.0 million. The net change in operating assets and liabilities was \$0.9 million, consisting primarily of an increase of \$0.7 million in accounts payable and accrued expenses, and an increase of \$0.2 million in prepaid and other current assets.

Net Cash Used in Investing Activities

For the year ended December 31, 2023, net cash used in investing activities was approximately \$2.8 million primarily related to the purchase of equipment of \$2.2 million and cash paid for the acquisition of Amerigen 7 of \$0.6 million.

For the year ended December 31, 2022, net cash used in investing activities was approximately \$0.8 million primarily related to the purchase of equipment.

Net Cash Provided by Financing Activities

For the year ended December 31, 2023, net cash provided by financing activities was \$19.2 million, consisting of net proceed from the issuance of common stock in connection with the ELOC of \$4.5 million, net proceeds received from the issuance of common stock in connection with our ATM Offering totaling \$8.4 million, net proceeds from the issuance of the LOC Note in connection with the Line of Credit of \$2.4 million, net proceeds from issuance of Series F-1 Preferred Stock of \$2.3 million, net proceeds from the exercise of common stock warrants of \$2.1 million, net proceeds from the issuance of senior secured notes of \$1.4 million, net proceeds from issuance of Series F-2 Preferred Stock of \$0.7 million, partially offset by repayment of notes payable \$2.3 million and offering cost for the issuance of common stock in connection with the ATM Offering of \$0.2 million.

For the year ended December 31, 2022, net cash provided by financing activities was \$6.6 million and consisted of \$0.9 million of proceeds received for the issuance of common stock and warrants, \$3.5 million of net proceeds received from the issuance of our convertible notes and warrants, \$1.0 million received in connection with the issuance of our Series D Preferred Stock, and \$1.2 million received from the issuance of common stock in connection with our ATM Offering.

Off-balance sheet arrangements

We did not have any off-balance sheet arrangements during the periods presented, and we do not currently have any off-balance sheet arrangements, as defined in the SEC rules and regulations.

Critical accounting policies and significant judgments and estimates

Our consolidated financial statements are prepared in accordance with generally accepted accounting principles in the United States, or GAAP. The preparation of our financial statements requires us to make estimates, assumptions and judgments that affect the reported amounts of assets, liabilities, costs and expenses. We base our estimates and assumptions on historical experience and other factors that we believe to be reasonable under the circumstances. We evaluate our estimates and assumptions on an ongoing basis. Our actual results may differ from these estimates.

There are certain critical estimates that require significant judgment in the preparation of our consolidated financial statements. We consider an accounting estimate to be critical if:

- it requires us to make an assumption because information was not available at the time or it included matters that were highly uncertain at the time the estimate is made; and
- changes in the estimate or different estimates that could have been selected may have had a material impact on our financial condition or results of operations.

Our accounting estimates, specifically related to the impairment of long-lived assets and share-based compensation, play a crucial role in our financial reporting. Despite our thorough assessment, we have not identified any recent events or conditions necessitating revisions to our estimates and assumptions that would materially impact the carrying values of our assets or liabilities as of this Annual Report on Form 10-K's issuance date. These estimates may change as new events occur and additional information is obtained. Actual results could differ materially from these estimates under different assumptions or conditions.

Fair Value Measurement

We follow the accounting guidance in Accounting Standards Codification ("ASC") 820 for fair value measurements of financial assets and liabilities measured at fair value on a recurring basis. 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 requires fair value measurements be classified and disclosed in one of the following three categories:

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

Level 2: Observable 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 that are financial instruments whose values are 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.

The fair value hierarchy also requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. Assets and liabilities measured at fair value are classified in their entirety based on the lowest level of input that is significant to the fair value measurement.

Convertible Notes

In accordance with Accounting Standards Codification 825, *Financial Instruments* (“ASC 825”), we have elected the fair value option for recognition of our promissory notes. In accordance with ASC 825, we recognize these notes at fair value with changes in fair value recognized in the statements of operations. The fair value option may be applied instrument by instrument, but it is irrevocable. As a result of applying the fair value option, direct costs and fees related to the convertible notes were recognized in general and administrative expense.

Warrant Liability

We accounted for certain common stock warrants outstanding as a liability at fair value and adjusted the instruments to fair value at each reporting period. This liability is subject to re-measurement at each balance sheet date until exercised, and any change in fair value is recognized in our statements of operations. The fair value of the warrants issued by us have been estimated using the Black-Scholes model during the fiscal year ended December 31, 2023 and using the Monte Carlo simulation for the fiscal year ended December 31, 2022.

Stock-based compensation

We measure and recognize compensation expense for all options based on the estimated fair value of the award on the grant date. We use the Black-Scholes option-pricing model to estimate the fair value of option awards. The fair value is recognized as expense on a graded method over the requisite service period. We account for forfeitures as they occur. We recognize expense for awards where vesting is subject to a market or performance condition based on the derived service period. Expense for awards with performance conditions would be estimated and adjusted on a quarterly basis based upon our assessment of the probability that the performance condition will be met.

The determination of the grant date fair value of options using an option pricing model is affected principally by our estimated fair value of shares of our common stock and requires management to make a number of other assumptions, including the expected life of the option, the volatility of the underlying shares, the risk-free interest rate and expected dividends. The assumptions used in our Black-Scholes option-pricing model represent management’s best estimates at the time of measurement. These estimates are complex, involve a number of variables, uncertainties and assumptions and the application of management’s judgment, as they are inherently subjective. If any assumptions change, our stock-based compensation expense could be materially different in the future.

These assumptions are estimated as follows:

- **Expected Term.** The expected term of options represents the period that our stock-based awards are expected to be outstanding based on the simplified method, which is the half-life from vesting to the end of its contractual term. The simplified method was used because we do not have sufficient historical exercise data to provide a reasonable basis for an estimate of expected term.
- **Expected Volatility.** We use a blended volatility that includes its common stock trading history and supplements the remaining historical information with the trading history from the common stock of a set of comparable publicly traded companies.
- **Risk-Free Interest Rate.** We base the risk-free interest rate on the implied yield available on U.S. Treasury zero-coupon issues with an equivalent remaining term.
- **Expected Dividend Yield.** We have never declared or paid any cash dividends on our common shares and do not plan to pay cash dividends in the foreseeable future, and, therefore, we use an expected dividend yield of zero in our valuation models.

We account for forfeited awards as they occur.

Recent accounting pronouncements

See Note 3 to our consolidated financial statements for a description of recent accounting pronouncements applicable to our financial statements.

JOBS Act Transition Period

As an “emerging growth company” under the Jumpstart Our Business Startups Act of 2012, we can take advantage of an extended transition period for complying with new or revised accounting standards. This allows an emerging growth company to delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We are electing to delay our adoption of such new or revised accounting standards. As a result of this election, our consolidated financial statements may not be comparable to the financial statements of other public companies.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK.

As a smaller reporting company, we are not required to provide the information required by this item.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA.

The consolidated financial statements and supplementary data required by this item are included after Part IV of this Annual Report on Form 10-K beginning on page F-1.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE.

We have not had any disagreements with our accountants or auditors that would need to be disclosed pursuant to Item 304 of Regulation S-K promulgated under the Securities Act of 1933.

ITEM 9A. CONTROLS AND PROCEDURES.

Evaluation of Disclosure Controls and Procedures

Under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, as of the end of the period covered by this report, we conducted an evaluation of the effectiveness of the design and operation of our disclosure controls and procedures, as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Act of 1934. Our disclosure controls and procedures are designed to provide reasonable assurance that the information required to be included in our Securities and Exchange Commission reports is recorded, processed, summarized and reported within the time periods specified in Securities and Exchange Commission rules and forms, relating to our company, including our consolidated subsidiaries.

Conclusion Regarding the Effectiveness of Disclosure Controls and Procedures

We maintain disclosure controls and procedures that are designed to ensure that information required to be disclosed in our Exchange Act reports is recorded, processed, summarized, and reported within the time periods specified in the SEC’s rules and forms, and that such information is accumulated and communicated to management, as appropriate, to allow timely decisions regarding required disclosure. Management necessarily applied its judgment in assessing the costs and benefits of such controls and procedures, which, by their nature, can provide only reasonable assurance regarding management’s control objectives.

Our management, including our CEO and CFO, evaluated the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Rule 13a-15(e) under the Exchange Act) as of the end of the period covered by this report. Based on this evaluation, our CEO and CFO concluded that the design and operation of our disclosure controls and procedures were not effective as of such date to provide assurance that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the rules and forms of the SEC, and that such information is accumulated and communicated to management as appropriate, to allow timely decisions regarding disclosures.

Management's Annual Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Rule 13a-15(f). Our internal control over financial reporting is a process designed to provide reasonable assurance to our management and board of directors regarding the reliability of financial reporting and the preparation of the consolidated financial statements for external purposes in accordance with U.S. GAAP.

Our internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of our assets; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with U.S. GAAP and our receipts and expenditures are being made only in accordance with authorizations of our management and directors; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of our assets that could have a material effect on our consolidated financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. All internal control systems, no matter how well designed, have inherent limitations, including the possibility of human error and the circumvention of overriding controls. Accordingly, even effective internal control over financial reporting can provide only reasonable assurance with respect to financial statement preparation. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Our management assessed the effectiveness of our internal control over financial reporting as of December 31, 2023. In making this assessment, it used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO") in Internal Control-Integrated Framework (2013). Management is committed to accurate and ethical business practices. Based on our evaluation, management concluded that our disclosure controls and procedures were not effective as of December 31, 2023, due to material weaknesses in our internal controls over financial reporting. A material weakness is a deficiency, or a combination of control deficiencies, in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of our annual or interim consolidated financial statements will not be prevented or detected on a timely basis.

Management noted the following deficiencies that we believe to be material weaknesses:

- Lack of documentation of processes and controls at the level appropriate for a public company;
- Inadequate design of information technology general and application controls over certain operating systems and system applications supporting financial reporting processes;
- Lack of segregation of duties in certain accounting and financial reporting processes; and
- Ineffective risk assessment controls, due to a lack of documentation of management's periodic risk assessment.

Management's view is that unethical, illegal, or inaccurate conduct in the operations and accounting for our company violates the trust and integrity of our company and is damaging to the interests of all stakeholders, and in the long-term misconduct injures the interests of even the individual whom it might initially benefit. This is reinforced periodically with informal conversations and is ingrained in the culture of our company. When questions arise, they are escalated to the CFO, CEO, or Board of Directors for review, investigation, direction, and consensus, and external opinion is sought if consensus is not achieved. The Senior Vice President of Accounting and CFO both have direct contact with all levels of review. Management intends to work internally and with third parties to ensure we have the proper controls in place going forward.

This Annual Report does not include an attestation report of our independent registered public accounting firm regarding internal control over financial reporting. Management's report was not subject to attestation by our independent registered public accounting firm pursuant to the SEC rules that permit us to provide only management's report in this Annual Report.

Changes in Internal Control over Financial Reporting

There was no change in our internal control over financial reporting (as defined in Rule 13a-15(f) of the Exchange Act) that occurred during the fiscal quarter ended December 31, 2023, that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. OTHER INFORMATION.

Trading Plans

During the three months ended December 31, 2023, none of our directors or officers (as defined in Rule 16a-1(f) under the Exchange Act) adopted or terminated a "Rule 10b5-1 trading arrangement" or "non-Rule 10b5-1 trading arrangement," as each term is defined in Item 408(a) of Regulation S-K.

ITEM 9C. DISCLOSURE REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS.

Not applicable.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE.

Management

Set forth below is information regarding our directors and executive officers as of the date of this Annual Report.

Name	Age	Position	Director Since
Douglas Croxall	55	Chairman and Chief Executive Officer	2015
Daniel Marcus ⁽¹⁾⁽²⁾⁽³⁾	57	Director	2022
Dr. DJ Nag ⁽¹⁾⁽²⁾⁽³⁾	56	Director	2020
Scott Hobbs ⁽¹⁾⁽²⁾⁽³⁾	50	Director	2023
Joel Krutz	50	Chief Financial Officer, Chief Operating Officer, and Director	2023

(1) Member of Audit Committee.

(2) Member of Compensation Committee.

(3) Member of Governance and Nominating Committee.

All directors serve for one year and until their successors are elected and qualified. All officers serve at the pleasure of the Board of Directors. There are no family relationships among any of our officers and directors.

Information concerning our executive officers and directors is set forth below.

Executive Officers

Douglas Croxall. Mr. Croxall is the Chief Executive Officer and Chairman of the Board of Directors of Crown Electrokinetics Corp. Prior to co-founding Crown Electrokinetics, Mr. Croxall was the CEO and Chairman of the Board of Directors of Marathon Patent Group from November 2012 until December 2017. Mr. Croxall holds a BA degree from Purdue University and an MBA from Pepperdine University.

We believe that Mr. Croxall should continue to serve as a member of our board of directors due to his executive experience, and his financial, investment, and management experience, which will provide the requisite qualifications, skills, perspectives, and experience that make him well qualified.

Timothy Koch. Mr. Koch is the Chief Technology Officer of Crown Electrokinetics. Prior to co-founding Crown, he was in charge of the R&D team at HP that invented electrokinetic (EK) technology. He has over 30 years of engineering and management experience in both technology development and product manufacturing. He holds a BS from Cornell University and a MS from Stanford University, both degrees in Material Science & Engineering. He has also completed an Executive Development Program from the Cornell University Johnson Graduate School of Management.

Joel Krutz. Mr. Krutz has served as a member of our Board of Directors since August 2023. Mr. Krutz is currently our Chief Financial Officer and Chief Operating Officer. Mr. Krutz is an experienced executive in finance and operations, with a history in building and developing financial reporting. Most recently, Mr. Krutz had served as CFO for ViacomCBS Networks International (“VCNI”), the premium content companies international division since 2015. As CFO of VCNI, Mr. Krutz successfully steered the business through a transformational period of expansion, diversification, and growth. Prior to his role as CFO of VCNI, Mr. Krutz held a number of progressive London and New York based CFO and senior strategic finance roles for Viacom where he built and developed financial infrastructure to support businesses through a range of rapid growth, turnaround, and portfolio optimization challenges. Originally from New Zealand, Mr. Krutz received a Bachelor of Management Studies with an Accounting major from Waikato University, New Zealand. He obtained his professional CIMA qualification from the UK’s Association of Chartered Management Accountants, and CTAMU certification from Harvard Business School’s Executive program.

Non-Employee Directors

Dr DJ Nag. Dr. DJ Nag has served as a member of our board of directors since July 2020. Dr. DJ Nag is the President of Innovaito LLC, an intellectual property strategy think tank. Prior to this, Dr. Nag was the Chief Investment Officer at Ventech Solutions, a healthcare technology company that manages quality data for the Center for Medicare and Medicaid Services (CMS). He has successfully led Ohio State University, Rutgers University and University of Nebraska’s technology transfer operations that included licensing, startup and investments. As an entrepreneur, he led a number of start-ups in the intellectual property strategy, artificial intelligence, and medical device space. As a consultant in patent monetization and intellectual property strategy, he has worked with many Fortune 500 companies, universities, and national governments. He was a Director of Ocean Tomo and a Vice President at ICAP Ocean Tomo, leading patent transaction markets. He was recognized as one of the top IP strategists by IAM300 in 2019. Dr. Nag was on the Board of the Association of University Technology Managers, Inc. (AUTM) from 2012 to 14, focused on educating the members around world on the importance of technology transfer and intellectual property. He is widely recognized as a global intellectual property strategist working with government and universities in Poland, Japan, India, Turkey, Brazil, South Korea, Ukraine and many other countries. Currently, he teaches intellectual property strategy and negotiations as a Professor of Practice at Rutgers University and a Visiting Professor at Shizuoka University. He volunteers as the first Executive-in-Residence at the Dublin City Schools, leading a startup academy for high school students and serves on the foundation board at the Dublin Methodist Hospital.

We believe that Dr. Nag should continue to serve as a member of our board of directors due to his executive, technological and intellectual property experience.

Daniel Marcus. Daniel Marcus has served as a member of our Board of Directors since October 2022. Mr. Marcus is the Principal and Founder of Marcus Capital. Prior to forming Marcus Capital in 2004, Mr. Marcus worked at Bear Stearns as a managing director and has over 25 years of investment experience. He earned his Bachelors of Business Degree in Economics from the University of Wisconsin-Madison. In addition to forming Marcus Capital, Mr. Marcus is a founding partner of Spark Ventures, a non-profit charitable organization. Mr. Marcus has been involved with various charities including 10 years as a Child Life Specialist at Children’s Memorial Hospital, Chicago and two years at The Night Ministry, working to serve homeless and runaway youth. Our Board of Directors believes that Mr. Marcus should continue to serve as a member of the Board of Directors due to his executive, financial and investment experience.

Scott Hobbs. Scott Hobbs has served as a member of our Board of Directors since August 2023. Since June 2021, Mr. Hobbs has worked for Newmark as an office tenant representation broker in the Greater Dallas Area. He tracks office lease transactions (comps), building tenant stacks, current vacancies, lease roll & ‘ghost’ space, sublease space, state & municipal incentives, labor markets, and companies currently in the market for office space. He exclusively represents office tenants in all manner of transactions ranging from negotiated renewals, relocations, built-to-suit, sublease, expansion, contraction, building purchase, etc. Prior to joining Newmark, Mr. Hobbs was an Executive Director at Cushman Wakefield since July 2018. Prior to his role at Cushman Wakefield, Mr. Hobbs held a number of roles in the real estate industry. Before entering the real estate industry, Mr. Hobbs was a commissioned Navy SEAL Officer. A decorated combat veteran, Mr. Hobbs has circled the globe three times in the service of the United States Navy and Joint Special Operations Command. Mr. Hobbs earned a Bachelor of Business Administration degree from Texas A&M University.

Code of Ethics

We have adopted a Code of Ethics and Business Conduct which is applicable to the conduct of our directors, officers and employees, including our CEO, CFO and persons performing similar functions. A copy of our Code of Business Conduct and Ethics has been filed with the Securities and Exchange Commission as an exhibit to our company’s Registration Statement on Form S-1 filed June 28, 2019.

Family Relationships

There are no family relationships between any of our executive officers and directors.

Board of Directors

Each of our directors will be elected at our annual meeting of stockholders and hold office until the next annual meeting of stockholders, or until a successor is elected and qualified. If any director resigns, dies or is otherwise unable to serve out the director’s term, or if the board of directors increases the number of directors, the board of directors may fill the vacancy by the vote of a majority of the directors then in office. A director elected to fill a vacancy shall serve for the unexpired term of such director’s predecessor.

Committees of the Board of Directors

The Board of Directors has established and currently maintains the following three standing committees: the Audit Committee, the Compensation Committee, and the Governance and Nominating Committee (the "G&NC").

Currently, the Audit Committee consists of Mr. Marcus (Chair), Dr. Nag, and Mr. Hobbs, the Compensation Committee consists of Mr. Marcus (Chair), Dr. Nag and Mr. Hobbs, and the G&NC consists of Dr. Nag (Chair), Mr. Marcus, and Mr. Hobbs.

Audit Committee. Among other functions, the Audit Committee authorizes and approves the engagement of the independent registered public accounting firm, reviews the results and scope of the audit and other services provided by the independent registered public accounting firm, reviews our financial statements, reviews and evaluates our internal control functions, approves or establishes pre-approval policies and procedures for all professional audit and permissible non-audit services provided by the independent registered public accounting firm and reviews and approves any proposed related party transactions. The Board of Directors has determined that each of the current members of the Audit Committee is an independent director within the meaning of the NASDAQ independence standards and Rule 10A-3 promulgated by the SEC under the Securities Exchange Act of 1934, as amended (the "Exchange Act"). In addition, the Board of Directors has determined that Mr. Marcus qualifies as an Audit Committee Financial Expert under applicable SEC Rules and that each of the members of the Audit Committee satisfies the NASDAQ standards of financial literacy and financial or accounting expertise or experience.

Compensation Committee. The Compensation Committee's functions include reviewing and approving the compensation and benefits for our executive officers, administering our equity compensation plans and making recommendations to the Board of Directors regarding these matters. The Board of Directors has determined that each current member of the Compensation Committee is an independent director within the meaning of the NASDAQ independence standards.

Governance and Nominating Committee. The G&NC searches for and recommends to the Board of Directors potential nominees for director positions and makes recommendations to the Board of Directors regarding the size, composition and compensation of the Board of Directors and its committees. The Board of Directors has determined that each current member of the G&NC is an independent director within the meaning of the NASDAQ independence standards.

Board Leadership Structure and Role in Risk Oversight

Our Board of Directors is currently chaired by Mr. Croxall, who also serves as our Chief Executive Officer, having been engaged in such roles since our inception. The Board does not believe that it is appropriate to prohibit one person from serving as both Chairman of the Board and Chief Executive Officer. Our Board will continually evaluate our leadership structure and could in the future decide to separate the Chairman and Chief Executive Officer positions if it believes that doing so would serve the best interests of our company and its stockholders.

The Board of Directors has not named a lead independent director. However, to strengthen the voice of our independent directors, we provide that such directors meet on a regular basis, and we have provided that all of the members of the Audit Committee, the Compensation Committee and the G&NC are independent.

Our Board of Directors and the Audit Committee thereof is responsible for overseeing the risk management processes on behalf of our company. The Board and, to the extent applicable, the Audit Committee, receive and review periodic reports from management, auditors, legal counsel and others, as considered appropriate regarding our company's assessment of risks. Where applicable, the Audit Committee reports regularly to the full Board of Directors with respect to risk management processes. The Audit Committee and the full Board of Directors focus on the most significant risks facing our company and our company's general risk management strategy, and also ensure that risks undertaken by our company are consistent with the Board's appetite for risk. While the Board oversees the risk management of our company, management is responsible for day-to-day risk management processes. We believe this division of responsibilities is the most effective approach for addressing the risks facing our company and that our Board leadership structure supports this approach.

Director or Officer Involvement in Certain Legal Proceedings

Our directors and executive officers were not involved in any legal proceedings as described in Item 401(f) of Regulation S-K in the past ten years.

Delinquent Section 16(a) Reports

Section 16(a) of the Exchange Act requires our executive officers, directors and persons who beneficially own more than 10% of our common stock to file with the SEC reports of their ownership and changes in their ownership of our common stock. To our knowledge, based solely on review of the copies of such reports and amendments to such reports with respect to the year ended December 31, 2023 filed with the SEC, all required Section 16 reports under the Exchange Act for our directors, executive officers and beneficial owners of greater than 10% of our common stock were filed on a timely basis during the year ended December 31, 2023, except for late Form 4 filings reporting (i) one transaction by Doug Croxall and (ii) one transaction by Joel Krutz. As of the date of the filing of this annual report, all such Form 4s have been filed.

ITEM 11. EXECUTIVE COMPENSATION.

Summary Compensation Table

The following table sets forth information regarding compensation earned during the years ended December 31, 2023 and the year ended December 31, 2022 by our principal executive officer and our other most highly compensated executive officers, or the named executive officers, as of the end of the year ended December 31, 2023.

Name and Principal Position	Annual Compensation				Long-Term Compensation Awards	
	Fiscal Year Ended	Salary	Bonus	Other Compensation	Options	Restricted Stock Awards
Douglas Croxall Chief Executive Officer	2023	\$ 699,792	\$ 910,000		\$ -	\$ 269,419
	2022	\$ 675,000	\$ 580,000	\$ -	\$ 37,974	\$ 51,000
Joel Krutz Chief Financial Officer	2023	\$ 590,000	\$ 680,000		\$ -	\$ 134,709
	2022	\$ 376,666	\$ 560,000	\$ -	\$ 25,316	\$ 34,000
Timothy Koch Chief Technology Officer	2023	\$ 218,750			\$ -	\$ 8,750
	2022	\$ 250,000	\$ -	\$ -	\$ 15,822	\$ 21,250
Edward Kovalik ^(a) Former President/Chief Operating Officer	2023					
	2022	\$ 184,229	\$ -	\$ -	\$ -	\$ -
Kai Sato ^(a) Former Co-President/Chief Marketing Officer	2023					
	2022	\$ -	\$ -	\$ 137,499	\$ -	\$ -

(a) *Departed during the year ended December 31, 2022*

Restricted Stock

During the twelve months ended December 31, 2023, we granted 1,992,345 restricted stock units with a fair value of approximately \$0.5 million. As of December 31, 2023, a total of 2,709,012 restricted stock units have been issued to employees, and 226,351 restricted stock units had been granted to members of our board of directors.

Stock Option Grants

During the twelve months ended December 31, 2023, we granted 224,167 stock options with a fair value of approximately \$0.04 million. As of December 31, 2023, a total of 381,225 stock options have been issued to employees, and no stock options had been granted to members of our board of directors.

Narrative Disclosures Regarding Compensation; Employment Agreements

We have entered into employment agreements with two of our Named Executive Officers. The terms and conditions of each of the foregoing arrangements are summarized below.

Doug Croxall Agreement

On June 16, 2021, we entered into an employment agreement with Doug Croxall, our Chief Executive Officer. Pursuant to the agreement, Mr. Croxall will serve as our Chief Executive Officer for a period of two years, which will automatically extend for successive 12 month periods unless terminated by either us or Mr. Croxall. Mr. Croxall will receive an annual base salary of \$675,000. Mr. Croxall will also be entitled to an annual discretionary bonus based upon certain performance targets established by our Board of Directors, as well as annual awards under our long-term incentive plan, upon the terms and conditions established by our Board of Directors.

On October 31, 2022, our Board of Directors approved an increase of Mr. Croxall's annual base salary to \$700,000 effective January 1, 2023. On November 30, 2023 the Board of Directors approved an exceptional bonus for Mr. Croxall of \$220,000 related to his performance for the 2023 fiscal year.

Joel Krutz Agreement

On June 21, 2021, we entered into an employment agreement with Joel Krutz to serve as our Chief Financial Officer. Pursuant to the agreement, Mr. Krutz will serve as our Chief Financial Officer for a period of two years, which will automatically extend for successive 12 month periods unless terminated by either us or Mr. Krutz. Mr. Krutz will receive an annual base salary of \$360,000. Mr. Krutz will also be entitled to an annual discretionary bonus based upon certain performance targets established by our Board of Directors, as well as annual awards under our 2022 Employee Incentive Plan, upon the terms and conditions established by our Board of Directors. On October 31, 2022, we entered into an amended employment agreement, pursuant to which Mr. Krutz will continue his service as our Chief Financial Officer, and also became our Chief Operating Officer, and pursuant to which Mr. Krutz will receive an annual salary of \$560,000 effective January 1, 2023. On being appointed to our Board of Directors, the Board of Directors approved an increase in Mr. Krutz's annual base salary to \$650,000 effective September 1. The other terms of Mr. Krutz's employment agreement remain unchanged.

Outstanding Equity Awards at Fiscal Year End

2023 Outstanding Equity Awards at Fiscal Year-end Table

The following table sets forth information regarding the outstanding equity awards held by our Named Executive Officers as of December 31, 2023:

Name	Option Awards					Stock Awards			
	Number of Securities Underlying Unexercised Options (#)	Number of Securities Underlying Unexercised Options (#)	Equity Incentive Plan Awards: Number of Securities Underlying Unexercised Options (#)	Option Exercise Price (\$)	Option Expiration Date	Number of Shares or Units of Stock That Have Not Vested (#)	Market Value of Shares or Units of Stock That Have Not Vested (\$)	Equity Incentive Plan Awards: Number of Shares, Units or Other Rights That Have Not Vested (#)	Equity Incentive Plan Awards: Market or Payout Value of Shares, Units or Other Rights That Have Not Vested (\$)
Doug Croxall	2,778	—	2,778	9.00	2.28.2028	899,520	\$ 254,266	—	—
Doug Croxall	4,167	—	4,167	72.00	1.17.2029	—	—	—	—
Doug Croxall	18,056	—	18,056	135.00	4.13.2030	—	—	—	—
Doug Croxall	30,875	—	30,875	216.00	10.1.2030	—	—	—	—
Doug Croxall	219	—	219	216.00	4/1/2031	—	—	—	—
Doug Croxall	1,042	1,458	2,500	20.40	9/23/2032	—	—	—	—
Tim Koch	4,067	—	4,067	9.00	2.28.2028	33,662	\$ 20,659	—	—
Tim Koch	833	—	833	72.00	1.17.2029	—	—	—	—
Tim Koch	5,333	—	5,333	135.00	4.13.2030	—	—	—	—
Tim Koch	9,950	608	9,950	216.00	12.30.2030	—	—	—	—
Tim Koch	434	—	1,042	20.40	9.23.2032	—	—	—	—
Joel Krutz	694	972	1,667	20.40	9.23.2032	450,558	\$ 265,425	—	—

Option Re-pricings

We have not engaged in any option re-pricings or other modifications to any of our outstanding equity awards to our Named Executive Officers during fiscal year 2023.

Compensation of Directors

2023 Director Compensation Table

The following Director Compensation Table sets forth information concerning compensation for services rendered by our independent directors for fiscal year 2023.

Name	Fees Earned or Paid in Cash (\$)	Stock Awards (\$)	Option Awards (\$)	All Other Compensation (\$)	Total (\$)
Dr. DJ Nag ⁽¹⁾	\$ 52,000	\$ 12,500	\$ —	—	\$ 64,500
Scott Hobbs ⁽²⁾	17,217	5,208	—	—	22,425
Daniel Marcus ⁽³⁾	56,000	12,500	—	—	68,500
Total:	\$ 125,217	\$ 30,208	\$ —	—	\$ 155,425

(1) Dr. Nag was appointed to serve as a member of the Board of Directors in July 2020. Dr. Nag held options to purchase 556 shares of our common stock.

(2) Mr. Hobbs was appointed to serve as a member of the Board of Directors in September 2023.

(3) Mr. Marcus was appointed to serve as a member of the Board of Directors in October 2022.

Mr. Croxall and Mr. Krutz have not been included in the Director Compensation Table because there were a Named Executive Officer of our company for all of our 2023 fiscal year, and all compensation paid to him during our 2023 fiscal year is reflected in the Summary Compensation Table above.

Director Compensation Program

Directors who are employees of our company or of any of our subsidiaries receive no additional compensation for serving on our Board of Directors or any of its committees. All directors who are not employees of our company or of any of our subsidiaries are compensated at the rate of \$12,000 per quarter. All directors who are not employees are eligible for annual equity compensation of \$75,000 payable in shares of common stock.

Compensation Committee Interlocks

None of the members of the compensation committee are currently, or have been at any time, one of our executive officers or employees. None of our executive officers currently serve, or have served during the last year, as a member of the board of directors or compensation committee of any entity that has one or more executive officers serving as a member of our board of directors or compensation committee.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS.

The following table sets forth, as of February 2, 2024, information regarding beneficial ownership of our capital stock 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 executive officers and directors as a group.

The percentage ownership information shown in the table prior to this offering is based upon 30,868,347 shares of common stock outstanding as of February 2, 2024.

Name of Beneficial Owner and Address ⁽¹⁾	Common Stock Beneficially Owned ⁽²⁾	
	Shares	% ⁽³⁾
<i>Officers and Directors</i>		
Croxall Family Trust ⁽⁴⁾	431,506	1.38%
Timothy Koch ⁽⁵⁾	31,724	*
Joel Krutz ⁽⁶⁾	187,669	*
Dr. DJ Nag ⁽⁷⁾	51,450	*
Daniel Marcus	50,000	*
Scott Hobbs	20,833	*
All current officers and directors as a group (6 persons)	773,182	2.45%

* Less than 1.0%

(1) Unless otherwise noted, all addresses are c/o Crown Electrokinetics Corp., at 11601 Wilshire Blvd., Suite 2240, Los Angeles, California 90025.

(2) A person is considered to beneficially own any shares: (i) over which such person, directly or indirectly, exercises sole or shared voting or investment power, or (ii) of which such person has the right to acquire beneficial ownership at any time within 60 days (such as through exercise of stock options or warrants). Unless otherwise indicated, voting and investment power relating to the shares shown in the table for our directors and executive officers is exercised solely by the beneficial owner or shared by the owner and the owner's spouse or children.

(3) Based upon 30,868,347 shares of common stock outstanding on February 2, 2024.

(4) Includes options to purchase 57,275 shares of our common stock and 360,406 vested restricted stock units.

(5) Includes options to purchase 20,676 shares of our common stock and 4,382 vested restricted stock units.

(6) Includes 787 vested restricted stock units and options to purchase 1,363 shares of our common stock.

(7) Includes 617 vested restricted stock units and options to purchase 566 shares of our common stock.

Equity Compensation Plan Information

On October 31, 2022, we adopted our 2022 Long-Term Incentive Plan (the “2022 Plan”). Under the 2022 Plan, the maximum number of shares of our common stock as to which awards may be granted under the 2022 Plan may not exceed seventy thousand (70,000) shares (the “Initial Share Limit”), which amount is subject to proportional adjustment as determined by our Board of Directors to reflect certain stock changes, such as stock dividends and stock splits.

Notwithstanding the foregoing, (a) the total number of shares of common stock that may be delivered pursuant to awards under the 2022 Plan shall automatically increase on the first trading day of each calendar year, beginning with the 2023 calendar year, by such number of shares of common stock as are necessary so that the total number of shares reserved for issuance under the 2022 Plan shall be equal to 19.9% of the total number of outstanding shares of common stock, determined on a fully diluted basis as of the applicable trading date (the “Stipulated Percentage”); (b) our Board of Directors may act prior to January 1st of a given calendar year to provide that (i) there will be no such automatic annual increase in the number of shares reserved for issuance under the 2022 Plan or (ii) the increase in the number of shares for such calendar year will be a lesser number of shares than necessary to maintain the Stipulated Percentage of shares reserved for issuance under the 2022 Plan.

On December 16, 2020, we adopted our 2020 Long-Term Incentive Plan (the “2020 Plan”). Under the 2020 Plan, there are 88,889 shares of our common stock available for issuance and the 2020 Plan has a term of 10 years. The available shares in the 2020 Plan will automatically increase on the first trading day in January of each calendar year during the term of the 2022 Plan, commencing with January 2021, by an amount equal to the lesser of (i) five percent (5%) of the total number of shares of common stock issued and outstanding on December 31 of the immediately preceding calendar year, (ii) 1,000,000 shares of common stock or (iii) such number of shares of common stock as may be established by our Board of Directors.

We grant equity-based compensation under our 2022 Plan, 2020 Plan and our 2016 Equity Incentive Plan (the “Plan”). The 2022 Plan, 2020 Plan and 2016 Plan allows us to grant incentive and nonqualified stock options, and shares of restricted stock to our employees, directors and consultants. On June 14, 2019, the Board of Directors approved increasing the number of shares allocated to our 2016 Plan from 91,667 to 122,222.

Plan Category	(a) Number of Securities to be Issued Upon Exercise of Outstanding Options	(b) Weighted- Average Exercise Price of Outstanding Options	(c) Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (excluding securities reflected in column (a))
Equity compensation plans approved by security holders	2,470,695	N/A	44,985
Equity compensation plans not approved by security holders	—	N/A	—
Total	2,470,695	N/A	44,985

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE.

Approval for Related Party Transactions

It is our practice and policy to comply with all applicable laws, rules and regulations regarding related-person transactions. Our Code of Ethics and Business Conduct requires that all employees, including officers and directors, disclose to the Chief Executive Officer the nature of any company business that is conducted with any related party of such employee, officer or director (including any immediate family member of such employee, officer or director, and any entity owned or controlled by such persons). If the transaction involves an officer or director of our company, the Chief Executive Officer must bring the transaction to the attention of the Audit Committee, which must review and approve the transaction in advance. In considering such transactions, the Audit Committee takes into account the relevant available facts and circumstances.

Related Party Transactions

Other than equity and other compensation, termination, change in control and other arrangements, which are described under “Executive Compensation”, in the last three years, we have not been a party to any transaction or arrangement in which the amount involved in the transaction exceeded 1% of the average of our total assets in which any of our directors, executive officers or, to our knowledge, beneficial owners of more than 5% of any class of our voting securities or any member of the immediate family of any of the foregoing persons had or will have a direct or indirect material interest.

Director Independence

The Exchange Listing Rules require that independent directors compose a majority of a listed company's board of directors within one year of listing. In addition, the Exchange Listing Rules require that, subject to specified exceptions, each member of a listed company's audit, compensation, and nominating and corporate governance committees be independent and that audit committee members also satisfy independence criteria set forth in Rule 10A-3 under the Exchange Act of 1934. Under the Exchange Listing Rules, a director will only qualify as an "independent director" if, in the opinion of our 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. In order to be considered independent for purposes of Rule 10A-3 under the Exchange Act, a member of an audit committee of a listed company may not, other than in his or her capacity as a member of the audit committee, the board of directors, or any other board committee: (1) accept, directly or indirectly, any consulting, advisory, or other compensatory fee from the listed company or any of its subsidiaries; or (2) be an affiliated person of the listed company or any of its subsidiaries.

In addition, members of the compensation committee must satisfy additional independence requirements set forth in the Exchange Listing Rules. In order to be considered independent for purposes of the Exchange Listing Rules, a member of a compensation committee of a listed company may not, other than in his or her capacity as a member of the compensation committee, the board of directors, or any other board committee, accept, directly or indirectly any consulting, advisory, or other compensatory fee from the listed company or any of its subsidiaries. Additionally, the board of directors of the listed company must consider whether the compensation committee member is an affiliated person of the listed company or any of its subsidiaries and if so, must determine whether such affiliation would impair the director's judgment as a member of the compensation committee.

Our board of directors undertook a review of its composition, the composition of its committees and the independence of each director. Based upon information requested from and provided by each director concerning his background, employment and affiliations, including family relationships, our board of directors determined that Messrs. Hobbs, Nag, and Marcus do not have any relationships that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director and that each is considered an "independent" director as that term is defined under the applicable SEC rules and the Exchange Listing Rules. In making those determinations, our board of directors considered the current and prior relationships that each non-employee director has with our company and all other facts and circumstances our board of directors deemed relevant in determining their independence, including the beneficial ownership of our capital stock by each non-employee director.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES.

The following table sets forth fees billed to us by our independent auditors, Marcum LLP, for the year ended December 31, 2023 and the year ended December 31, 2022 for (i) services rendered for the audit of our annual financial statements and the review of our quarterly financial statements, (ii) services rendered that are reasonably related to the performance of the audit or review of our financial statements that are not reported as Audit Fees, and (iii) services rendered in connection with tax preparation, compliance, advice and assistance.

	Year Ended December 31, 2023	Year Ended December 31, 2022
SERVICES		
Audit fees	\$ 553	\$ 207
Tax fees	18	17
All other fees	17	90
Total fees	<u>\$ 588</u>	<u>\$ 314</u>

Audit fees represent amounts billed for professional services rendered for the audit of our annual financial statements and the review of our interim financial statements. Before our independent accountants were engaged to render these services, their engagement was approved by our Board of Directors.

PART IV

ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES.

(a)(1) Financial statements.

The financial statements and supplementary data required by this item begin on page F-1.

(a)(2) Financial Statement Schedules.

All schedules are omitted because the required information is inapplicable or the information is presented in the financial statements and the related notes.

(a)(3) Exhibits.

Exhibit No.	Exhibit Description
3.1	Certificate of Incorporation (incorporated by reference to Exhibit 3.1 to the registrant's Form S-1/A filed on September 18, 2019).
3.2	Certificate of Amendment to Certificate of Incorporation of Crown Electrokinetics Corp. (incorporated by reference to Exhibit 3.1 to the registrant's Form 8-K filed on January 27, 2021).
3.3	By-laws (incorporated by reference to Exhibit 3.2 to the registrant's Form S-1/A filed on September 18, 2019).
3.4	Form of Amended and Restated Certificate of Designations, Preferences and Rights of Series A Preferred Stock of Crown Electrokinetics Corp. (incorporated by reference to Exhibit 3.3 to the registrant's Form S-1/A filed on January 25, 2021).
3.5	Form of Amended and Restated Certificate of Designations, Preferences and Rights of Series B Preferred Stock of Crown Electrokinetics Corp. (incorporated by reference to Exhibit 3.4 to the registrant's Form S-1/A filed on January 25, 2021).
3.6	Form of Certificate of Designations, Preferences and Rights of Series C Preferred Stock of Crown Electrokinetics Corp. (incorporated by reference to Exhibit 3.1 to the registrant's Form 8-K filed on April 6, 2021).
3.7	Certificate of Designations, Preferences and Rights of Series D Preferred Stock of Crown Electrokinetics Corp. (incorporated by reference to Exhibit 3.4 to the registrant's Form 8-K filed on July 8, 2022).
3.9	Series E Preferred Stock Certificate of Designations, Preferences and Rights (incorporated by reference to Exhibit 3.2 to the registrant's Form 8-K filed on February 3, 2023).
3.10	Series F Certificate of Designation filed with the Secretary of State of Delaware (incorporated by reference to Exhibit 3.1 to the registrant's Form 8-K filed on June 6, 2023).
3.11	Certificate of Amendment to Certificate of Incorporation, as amended, filed with the Secretary of State of Delaware (incorporated by reference to Exhibit 3.1 to the registrant's Form 8-K filed on June 15, 2023).
3.12	Series F-1 Certificate of Designations filed with the Secretary of State of Delaware (incorporated by reference to Exhibit 3.2 to the registrant's Form 8-K filed on June 15, 2023).
3.13	Series F-2 Certificate of Designations filed with the Secretary of State of Delaware (incorporated by reference to Exhibit 3.3 to the registrant's Form 8-K filed on June 15, 2023).
3.14	Certificate of Amendment to Amended and Restated Certificate of Incorporation filed with the Secretary of State of the State of Delaware (incorporated by reference to Exhibit 3.1 to the registrant's Form 8-K filed on August 14, 2023).
4.1	Form of Warrant, dated June 3, 2020, by and between the registrant and Hudson Pacific Properties, L.P. (incorporated by reference to Exhibit 4.1 to the registrant's Form 8-K filed on April 6, 2021).
4.2	Form of Warrant, dated January 28, 2021, by and between the registrant and Roth Capital Partners, LLC (incorporated by reference to Exhibit 4.1 to the registrant's Form 8-K filed on January 27, 2021).
4.3	Form of Warrant, dated July 19, 2022, by and between the registrant and Roth Capital Partners, LLC (incorporated by reference to Exhibit 4.1 to the registrant's Form 8-K filed on July 22, 2022).
4.4	Form of Warrant, dated July 26, 2022, by and between the registrant and certain investors (incorporated by reference to Exhibit 4.1 to the registrant's Form 8-K filed on July 29, 2022).
4.5	Form of Warrant, by and between the registrant and certain investors (incorporated by reference to Exhibit 4.1 to the registrant's Form 8-K filed on October 20, 2022).
4.6	Form of Senior Note, by and between the registrant and certain investors (incorporated by reference to Exhibit 4.2 to the registrant's Form 8-K filed on October 20, 2022).

4.7	Form of Warrant, among the registrant and certain investors (incorporated by reference to Exhibit 4.1 to the registrant's Form 8-K filed on January 4, 2023).
4.8	Form of Senior Note, among the registrant and certain investors (incorporated by reference to Exhibit 4.2 to the registrant's Form 8-K filed on January 4, 2023).
4.9	Form of Warrant, between the registrant and a certain lender (incorporated by reference to Exhibit 4.1 to the registrant's Form 8-K filed on February 3, 2023).
4.10	Form of Promissory Note, between the registrant and a certain lender (incorporated by reference to Exhibit 4.2 to the registrant's Form 8-K filed on February 3, 2023).
4.11	Form of Waiver Warrant, among the registrant and certain investors (incorporated by reference to Exhibit 4.1 to the registrant's Form 8-K filed on March 6, 2023).
4.12	Form of Exchange Warrant, among the registrant and certain investors (incorporated by reference to Exhibit 4.1 to the registrant's Form 8-K filed on June 6, 2023).
4.13	Form of Series F-1 Preferred Stock Warrant, among the registrant and certain investors (incorporated by reference to Exhibit 4.1 to the registrant's Form 8-K filed on June 15, 2023).
4.14	Form of Series F-2 Preferred Stock Warrant, among the registrant and certain investors (incorporated by reference to Exhibit 4.2 to the registrant's Form 8-K filed on June 15, 2023).
4.15	Description of Securities*
10.1	Intellectual Property Agreement, dated as of January 31, 2016, between Hewlett-Packard Development Company, L.P. and 3D Nanocolor Corp. (and amendments thereto) (incorporated by reference to Exhibit 10.1 to the registrant's Form S-1/A filed on September 18, 2019).
10.2	Fourth Amendment to Intellectual Property Agreement, dated February 4, 2021, by and among Hewlett-Packard Development Company, L.P., HP, Inc. and Crown Electrokinetics Corp. (incorporated by reference to Exhibit 10.1 to the registrant's Form 8-K filed on February 10, 2021).
10.3	Collaboration Agreement, dated as of August 23, 2017, between 3D Nanocolor Corp. and Eastman Chemical Company (and amendment thereto) (incorporated by reference to Exhibit 10.2 to the registrant's Form S-1/A filed on September 18, 2019).
10.4	Agreement, dated as of November 15, 2017, between Crown Electrokinetics Corp. and Asahi Glass Co., Ltd. (and amendment thereto) (incorporated by reference to Exhibit 10.3 to the registrant's Form S-1/A filed on September 18, 2019).
10.5	Agreement, dated as of February 1, 2019, between Crown Electrokinetics Corp. and AGC Inc. (f/k/a Asahi Glass Co., Ltd.) (incorporated by reference to Exhibit 10.4 to the registrant's Form S-1/A filed on September 18, 2019).
10.6	Employment Agreement, dated June 16, 2021, by and between Crown Electrokinetics Corp. and Doug Croxall (incorporated by reference to Exhibit 10.6 to the registrants's Transition Report on Form 10-KT filed on March 30, 2022).
10.7	Employment Agreement, dated February 20, 2021, by and between Crown Electrokinetics Corp. and Edward Kovalik (incorporated by reference to Exhibit 10.7 to the registrants's Transition Report on Form 10-KT filed on March 30, 2022).
10.8	Independent Contractor/Consulting Agreement, dated February 25, 2021, by and between Crown Electrokinetics Corp. and Kaizen Reserve, Inc. (incorporated by reference to Exhibit 10.8 to the registrants's Transition Report on Form 10-KT filed on March 30, 2022).
10.9	Employment Agreement, dated June 21, 2021, by and between Crown Electrokinetics Corp. and Joel Krutz (incorporated by reference to Exhibit 10.9 to the registrants's Transition Report on Form 10-KT filed on March 30, 2022).
10.10	Master Supply Agreement, dated September 27, 2021, between MetroSpaces Inc. and Crown Electrokinetics Corp. (incorporated by reference to Exhibit 10.1 to the registrant's Form 8-K filed on September 30, 2021).
10.11	Master Supply Agreement, dated December 23, 2021, between Hudson Pacific Properties, L.P. and Crown Electrokinetics Corp. (incorporated by reference to Exhibit 10.1 to the registrant's Form 8-K filed on December 23, 2021).
10.12	Master Supply Agreement, dated March 25, 2022, between Brandywine Operating Partnership, L.P. and Crown Electrokinetics Corp. (incorporated by reference to Exhibit 10.1 to the registrant's Form 8-K filed on March 28, 2022).

- 10.13 [Sales Agreement, dated as of March 30, 2022, by and between Crown Electrokinetics Corp. and A.G.P./Alliance Global Partners \(incorporated by reference to Exhibit 10.1 of the registrant's Form 8-K filed on March 31, 2022\).](#)
- 10.14 [Form of Securities Purchase Agreement, dated July 26, 2022, between the Company and the Purchasers \(incorporated by reference to Exhibit 10.1 to the registrant's Form 8-K dated July 29, 2022\).](#)
- 10.15 [Form of Registration Rights Agreement, dated July 26, 2022, between the Company and the Purchasers \(incorporated by reference to Exhibit 10.2 to the registrant's Form 8-K filed on July 29, 2022\).](#)
- 10.16 [Form of Securities Purchase Agreement, dated October 19, 2022, between the Company and the Investors \(incorporated by reference to Exhibit 10.1 to the registrant's Form 8-K filed on October 20, 2022\).](#)
- 10.17 [Form of Registration Rights Agreement, dated October 19, 2022, between the Company and the Investors \(incorporated by reference to Exhibit 10.2 to the registrant's Form 8-K filed on October 20, 2022\).](#)
- 10.18 [Form of Security Agreement, dated October 19, 2022, between the Company and the Collateral Agent \(incorporated by reference to Exhibit 10.3 to the registrant's Form 8-K filed on October 20, 2022\).](#)
- 10.19 [Form of Asset Purchase Agreement, dated January 3, 2023, between the Company and Amerigen 7 LLC \(incorporated by reference to Exhibit 10.1 to the registrant's Form 8-K filed on January 4, 2023\).](#)
- 10.20 [Form of Securities Purchase Agreement, dated January 3, 2023, among the registrant and certain investors \(incorporated by reference to Exhibit 10.2 to the registrant's Form 8-K filed on January 4, 2023\).](#)
- 10.21 [Form of Line of Credit Agreement, dated February 2, 2023, between the registrant and a certain lender \(incorporated by reference to Exhibit 10.1 to the registrant's Form 8-K filed on February 3, 2023\).](#)
- 10.22 [Form of Waiver Agreement, dated February 28, 2023, among the registrant and certain investors \(incorporated by reference to Exhibit 10.1 to the registrant's Form 8-K filed on March 6, 2023\).](#)
- 10.23 [Form of Waiver Agreement and Amendment, dated March 24, 2023, among the registrant and certain investors \(incorporated by reference to Exhibit 10.1 to the registrant's Form 8-K filed on March 27, 2023\).](#)
- 10.24 [Form of Inducement Agreement, among the registrant and certain investors \(incorporated by reference to Exhibit 10.1 to the registrant's Form 8-K filed on May 18, 2023\).](#)
- 10.25 [Form of LOC Note Amendment, dated May 15, 2023, between the registrant and a certain lender \(incorporated by reference to Exhibit 10.2 to the registrant's Form 8-K filed on May 18, 2023\).](#)
- 10.26 [Form of Demand Note, among the registrant and certain investors \(incorporated by reference to Exhibit 10.3 to the registrant's Form 8-K filed on May 18, 2023\).](#)
- 10.27 [Form of Exchange Agreement, among the registrant and certain investors \(incorporated by reference to Exhibit 10.1 to the registrant's Form 8-K filed on June 6, 2023\).](#)
- 10.28 [Form of Demand Note, among the registrant and certain investors \(incorporated by reference to Exhibit 10.1 to the registrant's Form 8-K filed on June 6, 2023\).](#)
- 10.29 [Form of May Note, among the registrant and certain investors \(incorporated by reference to Exhibit 10.2 to the registrant's Form 8-K filed on June 6, 2023\).](#)
- 10.30 [Form of Securities Purchase Agreement, among the registrant and certain investors \(incorporated by reference to Exhibit 10.1 to the registrant's Form 8-K filed on June 15, 2023\).](#)
- 10.31 [Form of Registration Rights Agreement, among the registrant and certain investors \(incorporated by reference to Exhibit 10.2 to the registrant's Form 8-K filed on June 15, 2023\).](#)
- 10.32 [Form of Securities Purchase Agreement, among the registrant and certain investors \(incorporated by reference to Exhibit 10.3 to the registrant's Form 8-K filed on June 15, 2023\).](#)

10.33	Forbearance Agreement, among the registrant and a certain investor (incorporated by reference to Exhibit 10.1 to the registrant's Form 8-K filed on July 14, 2023).
10.34	First Amendment to Forbearance Agreement, among the registrant and a certain investor (incorporated by reference to Exhibit 10.2 to the registrant's Form 8-K filed on July 14, 2023).
10.35	Common Stock Purchase Agreement, dated July 20, 2023, by and between the Company and Keystone Capital Partners, LLC (incorporated by reference to Exhibit 10.1 to the registrant's Form 8-K filed on July 24, 2023).
10.36	Registration Rights Agreement, dated July 20, 2023, by and between the Company and Keystone Capital Partners, LLC (incorporated by reference to Exhibit 10.2 to the registrant's Form 8-K filed on July 24, 2023).
10.37	Exchange Agreement by and between the Company and a January Investor, dated August 2, 2023 (incorporated by reference to Exhibit 10.1 to the registrant's Form 8-K filed on August 7, 2023).
21.1	List of Subsidiaries of the Registrant.*
31.1	Certification of Chief Executive Officer pursuant to Rule 13a-14 and Rule 15d-14(a), promulgated under the Securities Exchange Act of 1934, as amended.*
31.2	Certification of Chief Financial Officer pursuant to Rule 13a-14 and Rule 15d-14(a), promulgated under the Securities Exchange Act of 1934, as amended.*
32.1	Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (Chief Executive Officer).*
32.2	Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (Chief Financial Officer).*
97.1	Crown Electrokinetic Corp. Clawback Policy*
101.INS	Inline XBRL Instance 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 as Inline XBRL and contained in Exhibit 101).

* Filed herewith.

ITEM 16. FORM 10-K SUMMARY

Not applicable.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, as amended, the registrant has duly caused this Annual Report on Form 10-K to be signed on its behalf by the undersigned, thereunto duly authorized.

Date: April 1, 2024

CROWN ELECTROKINETICS CORP.

By: /s/ Doug Croxall
Doug Croxall
Chief Executive Officer
(Principal Executive Officer)

Date: April 1, 2024

By: /s/ Joel Krutz
Joel Krutz
Chief Financial Officer
(Principal Financial Officer and
Principal Accounting Officer)

POWER OF ATTORNEY

KNOW ALL BY THESE PRESENTS, that the undersigned officers and/or directors of the Registrant, by virtue of their signatures to this report, appearing below, hereby constitute and appoint Doug Croxall and Joel Krutz, or any one of them, with full power of substitution, as attorneys-in-fact in their names, places and steads to execute any and all amendments to this report in the capacities set forth opposite their names and hereby ratify all that said attorneys-in-fact do 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 and in the capacities and on the dates indicated.

/s/ Doug Croxall
Name: Doug Croxall
Title: Chairman and Chief Executive Officer
(Principal Executive Officer)

Dated: April 1, 2024

/s/ Joel Krutz
Name: Joel Krutz
Title: Chief Financial Officer
(Principal Financial Officer and
Principal Accounting Officer)

Dated: April 1, 2024

/s/ Dr. DJ Nag
Name: Dr. DJ Nag
Title: Director

Dated: April 1, 2024

/s/ Daniel Marcus
Name: Daniel Marcus
Title: Director

Dated: April 1, 2024

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and Board of Directors of
Crown Electrokinetics Corp.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Crown Electrokinetics Corp. (the “Company”) as of December 31, 2023 and 2022, 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, 2023, 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, 2023 and 2022, and the results of its operations and its cash flows for each of the two years in the period ended December 31, 2023, in conformity with accounting principles generally accepted in the United States of America.

Explanatory Paragraph – Going Concern

The accompanying consolidated 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 a significant working capital deficiency, has incurred significant 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 consolidated 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 2017
Costa Mesa, California
April 1, 2024

CROWN ELECTROKINETICS CORP.
Consolidated Balance Sheets
(in thousands except share and per share amounts)

	<u>December 31, 2023</u>	<u>December 31, 2022</u>
ASSETS		
Current assets:		
Cash	\$ 1,059	\$ 821
Prepaid and other current assets	728	590
Accounts receivable, net	83	-
Total current assets	<u>1,870</u>	<u>1,411</u>
Property and equipment, net	3,129	1,409
Intangible assets, net	1,382	1,598
Right of use asset	1,701	1,842
Deferred debt issuance costs	1,306	150
Other assets	139	180
TOTAL ASSETS	<u><u>\$ 9,527</u></u>	<u><u>\$ 6,590</u></u>
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	\$ 1,500	\$ 865
Accrued expenses	1,190	621
Lease liability - current portion	655	574
Warranty liability	-	972
Notes payable at fair value	-	1,654
Notes payable	429	8
Warranty customer liability	2	-
Total current liabilities	<u>3,776</u>	<u>4,694</u>
Lease liability - non-current portion	1,072	1,366
Warranty customer liability long term	2	-
Total liabilities	<u><u>4,850</u></u>	<u><u>6,060</u></u>
Commitments and Contingencies (Note 14)		
STOCKHOLDERS' EQUITY:		
Preferred stock, par value \$0.0001; 50,000,000 shares authorized, no shares outstanding	-	-
Series A preferred stock, par value \$0.0001; 300 shares authorized, 251 shares outstanding as of December 31, 2023 and December 31, 2022; liquidation preference \$261 as of December 31, 2023 and zero as of December 31, 2022	-	-
Series B preferred stock, par value \$0.0001; 1,500 shares authorized, 1,443 shares outstanding as of December 31, 2023 and December 31, 2022; liquidation preference \$1,501 as of December 31, 2023 and zero as of December 31, 2022	-	-
Series C preferred stock, par value \$0.0001; 600,000 shares authorized, 500,756 shares outstanding as of December 31, 2023 and December 31, 2022; liquidation preference \$531 as of December 31, 2023 and zero as of December 31, 2022	-	-
Series D preferred stock, par value \$0.0001; 7,000 shares authorized, no shares issued and outstanding as of December 31, 2023 and 1,058 as of December 31, 2022; liquidation preference zero as of December 31, 2023 and \$1,113 as of December 31, 2022	-	-
Series E preferred stock, par value \$0.0001; 77,000 shares authorized, 0 shares issued and outstanding as of December 31, 2023 and December 31, 2022	-	-
Series F preferred stock, par value \$0.0001; 9,073 shares authorized, 4,448 shares outstanding as of December 31, 2023 and no shares outstanding as of December 31, 2022; liquidation preference \$4,753 as of December 31, 2023 and zero as of December 31, 2022	-	-
Series F-1 preferred stock, par value \$0.0001; 9,052 shares authorized, 653 shares outstanding as of December 31, 2023 and no shares outstanding as of December 31, 2022; liquidation preference \$696 as of December 31, 2023 and zero as of December 31, 2022	-	-
Series F-2 preferred stock, par value \$0.0001; 9,052 shares authorized, 1,153 shares outstanding as of December 31, 2023 and no shares outstanding as of December 31, 2022; liquidation preference \$1,371 as of December 31, 2023 and zero as of December 31, 2022	-	-
Common stock, par value \$0.0001; 800,000,000 shares authorized; 25,744,158 and 338,033 shares outstanding as of December 31, 2023 and December 31, 2022, respectively	7	2
Additional paid-in capital	121,665	88,533
Accumulated deficit	<u>(116,995)</u>	<u>(88,005)</u>
Total stockholders' equity	<u>4,677</u>	<u>530</u>
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	<u><u>\$ 9,527</u></u>	<u><u>\$ 6,590</u></u>

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

CROWN ELECTROKINETICS CORP.
Consolidated Statements of Operations and Comprehensive Loss
(in thousands except share and per share amounts)

	Twelve months ended December 31,	
	2023	2022
Revenue	\$ 153	\$ -
Cost of revenue, excluding depreciation and amortization	(886)	-
Depreciation and amortization	(733)	(503)
Research and development	(2,231)	(4,107)
Selling, general and administrative	(14,962)	(10,498)
Goodwill impairment charge	(649)	-
Loss from operations	(19,308)	(15,108)
Other income (expense):		
Interest expense	(9,417)	(7)
Loss on extinguishment of warrant liability	(504)	-
Loss on extinguishment of debt	(2,345)	-
Gain on issuance of convertible notes	64	-
Change in fair value of warrants	10,458	1,023
Change in fair value of notes	(7,040)	(149)
Change in fair value of derivative liability	401	-
Other expense	(1,293)	(74)
Total other income (expense)	(9,676)	793
Loss before income taxes	(28,984)	(14,315)
Income tax expense	-	-
Net loss	(28,984)	(14,315)
Deemed dividend on Series D preferred stock	(6)	-
Cumulative dividends on Series A preferred stock	(19)	-
Cumulative dividends on Series B preferred stock	(107)	-
Cumulative dividends on Series C preferred stock	(30)	-
Cumulative dividends on Series D preferred stock	(53)	(55)
Cumulative dividends on Series F preferred stock	(272)	-
Cumulative dividends on Series F-1 preferred stock	(110)	-
Cumulative dividends on Series F-2 preferred stock	(79)	-
Net loss attributable to common stockholders	\$ (29,660)	\$ (14,370)
Net loss per share attributable to common stockholders	\$ (5.46)	\$ (54.12)
Weighted average shares outstanding, basic and diluted:	5,429,259	265,502

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

CROWN ELECTROKINETICS CORP.
Consolidated Statements of Stockholders' Equity
(in thousands except share and per share amounts)

	Series A		Series B		Series C		Series D		Series E		Series F		Series F-1		Series F-2		Common Stock		Additional Paid-in Capital	Accumulated Deficit	Total Stockholders' Equity	
	Number	Amount	Number	Amount	Number	Amount	Number	Amount	Number	Amount	Number	Amount	Number	Amount	Number	Amount						
Balance as of December 31, 2021	251	\$ -	1,443	\$ -	500,756	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	242,808	\$ 1	82,677	\$ (73,690)	8,988	
Issuance of common stock and warrants, net of fees	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,834	-	855	-	855	
Issuance of common stock warrants in connection with SLOC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	223	-	223	
Issuance of Series D preferred stock and warrants, net of fees	-	-	-	-	-	-	1,058	-	-	-	-	-	-	-	-	-	-	-	1,039	-	1,039	
Issuance of common stock/At-the-market offering, net of offering costs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	56,136	-	1,249	-	1,249	
Issuance of common stock warrants in connection with consideration payable	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	86	-	86	
Stock-based compensation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18,255	1	2,404	-	2,405	
Net loss	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(14,315)	(14,315)
Balance as of December 31, 2022	251	\$ -	1,443	\$ -	500,756	\$ -	1,058	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	338,033	\$ 2	88,533	\$ (88,005)	530	
Exercise of common stock warrants	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	109,257	1	2,061	-	2,062	
Issuance of common stock in connection with conversion of notes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31,466	-	516	-	516	
Issuance of common stock in connection with equity line of credit	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3,986,991	-	4,489	-	4,489	
Issuance of common stock/At-the-market offering, net of offering costs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19,658,798	1	8,227	-	8,228	
Issuance of Series E preferred stock in connection with LOC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4,350	-	4,350	
Deemed dividend for repricing of Series D preferred stock	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	(6)	-	
Commitment to issue shares of common stock in connection with March waiver agreement	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	298	-	298	
Issuance of common stock in connection with Series A and Series B Dividends	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6,921	-	-	-	-	
Issuance of common stock upon the conversion of Series E preferred stock	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	83,334	1	-	-	1	
Issuance of common	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	248,984	1	2,165	-	2,166	

Stock-based compensation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	38,335	-	714	-	714
Net loss	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(28,984)	(28,984)
Balance as of December 31, 2023	<u>251</u>	<u>-</u>	<u>1,443</u>	<u>-</u>	<u>500,756</u>	<u>-</u>	<u>0</u>	<u>-</u>	<u>-</u>	<u>4,448</u>	<u>-</u>	<u>653</u>	<u>-</u>	<u>1,153</u>	<u>-</u>	<u>25,744,158</u>	<u>7</u>	<u>\$ 121,665</u>	<u>\$ (116,995)</u>	<u>\$</u>	<u>4,677</u>

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

CROWN ELECTROKINETICS CORP.
Consolidated Statements of Cash Flows
(in thousands except share and per share amounts)

	Year ended December 31,	
	2023	2022
CASH FLOWS FROM OPERATING ACTIVITIES		
Net loss	\$ (28,984)	\$ (14,315)
Adjustments to reconcile net loss to net cash used in operating activities:		
Stock-based compensation	714	2,405
Depreciation and amortization	733	503
Loss on extinguishment of warrant liability	504	-
Change in fair value of warrant liability	(10,458)	(1,023)
Change in fair value of liability	(401)	-
Gain on issuance of convertible note	(64)	-
Loss on extinguishment of debt	2,345	-
Change in fair value of notes	7,040	149
Amortization of deferred debt issuance costs	9,341	73
Amortization of right of use assets	626	494
Other expenses	628	-
Impairment of Goodwill	649	-
Intangible asset impairment	200	-
Loss on lease termination	214	-
Loss on disposal of equipment	144	52
Changes in operating assets and liabilities:		
Prepaid and other assets	61	182
Accounts receivable	(83)	-
Accounts payable	1,253	413
Accrued expenses	440	323
Lease liability	(1,062)	(396)
Net cash used in operating activities	<u>(16,160)</u>	<u>(11,140)</u>
CASH FLOWS FROM INVESTING ACTIVITIES		
Cash paid for acquisition of Amerigen 7	(645)	-
Purchase of equipment	(2,173)	(751)
Purchase of patents	-	(61)
Net cash used in investing activities	<u>(2,818)</u>	<u>(812)</u>
CASH FLOWS FROM FINANCING ACTIVITIES		
Proceeds from the exercise of warrants	2,062	-
Proceeds from the issuance of common stock and warrants, net of fees	-	855
Proceeds from the issuance of common stock / At-the-market offering	8,398	1,295
Proceeds from the issuance of notes in connection with Line of Credit	2,350	-
Offering costs for the issuance of common stock / At-the-market offering	(170)	(46)
Proceeds from issuance of senior secured convertible notes and common stock warrants	-	3,500
Proceeds from issuance of Series D preferred stock and warrants, net of fees	-	1,039
Proceeds from issuance of Series F-1 preferred stock	2,328	-
Proceeds from issuance of Series F-2 preferred stock	748	-
Proceeds from issuance of January promissory notes, net of fees paid	1,357	-
Repayment of notes payable	(2,348)	-
Proceeds from the issuance of common stock in connection with equity line of credit, net of offering costs	4,489	-
Net cash provided by financing activities	<u>19,214</u>	<u>6,643</u>
Net increase / decrease in cash	238	(5,309)
Cash — beginning of period	821	6,130
Cash — end of period	<u>1,059</u>	<u>\$ 821</u>
SUPPLEMENTAL DISCLOSURE OF NON-CASH INVESTING AND FINANCING ACTIVITIES:		
Issuance of Series E preferred stock in connection with line of credit	\$ 4,350	\$ -
Issuance of common stock in connection with equity line of credit	\$ 114	\$ -
Issuance of Series F preferred stock in connection with exchange of Series D preferred stock	\$ 450	\$ -
Issuance of common stock in connection with conversion of notes	\$ 2,165	\$ -
Issuance of common stock in connection with Senior Secured Notes Settlement	\$ 1,160	\$ -
Issuance of common stock warrants in connection with SLOC	\$ -	\$ 223
Commitment to issue shares of common stock connection with Demand Notes	\$ 286	\$ -
Conversion of Senior Secured Notes into Series F preferred stock	\$ 82	\$ -
Issuance of common stock warrants in connection with consideration payable	\$ -	\$ 86
Acquisitions of property and equipment included in liabilities	\$ 452	\$ 94
Right-of-use assets obtained in exchange for operating lease liabilities	\$ 1,168	\$ -
Reduction of right of use asset and operating lease liability due to early lease termination	\$ 853	\$ -
SUPPLEMENTAL CASH FLOW INFORMATION		
Cash paid for interest	\$ 14	\$ 7

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

CROWN ELECTROKINETICS CORP.
Notes to Consolidated Financial Statements

Note 1 – Organization and Description of Business Operations

Organization

Crown Electrokinetics Corp. (the “Company”) was incorporated in the State of Delaware on April 20, 2015. Effective October 6, 2017, the Company’s name was changed to Crown Electrokinetics Corp. from 3D Nanocolor Corp. (“3D Nanocolor”).

The Company is commercializing technology for smart or dynamic glass. The Company’s electrokinetic glass technology is an advancement on microfluidic technology that was originally developed by HP Inc.

On December 20, 2022, the Company incorporated Crown Fiber Optics Corp., a Delaware based entity, to own and operate its acquired business from the acquisition of Amerigen 7 in the January 2023 (See Note 4). Crown Fiber Optics Corp. is a wholly- owned subsidiary of Crown Electrokinetics Corp.

Basis of Presentation

The Company’s consolidated financial statements have been prepared in conformity with accounting principles generally accepted in the United States of America (“GAAP”) as determined by the Financial Accounting Standards Board (“FASB”) Accounting Standards Codification (“ASC”) and include all adjustments necessary for the fair presentation of its balance sheet, results of operations and cash flows for the periods presented. The accompanying consolidated financial statements of the Company include the accounts of the Company and its wholly-owned subsidiaries. Consolidated subsidiaries results are included from the date the subsidiary was formed or acquired. Intercompany investments, balances and transactions have been eliminated in consolidation.

In our consolidated financial statements, we made the following presentation changes in 2023:

- In our consolidated statements of operations, (i) removed the financial statement line item *Gross profit*, (ii) excluded depreciation and amortization expenses from the financial statement line item *Cost of Revenue* (iii) presented depreciation and amortization expenses in separate financial statement line item as *Depreciation and amortization*.

These presentation changes had no impact on our previously reported results of operations and were deemed immaterial.

Reverse Stock Split

On August 11, 2023, the Company’s board of directors authorized a reverse stock split (“Reverse Stock Split”) at an exchange ratio of one-for-60 basis. The Reverse Stock Split was effective on August 15, 2023, such that every 60 shares of common stock have been automatically converted into one share of common stock. The Company did not issue fractional certificates for post-reverse split shares in connection with the Reverse Stock Split. Rather, all shares of common stock that were held by a stockholder were aggregated and each stockholder was entitled to receive the number of whole shares resulting from the combination of the shares so aggregated. Any fractions resulting from the Reverse Stock Split computation were rounded up to the next whole share.

The number of authorized shares and the par value of the common stock was not adjusted as a result of the Reverse Stock Split. In connection with the Reverse Stock Split, the conversion ratio for the Company’s outstanding convertible preferred stock was proportionately adjusted such that the common stock issuable upon conversion of such preferred stock was decreased in proportion to the Reverse Stock Split. All references to common stock and options to purchase common stock share data, per share data and related information contained in the consolidated financial statements have been adjusted to reflect the effect of the Reverse Stock Split.

CROWN ELECTROKINETICS CORP.
Notes to Consolidated Financial Statements

Note 2 – Liquidity, Financial Condition, and Going Concern

The Company has incurred substantial operating losses since its inception and expects to continue to incur significant operating losses for the foreseeable future and may never become profitable. As reflected in the consolidated financial statements, the Company had an accumulated deficit of approximately \$117.0 million and negative working capital of approximately \$1.9 million at December 31, 2023, a net loss of approximately \$29.0 million, approximately \$16.2 million of net cash used in operating activities, and \$2.8 million of net cash used in investing activities for the year ended December 31, 2023. The Company expects to continue to incur ongoing administrative and other expenses, including public company expenses.

The accompanying financial statements have been prepared on a going concern basis, which contemplates the realization of assets and satisfaction of liabilities in the normal course of business. The financial statements do not include any adjustments relating to the recoverability and classification of recorded asset amounts or the amounts and classification of liabilities that might result from the outcome of this uncertainty.

The Company has obtained additional capital through the sale of debt or equity financings or other arrangements to fund operations including through its existing at-the-market offering, \$10.0 million Standing Letter of Credit (“SLOC”), \$100.0 million line of credit, and \$50.0 million equity line of credit; however, there can be no assurance that the Company will be able to raise needed capital under acceptable terms, if at all. The sale of additional equity may dilute existing stockholders and newly issued shares may contain senior rights and preferences compared to currently outstanding shares of common stock. Issued debt securities may contain covenants and limit the Company’s ability to pay dividends or make other distributions to stockholders. If the Company is unable to obtain such additional financing, future operations would need to be scaled back or discontinued. Due to the uncertainty in the Company’s ability to raise capital, management believes that there is substantial doubt in the Company’s ability to continue as a going concern for twelve months from the issuance of these consolidated financial statements.

Risks and Uncertainties

The Company is currently operating in a period of economic uncertainty and capital markets disruption, which has been significantly impacted by geopolitical instability due to the ongoing military conflict between Russia and Ukraine, as well as Israel and Hamas. The Company’s financial condition and results of operations may be materially adversely affected by any negative impact on the global economy and capital markets resulting from the conflict in Ukraine or any other geopolitical tensions.

The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

Note 3 – Basis of Presentation and Significant Accounting Policies

Use of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of expenses during the reporting period. Accounting estimates and assumptions are inherently uncertain. Significant estimates and assumptions made in the accompanying consolidated financial statements include, but not limited to, valuation of its business combination, estimated fair value of convertible notes, estimated fair value of warrant liability, Series F/F-1/F-2 preferred stock, stock option awards for stock-based compensation and operating lease right-of-use assets and liabilities. In our MD&A, the Company discloses the impact of the estimated fair value of convertible notes and warrant liabilities on our consolidated results of operations, highlighting how changes in these valuations, driven by market conditions and our assumptions, significantly influence our financial performance. Management evaluates its estimates and assumptions on an ongoing basis using historical experience and other factors, including the current economic environment, which management believes to be reasonable under the circumstances. The Company adjusts such estimates and assumptions when facts and circumstances dictate. Changes in those estimates resulting from continuing changes in the economic environment will be reflected in the consolidated financial statements in future periods. As future events and their effects cannot be determined with precision, actual results could materially differ from those estimates and assumptions. Any reference in these notes to applicable guidance is meant to refer to the authoritative U.S. GAAP as found in the Accounting Standards Codification (“ASC”) and Accounting Standards Updates (“ASU”) of the Financial Accounting Standards Board (“FASB”).

CROWN ELECTROKINETICS CORP.
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Concentrations of Credit Risk and Off-balance Sheet Risk

Cash are financial instruments that are potentially subject to concentrations of credit risk. The Company's cash is deposited in accounts at large financial institutions, and amounts may exceed the standard federally insured limits totaling \$250,000. The Company has no financial instruments with off-balance sheet risk of loss as of December 31, 2023 and 2022.

Accounts Receivable

The Company's accounts receivable relate primarily from fiber optics purchase agreements entered with its customers. The Company performs ongoing credit evaluations of the customers' financial condition and generally does not require collateral. The Company continuously monitors collections and payments from customers and maintain an allowance for doubtful accounts receivable based upon the collectability of the customer accounts. The Company reviews the allowance by considering certain factors such as historical experience, industry data, credit quality, age of balances and current economic conditions that may affect a customer's ability to pay. Uncollectible receivables are written off when all efforts to collect have been exhausted and recoveries are recognized when they are recovered. The provision for credit losses was nominal as of December 31, 2023.

Property and Equipment

Property and equipment are stated at cost and depreciated over the estimated useful lives of the assets. Depreciation is recorded using the straight-line method over the estimated useful lives of the respective assets, generally three to ten years. Upon retirement or sale, the cost of the assets disposed of and related accumulated depreciation are removed from the accounts and any resulting gain or loss is reflected in other expense-net. Repair and maintenance expenditures, which are not considered improvements and do not extend the useful life of an asset, are expensed as incurred.

Definite-lived Intangible Assets

Intangible assets with finite lives are comprised of patents and licenses for developed technology, which are amortized on a straight-line basis over their expected useful lives, which is their contractual term or estimated useful life. Patents consist of filing and legal fees incurred, which are initially recorded at cost.

Impairment of Long-lived Assets and Definite-lived intangibles

The Company reviews long-lived assets (including property and equipment, lease related ROU Assets, and definite-lived intangible assets) for impairment whenever events or changes in circumstances indicate that their carrying amount may not be recoverable. Recoverability of assets is determined by first grouping the long-lived assets at the lowest level for which there are identifiable cash flows, and then comparing the carrying value of each asset group to its forecasted undiscounted cash flows. If the evaluation of the forecasted cash flows indicates that the carrying value of the assets is not recoverable, an impairment test of the asset group is performed. Impairment is recognized if the carrying amount of the asset group exceeds its fair value. For the year ended December 31, 2023, the company recorded impairment of intangible assets of \$0.2 million related to the acquisition of Amerigen 7. There were no impairment charges recorded for any long-lived assets during the year ended December 31, 2022.

Fair Value Measurement

The Company follows the accounting guidance in ASC 820 for its fair value measurements of financial assets and liabilities measured at fair value on a recurring basis. 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.

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The accounting guidance requires fair value measurements be classified and disclosed in one of the following three categories:

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

Level 2: Observable 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 that are financial instruments whose values are 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.

The fair value hierarchy also requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. Assets and liabilities measured at fair value are classified in their entirety based on the lowest level of input that is significant to the fair value measurement.

Notes Payable at Fair Value

The Company has elected the fair value option for the recognition of its convertible notes and notes payable, with changes in fair value recognized in the statements of operations. As a result of applying the fair value option, direct costs and fees related to the convertible notes and notes payable are recognized in other income (expense) in the consolidated statements of operations. The Company includes the interest expense as a component of the notes fair value.

Warrants

The Company accounts for certain common stock warrants outstanding as a liability at fair value and adjusts the fair value of the instruments at each reporting period. The liability is subject to remeasurement at each balance sheet date until exercised, and any change in fair value is recognized in the Company's consolidated statements of operations. The fair value of the warrants issued by the Company was estimated using the Black-Scholes model.

SLOC

The Company accounts for its warrants related to the SLOC as stockholders' equity, and therefore, the warrants are not revalued after issuance. The Company uses the Black-Scholes model to value the warrants at issuance.

On March 23, 2022, the Company entered into an Irrevocable \$10 million Standby Letter of Credit ("SLOC"). The SLOC accrues interest at a rate of 12% per annum and matures 2 years from the issuance date of the SLOC. Interest is payable quarterly. In connection with the SLOC, the Company issued a warrant for 200,000 shares of common stock with an exercise price of \$2. Additionally, the Company will issue 50,000 shares of its restricted common stock with each cash draw of \$1.0 million. Drawdowns are capped at a maximum of \$5 million in the first six months. As of December 31, 2023, the balance remaining on the SLOC is approximately \$0.1 million of which the company has agreed to a payment plan with the lender to have this paid off within the following year.

Purchase Order Warrants

The Company accounts for its warrants issued in connection with purchase orders in accordance with ASC 606. With respect to the warrant, the Company accounts for it as consideration payable to a customer under ASC 606, as it relates to the future purchases. The Company measured the fair value of the warrant using the Black-Scholes model on the issuance date, with the value being recognized as a prepaid asset in the consolidated balance sheets, up to the recoverable value represented by the value of the contract.

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Revenue Recognition

The Company recognizes revenue when promised goods or services are transferred to customers in an amount that reflects the consideration to which the Company expects to be entitled in exchange for those goods or services by following a five-step process:

- Step 1: Identify the contract with the customer
- Step 2: Identify the performance obligations in the contract
- Step 3: Determine the transaction price
- Step 4: Allocate the transaction price to the performance obligations in the contract
- Step 5: Recognize revenue when the company satisfies a performance obligation

The Company has elected the practical expedient to not adjust the promised amount of consideration for the effects of a significant financing component when the time between the goods or service being transferred to the customer and the customer pays is one year or less.

The Company generates revenue from providing fiber splicing services as required based on short-term work orders assigned by customers. The Company is required to complete the description of work described in the work order and test the service provided prior to any recognition of revenue and invoicing. The short-term work orders are generally completed within two weeks. The Company is required to adhere to the rules and regulations that are outlined in the Agreement between the Company and the Customer.

Cost of revenue is based on individual work orders and detailed description of work to be performed. All of the revenue is recognized immediately upon completion of each work order. A 5% retainage is typically withheld by the Customer upon payment of invoices and will be paid to the Company within one year after completion of the contract. The retainage can be utilized by Customer for any claims that may arise after work is completed up through one year after completion.

Revenue is generated by the Company's wholly-owned subsidiary, Crown Fiber Optics Corporation, and was \$0.2 million for the year ended December 31, 2023. No revenue was recognized for the year ended December 31, 2022.

Allowance for Current Expected Credit Losses

The Company evaluates its receivables on a collective, i.e., pool, basis if they share similar risk characteristics. The Company evaluates a receivable individually if its risk characteristics are not similar to other receivables. The Company reviews its receivables regularly to identify any impairment indicators or changes in expected recoverability of the receivable. At each reporting date, if the Company determines expected future cash flows discounted to the current period are less than the carrying value of the asset, the Company will record impairment. The impairment will be recognized as an allowance expense that increases the receivable asset's cumulative allowance, which reduces the net carrying value of the receivable. In a subsequent period, if there is an increase in expected future cash flows, or if the actual cash flows are greater than previously expected, the Company will reduce the previously established cumulative allowance. Amounts not expected to be collected are written off against the allowance at the time that such a determination is made. During the year ended December 31, 2023, the Company had no significant receivables that fits any of the criteria as described above.

Segment and Reporting Unit Information

Operating segments are defined as components of an entity for which discrete financial information is available that is regularly reviewed by the Chief Operating Decision Maker ("CODM") in deciding how to allocate resources to an individual segment and in assessing performance. The Company's Chief Executive Officer is determined to be the CODM. The Company has two operating segments and two reportable segments as of December 31, 2023, which includes the film group and fiber optics group. Revenue recognized during the twelve months ended December 31, 2023 relates to the fiber optics group.

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Research and Development

Research and development costs, including in-process research and development acquired as part of an asset acquisition for which there is no alternative future use, is expensed as incurred. 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 rather than when the payment is made.

Business Combinations

The Company accounts for business combinations using the acquisition method of accounting by recognizing the identifiable tangible and intangible assets acquired and liabilities assumed, and any non-controlling interest in the acquired business, measured at their acquisition date fair values. Goodwill as of the acquisition date is measured as the excess of consideration transferred over the aforementioned amounts.

Accounting for business combinations requires management to make significant estimates and assumptions, especially at the acquisition date, including estimates for intangible assets. Although the Company believes the assumptions and estimates made have been reasonable and appropriate, they are based in part on historical experience and information obtained from management of the acquired companies and are inherently uncertain. Critical estimates in valuing certain intangible assets we have acquired include future expected cash flows from customer contracts. Unanticipated events and circumstances may occur that may affect the accuracy or validity of such assumptions, estimates, or actual results. The initial purchase price may be adjusted as needed per the terms of the arrangement agreement. The allocation of purchase price, including any fair value of the assets acquired and liabilities assumed as of the acquisition date has not been completed. Acquisition-related expenses are recognized separately from the business combination and are expensed as incurred.

Deferred Debt Issuance Costs

The Company accounts for debt issuance costs related to its line of credit and equity line of credit as a deferred asset on the consolidated balance sheets, which is amortized over the life of the line of credit and equity line of credit. Since the Company has elected the fair value option for its convertible notes (see Note 11), upon a draw down, a portion of the deferred asset balance will be amortized and recognized as other income (expense) on the consolidated statements of operations. On the issuance date of the Company's line of credit, the cost related to issuance of the Series E preferred shares and the warrant to purchase Series E preferred shares was recorded as a deferred asset. On the issuance date of the Company's equity line of credit, the cost related to issuance of common stock was recorded as a deferred asset.

Goodwill

Goodwill represents the excess of the purchase price of the acquired business over the estimated fair value of the identifiable net assets acquired. Goodwill is not amortized but is tested for impairment annually at the reporting unit level on October 1st of each calendar year. Impairment loss, if any, is recognized based on a comparison of the fair value of the reporting unit to its carrying value, without consideration of any recoverability. In assessing goodwill for impairment, we first assess qualitative factors to determine whether it is more likely than not that the fair value is less than its carrying amount. If we conclude it is more likely than not that the fair value of a reporting unit is less than its carrying amount, a quantitative impairment test is performed. If we conclude that goodwill is impaired, an impairment charge is recorded to the extent that the reporting unit's carrying value exceeds its fair value. The Company has two reporting units, which consist of the Film Group and Fiber Optics Group, during the fiscal year ended December 31, 2023. The goodwill balance of \$0.7 million relates to the Amerigen7 acquisition, which entirely comprises the Fiber Optics Group reporting unit.

As of December 31, 2023, all the acquired assets and assumed liabilities that relate to the original Amerigen7 acquisition have been written off and all the key employees have been terminated. Due to these key qualitative changes to the Fiber Optics Group after the acquisition, the Company has concluded that the goodwill balance associated with the Amerigen7 acquisition is fully impaired as there are no future expected cash flows from the acquired Amerigen7 business. The Company recorded a goodwill impairment charge of \$0.7 million as of December 31, 2023.

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Stock-Based Compensation

The Company expenses stock-based compensation to employees and non-employees based on a graded expense attribution over the requisite service period based on the estimated grant-date fair value of the awards. The Company estimates the fair value of stock option grants using the Black-Scholes option pricing model, and 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.

Expected Term - The expected term of options represents the period that the Company's stock-based awards are expected to be outstanding based on the simplified method, which is the half-life from vesting to the end of its contractual term. The simplified method was used because the Company does not have sufficient historical exercise data to provide a reasonable basis for an estimate of expected term.

Expected Volatility - The Company uses a blended volatility that includes its common stock trading history and supplements the remaining historical information with the trading history from the common stock of a set of comparable publicly traded companies.

Risk-Free Interest Rate - The Company bases the risk-free interest rate on the implied yield available on U.S. Treasury zero-coupon issues with an equivalent remaining term.

Expected Dividend - The Company has never declared or paid any cash dividends on its common shares and does not plan to pay cash dividends in the foreseeable future, and, therefore, uses an expected dividend yield of zero in its valuation models.

The Company accounts for forfeited awards as they occur.

Income taxes

Deferred tax assets and liabilities are computed based upon the difference between the financial statement and income tax basis of assets and liabilities using the enacted marginal tax rate applicable when the related asset or liability is expected to be realized or settled. Deferred income tax expenses or benefits are based on the changes in the asset or liability each period. If available evidence suggests that it is more likely than not that some portion or all of the deferred tax assets will not be realized, a valuation allowance is required to reduce the deferred tax assets to the amount that is more likely than not to be realized. Future changes in such valuation allowance are included in the provision for deferred income taxes in the period of change.

ASC Topic 740, Income Taxes, ("ASC 740"), also clarifies the accounting for uncertainty in income taxes recognized in an enterprise's financial statements and prescribes a recognition threshold and measurement process for financial statement recognition and measurement of a tax position taken or expected to be taken in a tax return. For those benefits to be recognized, a tax position must be more-likely-than-not to be sustained upon examination by taxing authorities. ASC 740 also provides guidance on derecognition, classification, interest and penalties, accounting in interim period, disclosure and transition. Based on the Company's evaluation, it has been concluded that there are no significant uncertain tax positions requiring recognition in the Company's consolidated financial statements. The Company believes that its income tax positions and deductions would be sustained on audit and does not anticipate any adjustments that would result in material changes to its financial position.

In its consolidated financial statements, the Company utilizes an expected annual effective tax rate in determining its income tax provisions for the interim periods. That rate differs from U.S. statutory rates primarily as a result of valuation allowance related to the Company's net operating loss carryforward as a result of the historical losses of the Company.

Leases

The Company accounts for its leases under the Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") 842, *Leases*. Under this guidance, arrangements meeting the definition of a lease are classified as operating or financing leases and are recorded on the consolidated balance sheet as both a right of use asset and lease liability, calculated by discounting fixed lease payments over the lease term at the rate implicit in the lease or the Company's incremental borrowing rate. Lease liabilities are increased by interest and reduced by payments each period, and the right of use asset is amortized over the lease term. For operating leases, interest on the lease liability and the amortization of the right of use asset result in straight-line rent expense over the lease term.

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In calculating the right of use asset and lease liability, the Company elects to combine lease and non-lease components as permitted under ASC 842. The Company excludes short-term leases having initial terms of 12 months or less from the new guidance as an accounting policy election and recognizes rent expense on a straight-line basis over the lease term.

Comprehensive Loss

Comprehensive loss is comprised of two components: net income (loss) and other comprehensive income (loss). Other comprehensive (loss) income refers to gains and losses that under U.S. GAAP are recorded as an element of stockholders' equity but are excluded from net loss. The Company did not record any transactions within other comprehensive loss in the periods presented and, therefore, the net loss and comprehensive loss were the same for all periods presented.

Net Loss per Share Attributable to Common Stockholders

Basic net loss per share of common stock is computed by dividing net loss by the weighted average number of shares of common stock outstanding during the period. Diluted net loss per share of common stock reflects the potential dilution that could occur if securities or other contracts to issue common stock were exercised or converted into common stock or resulted in the issuance of common stock that then shared in the earnings of the entity unless inclusion of such shares would be anti-dilutive.

As the Company was in a net loss position for the year ended December 31, 2023 and 2022, diluted net loss per share attributable to common stockholders is the same as basic net loss per share attributable to common stockholders because the effects of potentially dilutive securities are antidilutive.

The following table presents the computation of basic and diluted net loss per common share (in thousands except share and per share amounts):

	Year Ended December 31, 2023	Year Ended December 31, 2022
Numerator		
Net loss	\$ (28,984)	\$ (14,315)
Deemed dividend on Series D preferred stock	(6)	-
Cumulative dividends on Series A preferred stock	(19)	-
Cumulative dividends on Series B preferred stock	(107)	-
Cumulative dividends on Series C preferred stock	(30)	-
Cumulative dividends on Series D preferred stock	(53)	(55)
Cumulative dividends on Series F preferred stock	(272)	-
Cumulative dividends on Series F-1 preferred stock	(110)	-
Cumulative dividends on Series F-2 preferred stock	(79)	-
Numerator for basic and diluted net loss per share	<u>\$ (29,660)</u>	<u>\$ (14,370)</u>
Denominator		
Weighted-average common shares outstanding	5,431,201	267,440
Less: weighted-average shares subject to repurchase	(1,942)	(1,938)
Denominator for basic and diluted net loss per share	<u>5,429,259</u>	<u>265,502</u>
Shares used to compute pro forma net loss per share, basic and diluted		
Net loss per share:		
Basic and diluted	<u>\$ (5.46)</u>	<u>\$ (54.12)</u>

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Securities that could potentially dilute loss per share in the future that were not included in the computation of diluted loss per share at December 31, 2023 and 2022 are as follows:

	December 31,	
	2023	2022
Series A preferred stock	3,146	3,146
Series B preferred stock	33,883	33,883
Series C preferred stock	9,346	9,346
Series D preferred stock	-	35,278
Series F preferred stock	501,579	-
Series F-1 preferred stock	72,631	-
Series F-2 preferred stock	124,946	-
Warrants to purchase common stock (excluding penny warrants)	1,715,095	461,066
Warrants to purchase Series E preferred stock	750,000	-
Options to purchase common stock	382,779	159,295
Unvested restricted stock units	33,010	10,483
Commitment shares	200,205	-
	3,826,620	712,497

Emerging Growth Company

The Company is considered to be an “emerging growth company” as defined in the Jumpstart Our Business Startups Act of 2012, as amended (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. Thus, an emerging growth company can delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. The Company has elected to use the extended transition period for complying with any new or revised financial accounting standards pursuant to Section 13(a) of the Securities and Exchange Act of 1934.

Accounting Pronouncements Recently Adopted

In February 2016, the Financial Accounting Standards Board (“FASB”) issued ASU 2016-02, *Leases (Topic 842)* which supersedes FASB Topic 840, *Leases (Topic 840)* and provides principles for the recognition, measurement, presentation and disclosure of leases for both lessees and lessors. The new standard requires lessees to apply a dual approach, classifying leases as either finance or operating leases based on the principle of whether or not the lease is effectively a financed purchase by the lessee. This classification will determine whether lease expense is recognized based on an effective interest method or on a straight-line basis over the term of the lease, respectively. A lessee is also required to record a right-of-use asset and a lease liability for all leases with a term of greater than twelve months regardless of classification. Leases with a term of twelve months or less will be accounted for similar to existing guidance for operating leases. In January 2018, the FASB issued ASU 2018-01, *Leases (Topic 842) Land Easement Practical Expedient for Transition to Topic 842*, which amends ASU 2016-02 to provide entities an optional transition practical expedient to not evaluate under Topic 842 existing or expired land easements that were not previously accounted for as leases under the current lease guidance in Topic 842. An entity that elects this practical expedient should evaluate new or modified land easements under Topic 842 beginning at the date that the entity adopts Topic 842. The standard will be effective for non-public entities for fiscal years beginning after December 15, 2022 and interim periods beginning after December 15, 2023. The Company adopted ASC 842 as of January 1, 2022 using the optional transition method to apply the standard as of the effective date. Accordingly, previously reported financial statements, including footnote disclosures, have not been recast to reflect the application of the new standard to all comparative periods presented. Adoption of the new lease standard on January 1, 2022 had a material impact on the Company’s consolidated financial statements. The most significant impacts related to the recognition of ROU assets of \$1.8 million and lease liabilities of \$1.8 million for operating leases on the consolidated balance sheet. ROU assets represent the Company’s right to use an underlying asset for the lease term and lease liabilities represent the Company’s obligation to make lease payments arising from the lease. The standard did not materially impact the Company’s consolidated statement of operations and consolidated statement of cash flows.

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In August 2020, the FASB issued Accounting Standards Update (“ASU”) No. 2020-06, *Debt-Debt with Conversion and Other Options* (Subtopic 470-20) and *Derivatives and Hedging-Contracts in Entity’s Own Equity* (Subtopic 815-40): *Accounting for Convertible Instruments and Contracts in an Entity’s Own Equity*, which simplifies accounting for convertible instruments by removing major separation models required under current GAAP. The ASU removes certain settlement conditions that are required for equity contracts to qualify for the derivative scope exception, and it also simplifies the diluted earnings per share calculation in certain areas. This ASU is effective for annual reporting periods beginning after December 15, 2021, including interim periods within those fiscal years. Early adoption is permitted, but no earlier than fiscal years beginning after December 15, 2020. This update permits the use of either the modified retrospective or fully retrospective method of transition. On January 1, 2022, the adoption of ASU 2020-06 did not have a material impact on the Company’s consolidated financial statements or disclosures.

In May 2021, the FASB issued ASU 2021-04, *Earnings Per Share* (Topic 260), *Debt-Modifications and Extinguishments* (Subtopic 470-50), *Compensation-Stock Compensation* (Topic 718), and *Derivatives and Hedging-Contracts in Entity’s Own Equity* (Subtopic 815-40). This ASU reduces diversity in an issuer’s accounting for modifications or exchanges of freestanding equity-classified written call options (for example, warrants) that remain equity classified after modification or exchange. This ASU provides guidance for a modification or an exchange of a freestanding equity-classified written call option that is not within the scope of another Topic. It specifically addresses: (1) how an entity should treat a modification of the terms or conditions or an exchange of a freestanding equity-classified written call option that remains equity classified after modification or exchange; (2) how an entity should measure the effect of a modification or an exchange of a freestanding equity-classified written call option that remains equity classified after modification or exchange; and (3) how an entity should recognize the effect of a modification or an exchange of a freestanding equity-classified written call option that remains equity classified after modification or exchange. This ASU will be effective for all entities for fiscal years beginning after December 15, 2021. An entity should apply the amendments prospectively to modifications or exchanges occurring on or after the effective date of the amendments. Early adoption is permitted, including adoption in an interim period. On January 1, 2022, the adoption of ASU 2021-04 did not have a material impact on the Company’s consolidated financial statements or disclosures.

In June 2016, the Financial Accounting Standards Board (“FASB”) issued Accounting Standards Update (“ASU”) No. 2016-13, *Financial Instruments-Credit Losses* (“Topic 326”): *Measurement of Credit Losses on Financial Instruments*. The amendments in ASU No. 2016-13 introduce an approach based on expected losses to estimated credit losses on certain types of financial instruments, modify the impairment model for available-for-sale debt securities and provide for a simplified accounting model for purchased financial assets with credit deterioration since their origination. The new standard requires financial assets measured at amortized cost be presented at the net amount expected to be collected, through an allowance for credit losses that is deducted from the amortized cost basis. The standard is effective for the Company for fiscal years beginning after December 15, 2022, including interim periods within those fiscal years, using a modified retrospective approach. The Company adopted ASU No. 2016-13 and related updates as of January 1, 2023. The adoption of this guidance had no material impact on the Company’s consolidated financial statements.

Recent Accounting Pronouncements Not Yet Adopted

In October 2023, the FASB issued ASU 2023-06, *Disclosure Improvements: Codification Amendments in Response to the Securities and Exchange Commission’s Disclosure Update and Simplification Initiative*. ASU 2023-06 incorporates 14 of the 27 disclosure requirements published in SEC Release No. 33-10532: *Disclosure Update and Simplification* into various topics within the ASC. ASU 2023-06’s amendments represent clarifications to, or technical corrections of, current requirements. For SEC registrants, the effective date for each amendment will be the date on which the SEC removes that related disclosure from its rules. Early adoption is prohibited. The Company does not expect the standard to have a material impact on its consolidated financial statements and disclosures.

In November 2023, the FASB issued ASU 2023-07, *Segment Reporting*, which expands annual and interim disclosure requirements for reportable segments, primarily through enhanced disclosures about significant segment expenses. The amendments in ASU 2023-07 are effective for all public entities for fiscal years beginning after December 15, 2023 and interim periods within fiscal years beginning after December 15, 2024. Early adoption is permitted. The Company plans to adopt annual requirements under ASU 2023-07 on January 1, 2024 and interim requirements under ASU 2023-07 on January 1, 2025. The Company is currently evaluating the impact that the updated standard will have on its financial statement disclosures.

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In December 2023, the FASB issued ASU 2023-09, *Income Taxes (Topic 740): Improvements to Income Tax Disclosures*, which includes amendments that further enhance income tax disclosures, primarily through standardization and disaggregation of rate reconciliation categories and income taxes paid by jurisdiction. The amendments are effective for all public entities for fiscal years beginning after December 15, 2024 and for entities other than public business entities for fiscal years beginning after December 15, 2025. Early adoption is permitted and should be applied either prospectively or retrospectively. The Company plans to adopt ASU 2023-09 and related updates on January 1, 2026. The Company is currently evaluating the impact that the updated standard will have on its financial statement disclosures.

Note 4 – Acquisitions

On January 3, 2023, the Company acquired certain assets and assumed liabilities from Amerigen 7, which was accounted for as a business combination as the Company concluded that the transferred set of activities and assets related to the acquisition constituted a business. The Company paid cash consideration of approximately \$0.7 million which included approximately 12 employees, customer contracts, and certain operating liabilities.

The following table summarizes the allocation of the purchase price to the assets acquired and liabilities assumed for the Amerigen 7 acquisition (in thousands):

Property and equipment	\$	655
Intangible assets		200
Security deposits		5
Accrued expenses		(529)
Notes payable		(338)
Total identifiable assets and liabilities acquired		(7)
Goodwill		652
Total purchase consideration	\$	645

The Company engaged an independent valuation specialist to conduct a valuation analysis of the identifiable intangible assets acquired by the Company with the objective of estimating the fair value of such assets as of January 3, 2023. The valuation specialist utilized the Income Approach, specifically the Multi-Period Excess Earnings Method, to value the existing customer relationship.

Note 5 – Prepaid and Other Current Assets

Prepaid and other current assets as of December 31, 2023 and 2022 consist of the following:

	December 31, 2023	December 31, 2022
License fees	\$ 158	\$ 300
General liability insurance	26	142
Legal and professional fees	53	-
Prepaid rent	277	-
Hudson warrant *	86	85
Other	128	63
Total	\$ 728	\$ 590

* Fair value of warrant issued to Hudson Pacific Properties, L.P. (See Note 14)

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Note 6 – Fair Value Measurements

The Company did not have any assets or liabilities measured at fair value on a recurring basis into the fair value hierarchy as of December 31, 2023.

The following table classifies the Company’s liabilities measured at fair value on a recurring basis into the fair value hierarchy as of December 31, 2022:

	Fair value measured at December 31, 2022			
	Total carrying value at December 31, 2022	Quoted prices in active markets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)
Liabilities:				
Convertible notes	\$ 1,654	-	-	1,654
Warrant liability	\$ 972	-	-	972

For the year ended December 31, 2023, there was a change of approximately \$2.6 million in Level 3 liabilities measured at fair value. There was approximately \$2.6 million in Level 3 liabilities measured at fair value for the year ended December 31, 2022.

2022 Convertible Notes at Fair Value

The fair value of the 2022 Notes on the issuance dates, and as of December 31, 2023 were estimated using a Monte Carlo simulation to capture the path dependencies intrinsic to their terms. The significant unobservable inputs used in the fair value measurement of the Company’s convertible notes are the common stock price, volatility, and risk-free interest rates. The Company elected the fair value option when recording its 2022 Notes and the 2022 Notes were classified as liabilities and measured at fair value on the issuance date, with changes in fair value recognized as other income (expense) on the statements of operations and disclosed in the consolidated financial statements.

In February 2023, the Company entered into waiver agreements with holders of the 2022 Notes (See Note 11). In connection with the waiver agreement, the 2022 Notes were revalued as of the amendment date.

In March 2023, the Company entered into the second waiver agreements with holders of the 2022 Notes (See Note 11). A number of holders elected to increase the principal balance of their notes. The Company revalued the respective notes on the date prior to the amendment date and again on the amendment date. The change in fair value related to the amendment of these 2022 Notes was approximately \$0.4 million.

In June 2023, the Company entered into an exchange agreement and \$0.2 million fair value of the 2022 Notes was exchanged for 206 shares of Series F Preferred stock. As of December 31, 2023, there was no outstanding balance related to the 2022 Notes.

Line of Credit

In February 2023, the Company drew down \$2.0 million from the line of credit and issued the 2023 Notes of \$2.0 million. The 2023 Note had fair value at issuance of \$1.9 million and the Company recorded a gain on issuance of approximately \$0.1 million, which is included in other income (expense) on the consolidated statement of operations.

In May 2023, the Company drew down \$0.4 million from the line of credit and in accordance with the terms of the agreement issued the 2nd 2023 Notes and 3rd 2023 Notes. During July 2023, the Company repaid the outstanding balance of \$0.4 million in cash.

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As of December 31, 2023, there was no outstanding balance related to the 2023 Notes.

The following table provides the changes in fair value of the 2022 Notes and warrant liability (in thousands):

	Convertible Notes	Warrant Liability
Balance at December 31, 2022	\$ 1,654	\$ 972
Conversion of 2022 Notes	(516)	
Issuance of 2023 Notes in connection with line of credit	2,000	
Change in fair value of 2022 Notes in connection with March waiver agreement	368	
Senior Secured Notes - reclass to fair value option	1,133	
Conversion of 2022 Notes into Series F in connection with exchange agreements	(243)	
Conversion of 2022 Notes	(950)	
Settlement in connection with line of credit	(1,747)	
Issuance of 2 nd 2023 Notes and 3 rd 2023 Notes	350	
Repayment of line of credit, 2 nd 2023 Notes and 3 rd 2023 Notes	(600)	
Settlement in connection with Senior Secured Notes	(1,107)	
Warrants issued in connection with Senior Secured Notes		157
Warrants issued in connection with line of credit		5,593
Warrants issued in connection with inducement agreement		760
Warrants issued in connection with February waiver agreement		711
Fair value of warrants exercised		(759)
Loss on extinguishment of warrant liability		504
Warrants Issued in connection with Demand Notes to Series F exchange		140
Warrants Issued in connection with Senior Secured Notes to Series F exchange		50
Warrants Issued in connection with 2022 Notes to Series F exchange		639
Warrants Issued in connection with Series D to Series F exchange		450
Warrants Issued in connection with Series F-1		956
Warrants Issued in connection with Series F-2		285
Change in fair value	(342)	(10,458)
Balance at December 31, 2023	<u>\$ -</u>	<u>\$ -</u>

Warrants

2022 Notes

In connection with the 2022 Notes, the Company issued 362,657 warrants to purchase shares of the Company's common stock. During the year ended December 31, 2023, the Company entered into a warrant inducement and exercise agreement with certain holders. Under the terms of the agreement, the holders exercised 106,764 warrants with a fair value of approximately \$0.8 million and the Company issued 106,764 new warrants to purchase shares of its common stock with a fair value of \$1.3 million. The Company did not recognize any loss on extinguishment of warrants during the twelve months ended December 31, 2023.

February Waiver Agreement

In connection with the February waiver agreement, the Company issued 96,894 warrants to purchase shares of the Company's common stock with a fair value of \$0.7 million on the issuance date.

As of December 31, 2023, there were 96,894 warrants outstanding with nominal fair value.

Series F Preferred Stock Exchange Agreements

In connection with the Series F preferred stock exchange agreements, the Company issued 592,137 warrants to purchase shares of the Company's common stock. The Company concluded that the exchange warrants are liability classified with a fair value of \$1.3 million as of the issuance date. As of December 31, 2023, the exchange warrants had a nominal fair value.

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Senior Secured Notes

In connection with the issuance of the Senior Secured Notes in January 2023 (See Note 11), the Company issued 41,667 warrants to purchase shares of the Company's common stock. The Company estimated the aggregate fair value of the warrants on the issuance date to be approximately \$0.2 million, and nominal value as of December 31, 2023.

Line of Credit

In February 2023, in connection with the issuance of its line of credit, the Company issued 45,000 warrants to purchase shares of its Series E preferred stock (See Note 11). The Company estimated the aggregate fair value of the warrants on the issuance date to be approximately \$5.6 million, and nominal value as of December 31, 2023.

Series F-1 and F-2 Issuances

As part of the Series F-1 and F-2 preferred stock issuances, the Company issued 523,327 warrants to purchase shares of the Company's common stock. The Company concluded that the Series F-1 and Series F-2 warrants are liability classified with a fair value of \$1.2 million as of the issuance date. As of December 31, 2023, the fair value of the Series F-1 and Series F-2 warrants were nominal.

The warrants were classified as liabilities and measured at fair value on the grant date, with changes in fair value recognized as other income (expense) on the consolidated statements of operations.

A summary of significant unobservable inputs (Level 3 inputs) used in measuring warrants on the issuance dates and as of December 31, 2023 and December 31, 2022 is as follows:

	Series F / F-1 / F-2	2022 Notes	Warrants - Senior Secured Note	Warrants - Series E - Line of Credit	December 31, 2022
Date	12/31/2023	12/31/2023	12/31/2023	12/31/2023	12/31/2022
Dividend yield	0.0%	0.0%	0.0%	0.0%	0.0%
Expected price volatility	55.0%	55.0%	55.0%	55.0%	48.7%
Risk free interest rate	3.89%	3.92%	3.92%	3.92%	4.74%
Expected term (in years)	4.5	4.1	4.0	4.1	0.8

Note 7 – Property & Equipment, Net

Property and equipment, net, consists of the following (in thousands):

	December 31, 2023	December 31, 2022
Equipment	\$ 3,155	\$ 1,457
Computers	56	52
Vehicles	395	-
Furniture and Fixtures	3	-
Construction-in-progress	77	-
Leasehold improvements	362	362
Total	4,048	1,871
Less accumulated depreciation and amortization	(919)	(462)
Property and equipment, net	\$ 3,129	\$ 1,409

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During the year ended December 31, 2023, depreciation expense was approximately \$0.5 million, and the Company recognized a \$0.5 million loss on disposal of equipment. For the year ended December 31, 2022, depreciation expense was approximately \$0.3 million and the Company recognized a \$0.1 million loss on disposal of equipment.

Note 8 – Intangible Assets, Net

Intangible assets, net, consists of the following (in thousands):

	December 31, 2023	December 31, 2022
Patents	\$ 1,800	\$ 1,800
Research license	375	375
Customer relationships	4	-
Total	<u>2,179</u>	<u>2,175</u>
Less: accumulated amortization	<u>(797)</u>	<u>(577)</u>
Intangible assets, net	<u><u>\$ 1,382</u></u>	<u><u>\$ 1,598</u></u>

The following table represents the total estimated amortization of intangible assets for the five succeeding years and thereafter as of December 31, 2023 (in thousands):

	Estimated Amortization Expense
Year ended December 31, 2024	\$ 235
Year ended December 31, 2025	234
Year ended December 31, 2026	197
Year ended December 31, 2027	194
Year ended December 31, 2028	195
Thereafter	327
Total	<u><u>\$ 1,382</u></u>

For the year ended December 31, 2023 and 2022, amortization expense was approximately \$0.4 million and \$0.2 million, respectively.

Note 9 – Deferred Debt Issuance Costs

Deferred debt issuance costs consist of the following (in thousands):

	December 31, 2023	December 31, 2022
Standing letter of credit	\$ 150	\$ 223
Equity line of credit	554	-
Line of credit	\$ 9,943	-
Total	<u>10,647</u>	<u>223</u>
Accumulated amortization	<u>(9,341)</u>	<u>(73)</u>
Deferred debt issuance costs	<u><u>\$ 1,306</u></u>	<u><u>\$ 150</u></u>

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SLOC

For the years ended December 31, 2023 and 2022, the Company recognized amortization expense of approximately \$0.2 million and \$0.1 million, respectively.

Equity line of credit

In July 2023, the Company entered into the equity line of credit (“ELOC”) for the right to sell common stock shares to an investor and recorded deferred debt issuance costs of approximately \$0.6 million. For the year ended December 31, 2023, the Company recognized amortization expense of approximately \$0.1 million.

Line of Credit

In February 2023, the Company entered into its line of credit and recorded deferred debt issuance costs of approximately \$9.9 million. During the year ended December 31, 2023, the Company recognized amortization expense of approximately \$8.9 million. During the year ended December 31, 2023, in connection with the \$2.4 million drawdown and issuance of the convertible promissory notes, the Company recognized amortization expense of approximately \$0.2 million.

Note 10 – Accrued Expenses

As of December 31, 2023 and 2022, the Company’s accrued expenses consisted of the following (in thousands):

	December 31, 2023	December 31, 2022
Payroll and related expenses	\$ 112	-
General liability insurance	-	104
Taxes	51	-
Bonus	1,000	510
Other expenses	27	7
Total	\$ 1,190	\$ 621

Note 11 – Notes Payable

2022 Notes

In October 2022, the Company issued convertible notes (the “2022 Notes”) with a principal balance of approximately \$5.4 million and warrants to purchase 362,657 shares of the Company’s common stock for net proceeds of \$3.5 million. The 2022 Notes is non-interest bearing and secured by the Company’s assets. The maturity date is the earlier of (i) twelve months from the date of issuance or (ii) the closing of a change of control transaction. The 2022 Notes are convertible into shares of the Company’s common stock at a conversion price of \$29.70 per share. The warrants have an exercise price of \$19.32 per share and expire five years from the issuance date.

In February 2023, the Company entered into waiver agreements with holders of the 2022 Notes which extended the maturity date of the 2022 Notes from October 19, 2023 to April 18, 2024. As consideration for this agreement, the Company issued 96,894 warrants to purchase shares of the Company’s common stock (See Note 6).

In March 2023, the Company entered into the waiver agreements with holders of the 2022 Notes to eliminate the minimum pricing covenant as it relates to Company’s at-the-market facility. As consideration for this agreement, the Company provided the holders with two options to choose from (i) to take an additional five percent original issue discount (“OID”) on their 2022 Note principal or (ii) to be issued shares of common stock with a value equal to the five percent OID, and to issue total shares of 31,724 as converted using the Nasdaq minimum price of \$9.42. During the nine months ended September 30, 2023, six of the note holders elected option (i), and the Company increased the respective principal balance of the notes by approximately \$0.2 million. The remaining noteholders elected option (ii), and as of December 31, 2023, no shares of common stock have been issued. The Company recorded expense of \$0.3 million associated with the commitment to issue shares of the Company’s common stock. There were no new commitment to issue shares of the company’s common stock during the year ended December 31, 2023.

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In May 2023, the Company entered into inducement agreements with the investors to reduce the conversion price of the 2022 Notes in an aggregate principal amount equal to \$1.5 million, convertible into 161,603 shares of the Company's common stock at \$9.28 per share. The remaining investors agreed to reduce the conversion price of the 2022 Notes in an aggregate principal amount equal to \$1.4 million, convertible into 127,393 shares of the Company's common stock at \$10.93 per share.

The Company elected to account for the 2022 Notes under the fair value option. For the inducement agreements that were entered into as described above, the Company accounted for the change in the terms through the fair value adjustment of \$2.7 million, which is included in the change in fair value of notes on the consolidated statements of operations, upon the settlement of \$0.2 million principal balance of the 2022 Notes as part of the exchange agreements, and \$1.0 million principal balance of the 2022 Notes in June 2023 based on the issuance of 248,981 shares of the Company's common stock.

Senior Secured Note

In January 2023, the Company issued senior secured notes ("Senior Secured Notes") with a principal balance of approximately \$1.2 million and warrants to purchase 41,667 shares of the Company's common stock for net proceeds of \$1.0 million. The Senior Secured Notes do not bear interest, and mature three months from the date of issuance. Pursuant to these terms, the Senior Secured Notes were subsequently extended to May 3, 2023, incurring an additional 10% on principal. The warrants are exercisable for five years at an exercise price of \$19.32 per share.

In May 2023, the Company entered into several amendments to extend the Senior Secured Notes maturity date with the investors. In exchange, the Company issued a total of 203,500 shares of common stock to the investors.

The Company concluded that a troubled debt restructuring did not occur, but an extinguishment of the outstanding senior secured notes occurred. Subsequent to the extinguishment, the Company concluded to account for the Senior Secured Notes using the fair value option. The Company recorded an extinguishment loss of \$2.2 million.

On June 4, 2023, \$0.2 million of the outstanding Senior Secured Notes was settled. The Company accounted for the settlement as an extinguishment that resulted in a \$0.1 million gain and resulted in \$0.1 million being recorded as Series F convertible preferred stock and \$0.1 million being recorded as part of the warrant liability.

On June 30, 2023, the Company and the remaining investors agreed to extend the maturity date of the 2023 Notes until July 31, 2023, in exchange for 41,667 shares of common stock. The Company recorded a change in fair value adjustment of \$0.3 million based on the fair value of the 41,667 shares of common stock.

On July 10, 2023, the Company and the remaining investors entered into a forbearance agreement, which was subsequently amended on July 14, 2023. The forbearance agreement provides that the investor shall forbear the exercise of its rights and remedies due to certain events of defaults under the Senior Secured Notes, including payment, until December 31, 2023, in exchange for a non-refundable and indefeasible payment of \$0.1 million in the form of a promissory note due December 31, 2023 (the "December 2023 Note"). The December 2023 Note was never executed and the Senior Secured Notes investors fully settled the outstanding balance for a total of 189,602 shares of common stock during July and August 2023. The Company recorded a change in fair value adjustment of \$39,000 at settlement of the Senior Secured Notes. As of December 31, 2023, there was no outstanding balance related to the Senior Secured Notes.

2023 Note

In February 2023, upon drawing down on the line of credit, the Company issued a Secured Promissory Note (the "2023 Note") totaling \$2.0 million, which is due and payable 60 days from the issuance date. The 2023 Note is non-interest bearing and secured by the Company's assets. The 2023 Note is convertible into shares of the Company's common stock at \$30.00 per share.

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In April 2023, the Company entered into a first amendment to the 2023 Note with the lender, pursuant to which the lender agreed to extend the maturity date of the 2023 Note balance until May 1, 2023 in exchange for 33,333 shares of the Company's common stock. The 2023 Note was further amended to accrue interest at the 15% per annum from the original funding date of the 2023 Note. The Company recorded a change in fair value adjustment of \$0.2 million related to the commitment to issue 33,333 shares of the Company's common stock.

On May 1, 2023, the Company entered into a second amendment to the 2023 Note with the lender, pursuant to which the lender agreed to extend the maturity date of the 2023 Note balance until May 15, 2023.

On May 15, 2023, the Company entered into a third amendment to the 2023 Note with the lender, pursuant to which the lender agreed to extend the maturity date of the 2023 Note until June 7, 2023 in exchange for 4,000 shares of the Company's Series E preferred stock, which are convertible into 66,667 shares of the Company's common stock. The Company recorded a change in fair value adjustment of \$0.7 million related to the commitment to issue 4,000 shares of the Company's Series E preferred stock.

On May 16, 2023, the Company made a second draw of \$0.2 million under the line of credit. Upon drawing down on the line of credit, the Company issued a second Secured Promissory Note (the "2nd 2023 Note") which is due and payable on July 16, 2023. The 2nd 2023 Note shall accrue interest at the 15% per annum from the original funding date of the 2nd 2023 Note.

On May 26, 2023, the Company made a third draw of \$0.2 million under the line of credit. Upon drawing down on the line of credit, the Company issued a third Secured Promissory Note (the "3rd 2023 Note") which is due and payable on June 2, 2023. The 3rd 2023 Note included a \$0.2 million commitment fee and does not bear interest. With the 3rd 2023 Note, the Company recorded a change in fair value adjustment of \$0.2 million related to the commitment fee.

On May 26, 2023, the Company entered into a fourth amendment to the 2023 Note, pursuant to which the Company will issue to the holder a convertible promissory note in the principal amount of \$0.2 million due June 2, 2023 in exchange for 4,000 shares of the Company's Series E preferred stock, which are convertible into 66,667 shares of the Company's common stock. The Company recorded a change in fair value adjustment of \$0.6 million related to the commitment to issue 4,000 shares of the Company's Series E preferred stock.

On June 13, 2023, the Company partially redeemed the principal of the 2023 Note. In addition to the accrued interest and commitment fees, the total redeemed balance was approximately \$2.1 million. With the settlement of the 2nd 2023 and the 3rd 2023 Note, the Company recorded a change in fair value adjustment of \$0.1 million.

On June 30, 2023, the Company and the line of credit lender agreed to amend the 2nd 2023 Note and the 3rd 2023 Note to extend the maturity dates of each until July 16, 2023. In connection with the amendments, the Company agreed to issue to the line of credit lender 5,000 shares of the Company's Series E preferred stock, which is convertible into 83,333 shares of the Company's common stock. Additionally, the Company agreed to issue an additional 8,000 shares of the Company's Series E preferred stock, which is convertible into 133,333 shares of the Company's common stock, to the line of credit lender for failure to comply with a covenant in the line of credit, as amended. The Company recorded a change in fair value adjustment of \$2.0 million related to the commitment to issue 13,000 shares of the Company's Series E preferred stock.

During July 2023, the Company repaid the outstanding balance of the 2nd 2023 Note and 3rd 2023 Note for cash of \$0.4 million. As of December 31, 2023, there was no outstanding balance related to the 2nd 2023 Note and 3rd 2023 Note.

Demand Note

Between May 17 and May 18, 2023, the Company issued secured demand promissory notes (the "Demand Notes") in an aggregate principal amount equal to \$0.2 million. The Demand Notes are due and payable at any time upon demand by the noteholders after the earlier of (i) the consummation of the Company's first securities offering after the issuance of the Demand Notes or (ii) July 16, 2023. The Demand Notes do not bear interest. In connection with the issuance of the Demand Notes, the Company agreed to issue an aggregate of 76,626 shares of the Company's common stock to the Demand Note holders. The Company recorded expense of \$0.2 million associated with the commitment to issue shares of the Company's common stock.

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On May 30, 2023, the Company issued secured demand promissory notes (the “2nd Demand Notes”) in an aggregate principal amount equal to \$0.1 million. The 2nd Demand Notes are due and payable at any time upon demand by the noteholder after the earlier of (i) the consummation of the Company’s first securities offering after the issuance of the 2nd Demand Notes or (ii) July 16, 2023. The 2nd Demand Notes do not bear interest. In connection with the issuance of the 2nd Demand Notes, the Company agreed to issue an aggregate of 46,935 shares of the Company’s common stock to the 2nd Demand Notes holders. The Company recorded expense of \$0.1 million associated with the commitment to issue shares of the Company’s common stock.

On July 25, 2023, the Company entered into the Demand Secured Promissory Note Agreement (“Q3 Demand Notes”) with two investors for a purchase price of \$20,000 each and with an original issue discount of \$12,000. Upon settlement, the Company is obligated to pay a total of \$0.1 million in principal for the issuance of both notes. The Q3 Demand Notes are due and payable at any time upon demand by the holder after the earlier of (i) the consummation of the Company’s first securities offering after the issuance of the Q3 Demand Notes and (ii) January 25, 2024.

Note 12 – Stockholders’ Equity

Preferred Stock

As of December 31, 2023 and 2022, there were 50,000,000 authorized shares of the Company’s preferred stock, par value \$0.0001.

Series A Preferred Stock

On January 5, 2021, the Company’s Board of Directors authorized 300 shares of Series A preferred stock with a par value of \$0.0001 per share. Each preferred share of Series A preferred stock will have a stated value of \$1,000 per share. From and after the second anniversary the holders of the Series A preferred stock shall be entitled to receive, quarterly cumulative dividends or distributions at the annual rate of 8% of the stated value per share (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series A preferred stock). Such dividend shall be paid in cash or at the direction of the Company’s Board of Directors, in duly authorized, validly issued, fully paid and non-assessable shares of common stock, or a combination thereof. All declared but unpaid dividends on shares of Series A preferred stock shall increase the stated value of such shares, but when such dividends are actually paid any such increase in the stated value shall be rescinded. The holders shall be entitled to receive, and the Company shall pay, dividends on shares of Series A 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 Company’s common stock or other junior securities. The Series A preferred stock has no voting rights. Each share of Series A 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, into that number of shares of common stock determined by dividing the stated value of such shares of Series A preferred stock by the conversion price. The conversion price for the Series A preferred stock shall equal \$1.3329, subject to adjustment.

As of December 31, 2023 and 2022, 251 shares of Series A preferred stock are outstanding.

Series B Preferred Stock

On January 22, 2021, the Company’s Board of Directors authorized 1,500 shares of Series B preferred stock with a par value of \$0.0001 per share. Each preferred share of Series B preferred stock will have a stated value of \$1,000 per share. From and after the second anniversary the holders of the Series B preferred stock shall be entitled to receive, quarterly cumulative dividends or distributions at the annual rate of 8% of the stated value per share (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series B preferred stock). Such dividend shall be paid in cash or at the direction of the Company’s Board of Directors, in duly authorized, validly issued, fully paid and non-assessable shares of common stock, or a combination thereof. All declared but unpaid dividends on shares of Series B preferred stock shall increase the stated value of such shares, but when such dividends are actually paid any such increase in the stated value shall be rescinded. The holders shall be entitled to receive, and the Company shall pay, dividends on shares of Series B 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 Company’s common stock or other junior securities. The Series B preferred stock has no voting rights. Each share of Series B 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, into that number of shares of common stock determined by dividing the stated value of such shares of Series B preferred stock by the conversion price. The conversion price for the Series B preferred stock shall equal \$0.7149, subject to adjustment.

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As of December 31, 2023 and 2022, 1,443 shares of Series B preferred stock are outstanding.

Series C Preferred Stock

On February 19, 2021, the Company's Board of Directors authorized 600,000 shares of Series C preferred stock with a par value of \$0.0001 per share. Each preferred share of Series C preferred stock will have a stated value of \$1.00 per share. From and after the second anniversary the holders of the Series C preferred stock shall be entitled to receive, quarterly cumulative dividends or distributions at the annual rate of 8% of the stated value per share (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series C preferred stock). Such dividend shall be paid in cash or at the direction of the Company's Board of Directors, in duly authorized, validly issued, fully paid and non-assessable shares of common stock, or a combination thereof. All declared but unpaid dividends on shares of Series C preferred stock shall increase the stated value of such shares, but when such dividends are actually paid any such increase in the stated value shall be rescinded. The holders shall be entitled to receive, and the Company shall pay, dividends on shares of Series C 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 Company's common stock or other junior securities. The Series C preferred stock has no voting rights. Each share of Series C 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, into that number of shares of common stock determined by dividing the stated value of such shares of Series C preferred stock by the conversion price. The conversion price for the Series C preferred stock shall equal \$0.893, subject to adjustment.

As of December 31, 2023 and 2022, 500,756 shares of Series C preferred stock are outstanding.

Series D Preferred Stock

On July 8, 2022, the Company's Board of Directors authorized 7,000 shares of Series D preferred stock with a par value of \$0.0001 per share. Each preferred share of Series D preferred stock has a stated value of \$1,000 per share, is convertible into shares of the Company's common stock at an initial conversion price of \$1.30 per share, and is entitled to a dividend of 12% per annum. The cumulative dividends shall be paid in common stock based on the conversion price in effect on the applicable conversion date. All accrued but unpaid dividends on shares of Series D preferred stock shall increase the stated value of such shares. The Company may redeem all, but not less than all, of the Series D preferred stock for cash, at a price per share of Series D preferred stock equal to 125% of the stated value. The Series D preferred stock has no voting rights.

In July 2022, the Company issued 1,058 shares of Series D preferred stock for approximately \$1.1 million, which was included on the consolidated balance sheet in shares liability as of June 30, 2022, as the proceeds were received by the Company in June 2022, prior to issuance of the shares. As of December 31, 2023, no shares of Series D preferred stock are issued and outstanding.

In connection with the issuance of the 1,058 shares of Series D preferred stock, the Company issued 814,102 equity-classified warrants to purchase shares of the Company's common stock with an exercise price of \$1.30 per share. The proceeds from the Series D preferred stock were allocated between the warrants and the Series D preferred stock based on their relative fair values.

CROWN ELECTROKINETICS CORP.
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The Company entered into a Registration Rights Agreement (“RRA”) with the holders of the Series D preferred stock, whereby the Company was to use its best efforts to file a registration statement registering the resale of the shares of common stock issuable upon conversion of the Series D preferred stock and upon exercise of the warrants within thirty (30) calendar days following the closing of the Series D preferred stock offering. The Company was to use its best efforts to have the registration statement declared “effective” within ninety (90) calendar days from closing, or one hundred and twenty (120) from closing in the event the registration statement is reviewed by the SEC. If the Company fails to meet these requirements, the RRA states that the Company shall pay to each holder an amount in cash, as partial liquidated damages and not as a penalty, equal to the product of 1.0% multiplied by the aggregate subscription amount paid by such holder pursuant to the purchase agreement, up to an aggregate of 10% of the aggregate subscription amount paid by such holder pursuant to the purchase agreement for all such liquidated damages.

Using the guidance provided by ASC 825-20 Financial Instruments, the Company determined that the RRA should be accounted for as a separate unit of account from the Series D preferred stock. Accordingly, under ASC 825-20, a financial instrument that is both within the scope of ASC 825-20 and subject to a registration payment arrangement shall be recognized and measured in accordance with ASC 825-20 without regard to the contingent obligation to transfer consideration pursuant to the registration payment arrangement.

The RRA called for the Company to file a registration statement by August 25, 2022 and declare it effective within 90 days of July 26, 2022. The Company filed its registration statement on November 17, 2022, and the holders of the Series D preferred stock waived the related registration rights penalty of approximately \$2,400.

The Series D preferred stock and warrants sold were not registered under the Securities Act of 1933, as amended (the “Securities Act”) or the securities laws of any state and were offered and sold in reliance on the exemption from registration afforded by Section 4(a)(2) under the Securities Act and Regulation D promulgated thereunder and corresponding provisions of state securities laws, which exempt transactions by an issuer not involving any public offering. The holders of Series D preferred stock are “accredited investors” as such term is defined in Regulation D promulgated under the Securities Act.

As of December 31, 2023 and December 31, 2022, zero and 1,058 shares of Series D preferred stock were issued and outstanding.

Series E Preferred Stock

On February 1, 2023, the Company’s Board of Directors authorized 77,000 shares of Series E preferred stock with a par value of \$0.0001 per share, in connection with its line of credit. Each share of Series E preferred stock is convertible into 1,000 shares of the Company’s common stock at the option of the holders. The holders of the Series E preferred stock shall receive dividends on an as converted basis together with the holders of the Company’s common stock. The Series E preferred stock has no voting rights and does not have a preference upon any liquidation, dissolution or winding-up of the Company.

On February 2, 2023, in connection with its line of credit, the Company issued 5,000 shares of Series E preferred stock as a commitment fee with a fair value of \$1.5 million. In addition, the Company agreed to issue an additional 5,000 shares of Series E preferred stock on both the first and second anniversary date of the line of credit, or 10,000 shares on the first anniversary, if the Company does not elect to extend the maturity date of the line of credit. The fair value of the additional 10,000 shares of Series E preferred stock on the issuance date totaled \$2.9 million. The Company recorded the total fair value of \$4.4 million as additional paid-in capital with the offsetting increase to deferred debt issuance costs.

As of December 31, 2023, following Series E preferred stock conversions, zero shares of Series E preferred stock are issued and outstanding. There were no shares of Series E preferred stock issued and outstanding as of December 31, 2022.

CROWN ELECTROKINETICS CORP.
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Series F Preferred Stock

On June 4, 2023, the Company entered into exchange agreements with (i) the 2022 Notes investors for the exchange of 2022 Notes in the aggregate principal amount of \$2.6 million for 2,622 shares of the Company's Series F convertible preferred stock ("Series F preferred stock"), (ii) with the Senior Secured Notes investors for the exchange of Senior Secured Notes in the aggregate principal amount of \$0.2 million for 206 shares of Series F Preferred Stock; (iii) with the Demand Noteholders for the exchange of Demand Notes in the principal amount of \$0.6 million for 576 shares of Series F Preferred Stock, and (iv) with the purchasers of the Company's Series D Preferred Stock for the exchange of 1,197 shares of Series D Preferred Stock for 1,847 shares of Series F Preferred Stock.

In addition, the Company issued new five-year warrants to purchase an aggregate of 592,137 shares of common stock (the "Exchange Warrants") to the 2022 Note holders, the Senior Secured Note holders, and the purchasers of the Company's Series D preferred stock. The Exchange Warrants are exercisable at an exercise price of \$8.868 per share of common stock. The holders may exercise the Exchange Warrants on a cashless basis if the shares of the Company's common stock underlying the Exchange Warrants are not then registered pursuant to an effective registration statement. The Company concluded that the Exchange Warrants are liability classified.

For the 2022 Note holders, the total fair value of Series F preferred stock and warrant liability issued were \$1.1 million and \$0.6 million, respectively. For the Senior Secured Note holders, the total fair value of Series F preferred stock and warrant liability issued were \$0.1 million and \$30,000, respectively. For the Demand Note holders, the total fair value of Series F Preferred Stock and Warrant Liability issued were \$0.2 million and \$0.2 million, respectively. For the purchasers of the Company's Series D preferred stock, the Company accounted for the exchange as an extinguishment of the Series D preferred stock and recorded the total fair value of Series F preferred Stock and warrant liability of \$0.7 million and \$0.5 million, respectively. The difference of \$0.5 million with the \$0.7 million carrying value of the Series D preferred stock as a deemed dividend and reduction to additional-paid-in-capital.

In July 2023, the Company converted 803 shares of Series F preferred stock for 103,234 shares of common stock. As of December 31, 2023 and 2022, 4,448 and zero shares of Series F preferred stock are issued and outstanding.

Series F-1 Preferred Stock

On June 13, 2023, the Company issued 3,583 shares of Series F-1 preferred stock for an aggregate purchase price of \$2.3 million. In connection with the issuance of the Series F-1 preferred stock, the holders will receive five-year warrants to purchase an aggregate of 398,377 shares of common stock (the "Series F-1 Warrants"). The Series F-1 Warrants will be exercisable at an exercise price of \$8.994 per share of the Company's common stock, subject to certain adjustments as set forth in the Series F-1 Warrants. The holders may exercise the Series F-1 Warrants on a cashless basis if the shares of our Common Stock underlying the Series F-1 Warrants are not then registered pursuant to an effective registration statement. The obligations of the Company and the Purchasers to consummate the transactions contemplated by the Purchase Agreement are subject to the satisfaction on or prior to the Closing of customary closing conditions..

The Company allocated the proceeds of \$2.3 million to the liability classified warrants with a fair value of \$0.9 million and the remaining proceeds of \$1.4 million to the Series F-1 preferred stock.

In July 2023, the Company converted 2,930 shares of Series F-1 preferred stock for 325,737 shares of common stock. As of December 31, 2023 and 2022, 653 and zero shares of Series F-1 preferred stock are issued and outstanding.

Series F-2 Preferred Stock Offering

On June 14, 2023, the Company issued 1,153 shares of its Series F-2 preferred stock for an aggregate purchase price of approximately \$0.7 million. In connection with the issuance of the Series F-2 preferred stock, the holders will receive five-year warrants to purchase an aggregate of 124,946 shares of common stock (the "F-2 Warrants"). The F-2 Warrants will be exercisable at an exercise price of \$9.228 per share of common stock.

The Company allocated the proceeds of \$0.7 million to the liability classified warrants with a fair value of \$0.3 million and the remaining proceeds of \$0.4 million to the Series F-2 preferred stock.

As of December 31, 2023 and December 31, 2022, 1,153 and zero shares of Series F-2 preferred stock are issued and outstanding.

CROWN ELECTROKINETICS CORP.
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Common Stock

Authorized Shares

As of December 31, 2023, there were 800,000,000 shares of the Company's authorized shares of common stock.

Warrant Exercises

During the year ended December 31, 2023, the Company issued 106,764 shares of its common stock in connection with the exercise of 106,768 warrants, receiving net proceeds of approximately \$2.0 million at a weighted-average price of \$19.30 per share.

During the year ended December 31, 2023, the Company issued 2,493 shares of its common stock in connection with the exercise of 2,778 penny warrants.

Public Offering

On July 19, 2022, the Company entered into an underwriting agreement relating to the Company's public offering of its common stock, par value \$0.0001 per share. The Company agreed to sell 1,250,000 shares of its common stock to the underwriters, at a purchase price per share of \$0.744 (the offering price to the public of \$0.80 per share minus the underwriters' discount), pursuant to the Company's registration statement on Form S-3 (File No. 333-262122), under the Securities Act of 1933, as amended. The Company has also granted to the underwriters a 30-day option to purchase up to 187,500 additional shares of common stock to cover over-allotments. On July 22, 2022, the Company received net proceeds of \$0.9 million, net of underwriter fees and commissions of approximately \$0.1 million, and offering costs of \$0.1 million.

In connection with the Company's public offering, the Company issued a warrant to the underwriters to purchase 62,500 shares of its common stock. The warrant may be exercised beginning on the date that is 180 days after July 22, 2022 until July 19, 2027. The exercise price of the warrant is \$0.80 per share.

At-the-Market Offering

As of December 31, 2023, the Company has received net proceeds on sales of 19,658,733 shares of common stock under the at-the-market offering of approximately \$8.2 million after deducting \$0.3 million in commissions and expenses. The weighted-average price of the common stocks were \$0.44 per share.

Equity Line of Credit

On July 20, 2023 ("Closing Date"), the Company entered into the ELOC with a purchaser ("ELOC Purchaser") whereby the Company has the right to sell up to an aggregate of \$50.0 million of newly issued shares (the "ELOC Shares") of the Company's common stock. The aggregate number of shares that the Company can sell under the ELOC Purchase Agreement may not exceed 4.99% of the outstanding common stock, subject to certain exceptions set forth in the ELOC Purchase Agreement.

The purchase price of the shares of common stock that the Company elects to sell to the pursuant to the ELOC Purchase Agreement will be equal to 97.0% of the lower of (i) the lowest intraday sale price of the common stock on the Company's current trading market on the applicable purchase date or (ii) the arithmetic average of the three lowest closing sale prices during the ten trading days immediately preceding the applicable purchase date. There is no upper limit on the price per share that ELOC Purchase could be obligated to pay for the common stock under the ELOC Purchase Agreement.

On the Closing Date, the Company issued 21,841 shares of common stock to the ELOC Purchase as an initial fee for commitment to purchase the Company's common stock under the ELOC Purchase Agreement. On the date that is the earlier of (i) 30 calendar days after the Closing Date or (2) October 16, 2023, the Company was to issue additional shares of common stock as the additional commitment shares. The Lender has agreed to extend these terms and for Crown to deliver the additional commitment shares by the end of Q2 2024. Liability for common stock issued was \$0.4 million as of the closing date. The liability is subject to remeasurement at each reporting period until issued, and any change in fair value is recognized and included as other income (expense) in the consolidated statement of operations. The change in fair value of liability issued was approximately \$0.4 million during the year ended December 31, 2023.

CROWN ELECTROKINETICS CORP.
Notes to Consolidated Financial Statements

As of December 31, 2023, the Company received net proceeds on sales of 3,986,991 shares of common stock of approximately \$4.5 million, after deducting commissions and expenses, at a weighted average price of \$1.19 per share.

Note 13 – Stock-Based Compensation

On December 22, 2022, the Company adopted its 2022 Long-Term Incentive Plan (the “2022 Plan”). Under the 2022 Plan, there are 4,200,000 shares of the Company’s common stock available for issuance and the 2022 Plan has a termination date of October 31, 2032.

The available shares in the 2022 Plan will automatically increase on the first trading day in January of each calendar year during the term of 2022 Plan, commencing with January 2023, by such number of shares of common stock as are necessary so that the total number of shares reserved for issuance under the 2022 Plan shall be equal to 19.9% of the total number of outstanding shares of common stock, determined on a fully diluted basis as of the applicable trading date (the “Stipulated Percentage”); (b) our Board of Directors may act prior to January 1st of a given calendar year to provide that (i) there will be no such automatic annual increase in the number of shares reserved for issuance under the 2022 Plan or (ii) the increase in the number of shares for such calendar year will be a lesser number of shares than necessary to maintain the Stipulated Percentage of shares reserved for issuance under the 2022 Plan; and (c) unless an increase in shares reserved for issuance under the 2022 Plan in excess of the Initial Share Limit has been approved by our shareholders, the maximum number of shares of common stock that may be delivered pursuant to incentive stock options shall not exceed the Initial Share Limit or, if greater, the number of shares of common stock subsequently approved by the requisite vote of our shareholders entitled to vote thereon.

On December 16, 2020, the Company adopted its 2020 Long-Term Incentive Plan (the “2020 Plan”). Under the 2020 Plan, there are 5,333,333 shares of the Company’s common stock available for issuance and the 2020 Plan has a term of 10 years. The available shares in the 2020 Plan will automatically increase on the first trading day in January of each calendar year during the term of this Plan, commencing with January 2021, by an amount equal to the lesser of (i) five percent (5%) of the total number of shares of common stock issued and outstanding on December 31 of the immediately preceding calendar year, (ii) 1,000,000 shares of common stock or (iii) such number of shares of common stock as may be established by the Company’s Board of Directors.

The Company grants equity-based compensation under its 2020 Plan and its 2016 Equity Incentive Plan (the “2016 Plan”). The 2020 Plan and 2016 Plan allows the Company to grant incentive and nonqualified stock options, and shares of restricted stock to its employees, directors and consultants. On June 14, 2019, the Board of Directors of the Company approved increasing the number of shares allocated to the Company’s 2016 Equity Incentive Plan from 5,500,000 to 7,333,333.

Under the 2016 Plan and the 2020 Plan, upon the exercise of stock options and issuance of fully vested restricted common stock, shares of common stock may be withheld to satisfy tax withholdings. The Company intends to net settle certain employee options to ensure adequate authorized shares under the Incentive Plan.

Stock-based compensation:

The Company recognized total expenses for stock-based compensation during the year ended December 31, 2023 and the year ended December 31, 2022, which are included in the accompanying statements of operations, as follows (in thousands):

	Year Ended December 31, 2023	Year Ended December 31, 2022
Research and development expenses	\$ 178	\$ 508
Selling, general and administrative expenses	536	1,897
Total stock-based compensation	<u>\$ 714</u>	<u>\$ 2,405</u>

CROWN ELECTROKINETICS CORP.
Notes to Consolidated Financial Statements

As of December 31, 2023, the total unrecognized stock-based compensation cost related to outstanding unvested stock options that are expected to vest was \$0.1 million, which the Company expects to recognize over an estimated weighted-average period of 1.2 years.

Restricted stock units:

A summary of the Company's restricted stock activity during the year ended December 31, 2023 is as follows:

	Number of Shares	Weighted Average Grant-Date Fair Value
Unvested at December 31, 2022	10,483	\$ 138
Granted	1,992,345	\$ 0.25
Vested	(305,924)	\$ 2.34
Unvested at December 31, 2023	1,696,904	\$ 0.38

During the year ended December 31, 2023, the Company granted 1,992,345 restricted stock units ("RSUs") to employees and members of its board of directors with a fair value of approximately \$0.5 million vested over the service period.

During the year ended December 31, 2022, the Company granted 676,350 restricted stock units ("RSUs") to employees and members of its board of directors with a fair value of approximately \$0.9 million. Included in the RSUs granted during 2022, 33,332 RSUs were exchanged for 33,332 cancelled stock options. The cancellation of the stock options and the issuance of the RSUs was accounted for as a modification of the equity awards, and during the year ended December 31, 2022, the Company recognized incremental stock-based compensation of \$0.1 million.

During the year ended December 31, 2022, the Company accelerated the vesting of 423,779 RSUs. The accelerated vesting was accounted for as a modification of the equity awards, and during the year ended December 31, 2022 the Company reversed \$0.4 million of stock-based compensation related to the incremental fair value of the awards.

During the year ended December 31, 2023, the Company recognized stock-based compensation of approximately \$0.5 million, related to restricted stock. As of December 31, 2023, unrecognized stock-based compensation totaled approximately \$0.3 million, which is expected to be recognized over a weighted-average period of 0.6 years.

Stock Options:

The Company provides stock-based compensation to employees, directors and consultants under both the 2016 and 2020 Plans. The fair value of each stock option grant is estimated on the date of grant using the Black-Scholes option pricing model. The Company historically has been a private company and lacks company-specific historical and implied volatility information. Therefore, it estimates its expected stock volatility based on the historical volatility of a publicly traded set of peer companies and expects to continue to do so until such time as it has adequate historical data regarding the volatility of its own traded stock price. The risk-free interest rate is determined by referencing the U.S. Treasury yield curve in effect at the time of grant of the award for time periods approximately equal to the expected term of the award. Expected dividend yield is based on that the Company has never paid cash dividends and does not expect to pay any cash dividends in the foreseeable future.

CROWN ELECTROKINETICS CORP.
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During the year ended December 31, 2023, the Company granted 225,000 options to purchase shares of the Company's common stock to members of the Company's Board of Directors, employees and consultants. The options have a fair value of approximately \$38,000. The following was used in determining the fair value of stock options granted during the year ended December 31, 2023 and December 31, 2022.

	Year Ended December 31, 2023	Year Ended December 31, 2022
Dividend yield	0%	0%
Expected price volatility	83.6% - 107.3%	88.8% - 91.7%
Risk free interest rate	4.3% - 4.8%	3.25% - 3.96%
Expected term	5.8 years	5.0 - 7.0 years

A summary of activity under the 2016 and 2020 Plans for the year ended December 31, 2023 is as follows:

	Shares Underlying Options	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (Years)	Aggregate Intrinsic Value
Outstanding at December 31, 2022	159,295	\$ 158.40	6.50	\$ 26,188
Granted	225,000	0.23	9.87	
Forfeited	(1,516)	196.86	-	
Outstanding at December 31, 2023	382,779	65.04	8.10	-
Exercisable at December 31, 2023	156,522	155.36	5.59	-

During the year ended December 31, 2023, the Company recognized stock-based compensation of approximately \$0.2 million related to stock options. As of December 31, 2023, unrecognized stock-based compensation totaled approximately \$0.1 million, which is expected to be recognized over a weighted-average period of 1.2 years.

Note 14 – Warrants

A summary of the Company's warrant (excluding penny warrants) activity during the years ended December 31, 2023 is as follows:

	Shares Underlying Warrants	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (Years)	Aggregate Intrinsic Value
Outstanding at December 31, 2022	461,066	\$ 44.88	4.5	\$ -
Issued	1,405,797	\$ 11.42	4.6	
Exercised	(106,768)	\$ 19.20	-	
Outstanding and Exercisable at December 31, 2023	1,760,095	\$ 18.96	4.4	\$ -

Liability Classified Warrants

Senior Secured Note

During the year ended December 31, 2023, the Company issued 41,667 warrants to purchase shares of the Company's common stock with an exercise price of \$19.30 per share. The warrants expire 5 years from the issuance date.

CROWN ELECTROKINETICS CORP.
Notes to Consolidated Financial Statements

Line of Credit

During the year ended December 31, 2023, in connection with its line of credit, the Company issued 45,000 Series E warrants to purchase shares of its Series E preferred stock with an exercise price of \$0.50 per share (See Note 11). The warrants expire 5 years from the issuance date.

2022 Notes

In connection with the 2022 Notes, the Company issued 362,657 warrants to purchase shares of the Company's common stock. The warrants have an exercise price of \$19.30 per share and expire five years from the issuance date.

During the year ended December 31, 2023, the Company entered into a warrant inducement and exercise agreement with certain holders. Under the terms of the agreement, the holders exercised 106,764 warrants, and the Company issued 106,764 new warrants to purchase shares of its common stock with an exercise price of \$19.30 per share. The warrants expire 5 years from the issuance date.

On February 28, 2023, the Company entered into waiver agreements with holders of the 2022 Notes and issued 96,894 warrants to purchase shares of the Company's common stock with an exercise price of \$19.30 per share.

Exchange Warrants, F-1 Warrants, and F-2 Warrants

In connection with the exchange agreement, the Company issued new five-year warrants to purchase an aggregate of 592,137 shares of common stock to the noteholders and the purchasers of the Company's Series D preferred stock. The Exchange Warrants are exercisable at an exercise price of \$8.87 per share of common stock. The holders may exercise the warrants on a cashless basis if the shares of the common stock underlying the warrants are not then registered pursuant to an effective registration statement. The Company concluded that the Exchange Warrants are liability classified.

In connection with the issuance of the Series F-1 preferred stock, the noteholders will receive five-year warrants to purchase an aggregate of 398,379 shares of common stock. The warrants will be exercisable at an exercise price of \$8.99 per share of the Company's common stock. The noteholders may exercise the warrants on a cashless basis if the shares of the common stock underlying the warrants are not then registered pursuant to an effective registration statement.

In connection with the issuance of the Series F-2 preferred stock, the noteholders will receive five-year warrants to purchase an aggregate of 124,948 shares of common stock. The F-2 warrants will be exercisable at an exercise price of \$9.23 per share of common stock. The noteholders may exercise the F-2 warrants on a cashless basis if the shares of the common stock underlying the F-2 warrants are not then registered pursuant to an effective registration statement.

Purchase Order Warrants

On August 12, 2022, the Company entered into two Purchase Orders (PO's) with Hudson Pacific Properties, L.P. ("Hudson") for the purchase of the Company's Smart Window Inserts™ ("Inserts"). The PO's have a value of \$0.1 million and represent the first orders the Company has received prior to the launch of its Inserts. As additional consideration for the PO's, the Company issued a warrant to Hudson to purchase 5,000 shares of the Company's common stock at \$45.00 per share. The warrant has a five-year life and expires on August 12, 2027.

Because Hudson is a customer, the Company accounts for the PO's and warrants under ASC 606. As the performance obligations have not yet been satisfied, the Company has not recognized any revenue in connection with Hudson during the year ended December 31, 2023.

The Company measured the fair value of the warrant using the Black-Scholes valuation model on the issuance date, with the value being recognized as a prepaid asset up to the recoverable value represented by the value of the contract.

The fair value of the warrant on the issuance date totaled \$0.2 million, and as of December 31, 2023, the Company recorded a prepaid asset of \$0.1 million, representing the recoverable value from the PO's, which is included in prepaid and other current assets on the consolidated balance sheet.

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SLOC

In connection with the SLOC, on March 17, 2022 the Company issued a warrant for 3,333 shares of common stock with an exercise price of \$120.00, and a total fair value of approximately \$0.2 million. This amount is included in the accompanying consolidated balance sheet as deferred debt issuance costs (See Note 9).

Note 15 – Income Taxes

For the years ended December 31, 2023 and December 31, 2022, the Company did not record a provision for income taxes due to the recognition of a full valuation allowance.

The Company recognizes federal, and state deferred tax assets or liabilities based on the Company's estimate of future tax effects attributable to temporary differences and carryovers. The Company records a valuation allowance to reduce any deferred tax assets by the amount of any tax benefits that, based on available evidence and judgment, are not expected to be realized. In assessing the realizability of deferred tax assets, the Company considers whether it is more likely than not that some portion or all of the deferred tax assets will be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during periods in which those temporary differences become deductible. The Company considers projected future taxable income and planning strategies in making this assessment. As of December 31, 2023, as a result of a three-year cumulative loss and lack of sufficient positive evidence, we concluded that a full valuation allowance was necessary to offset our deferred tax assets. We intend to maintain a valuation allowance until sufficient positive evidence exists to support its reversal. The Company will continue to evaluate its deferred tax balances to determine any assets that are more likely than not to be realized. During the year ended December 31, 2023, the valuation allowance increased by \$6.4 million, primarily due to the increase in net operating loss carryforwards.

At December 31, 2023 and December 31, 2022, the tax effects of the temporary differences and carryovers that give rise to deferred tax assets consisted of the following (in thousands):

	December 31, 2023	December 31, 2022
Net operating loss carryforwards	\$ 14,539	\$ 8,438
Equity based compensation	729	923
Amortization	227	25
Lease liability	392	409
Capitalized research costs	968	707
Accruals and other temporary differences	168	78
Gross Deferred Tax Assets	17,023	10,580
Depreciation	(105)	(46)
Right of use asset	(386)	(388)
Accruals and other temporary differences	-	-
Less Valuation Allowance	(16,532)	(10,146)
Net Deferred Taxes	\$ -	\$ -

As of December 31, 2023, the Company has net operating loss carryforwards of approximately \$58.9 million and \$44.3 million available to reduce future taxable income, if any, for Federal and State income tax purposes, respectively. Approximately \$26 thousand of Federal net operating losses can be carried forward to future years and expire in 2037. The Federal net operating loss generated during the years ended after December 31, 2017, of approximately \$58.8 million can be carried forward indefinitely but is limited to offsetting only 80% of taxable income each year.

The utilization of our net operating loss carryforwards and research tax credit carryovers could be subject to annual limitations under Section 382 and 383 of the Internal Revenue Code of 1986, and similar state tax provisions, due to ownership change limitations that may have occurred previously or that could occur in the future. These ownership changes limit the amount of net operating loss carryforwards and other deferred tax assets that can be utilized to offset future taxable income and tax, respectively. In general, an ownership change, as defined by Section 382 and 383, results from transactions increasing ownership of certain stockholders or public groups in the stock of the corporation by more than 50 percent points over a three-year period. The Company has not conducted an analysis of an ownership change under section 382. To the extent that a study is completed, and an ownership change is deemed to occur, the Company's net operating losses and tax credits could be limited.

A reconciliation of the statutory income tax rates and the Company's effective tax rate for the years ended December 31, 2023 and December 31, 2022 are as follows:

	Year ended December 31, 2023	Year ended December 31, 2022
Tax provision at statutory rate	21.0%	21.0%
State taxes, net of federal benefit	1.7%	0.1%
Permanent items	(0.9)%	(0.2)%
Stock-based compensation	-%	(4.0)%
Change in fair value of warrant liability	-%	1.5%
Deferred tax true-up / return to provision	0.3%	(4.6)%
Tax reform rate change	-%	-%
Increase (decrease) in valuation allowance	(22.0)%	(13.8)%
Income taxes provision (benefit)	-%	-%

CROWN ELECTROKINETICS CORP.
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On December 31, 2023, and December 31, 2022, the Company did not have any significant uncertain tax positions. The Company will recognize interest and penalties related to uncertain tax positions in income tax expense. As of December 31, 2023, and December 31, 2022, the Company had no accrued interest or penalties related to uncertain tax positions and no amounts have been recognized in the Company's statement of operations. The Company does not anticipate a material change to unrecognized tax benefits in the next twelve months.

The Company's tax years from 2020 remain open for examination by the Federal and state taxing authorities. In addition, to the extent that the Company's tax attributes are utilized in future years to offset income or income taxes, those years which generated the tax attributes are open since the Company's inception. The Company is not aware of any examinations that are currently taking place by taxing authorities.

Note 16 – Commitments and Contingencies

Leases Under Crown Electrokinetics Division

Oregon State University

Since March 8, 2016, the Company has entered into a lease agreement with Oregon State University, to lease 1,700 square feet of office and laboratory space located at HP Campus Building 11, 1110 NE Circle Blvd, Corvallis, Oregon. On January 20, 2023, the Company entered into the ninth amendment which reduces the amount of cubicle space from 768 square feet to 288 square feet. Effective January 20, 2023 the quarterly operating expense will be \$41,323 covering all utility and facility tooling costs. The sublease expires June 30, 2025.

Hudson 11601 Wilshire, LLC

Since March 4, 2021, the Company has entered into a lease agreement with Hudson 11601 Wilshire, LLC, to lease 3,500 square feet of office space located in Los Angeles, California. The lease term is 39 months and expires on June 30, 2024.

HP Inc.

Since May 4, 2021, the Company has entered into a lease agreement with HP Inc., to lease 3,694 square feet of office and laboratory space at HP Campus Building 10, located at 1110 NE Circle Blvd, Corvallis, Oregon. On January 26, 2022, the Company amended the lease commencement date to January 26, 2022. The lease term is 60 months and expires on January 31, 2027. The Company may extend for one additional 60 months period, which is not reasonably certain of being exercised.

Pacific N.W. Properties, LLC

Since October 5, 2021, the Company has entered into a lease agreement with Pacific N.W. Properties, LLC to lease 26,963 square feet of warehouse, manufacturing, production, and office space located in Salem Oregon. The lease commencement date is December 9, 2021 and expires on February 28, 2027.

During the second quarter of 2023, the Company determined that it no longer desired to occupy the premises. The Company and the Lessor entered into the Lease Termination Agreement on April 7, 2023.

The Lease Termination Agreement set forth a termination fee of \$0.1 million as well as required the forfeiture of the security deposit of \$0.2 million from the original lease agreement. The Company was required to vacate by April 30, 2023 as well as cover all utilities through that day. In the second quarter of 2023, the Company recorded a gain of \$0.1 million for the difference between lease liability and right-of-use asset, loss of \$0.1 million in payment of termination penalty, and a loss of \$0.2 million of the original security deposit related to the termination agreement.

Leases Under Crown Fiber Optics Division

Burnham 182, LLC

On October 16, 2023, the Company entered into a lease agreement with Burnham 182, LLC, to lease 40,524 square feet of vacant land, including a 1,225 square foot Quonset hut and mobile office, located in Mesa, Arizona. This lease provides yard space with which to store equipment for the Fiber business in Phoenix. The lease term is 36 months and expires on October 31, 2026. The monthly lease expense is as follows:

- Months 1-12 - \$9,321
- Months 13-24 - \$9,726
- Months 25-36 - \$10,131

The Company paid a security deposit totaling \$31,450 at lease inception date.

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NFS Leasing, Inc.

On October 31, 2023, we entered into a lease agreement with NFS Leasing, Inc. to lease certain equipment. The equipment will be physically located at a property which is owned and operated by Burnham 182, LLC located in Mesa, AZ. The lease term is 48 months, and the lease commencement date is November 30, 2023. The monthly lease expense is \$23,060. We will pay a security deposit totaling \$23,060. We have the option to purchase the equipment at fair market value, not to exceed 25% of the total sale price or extend the monthly payments on a month-to-month basis or for a fixed term at a mutually agreed to price and term, upon the expiration of the lease.

The components of consolidated lease expense were as follows (in thousands):

	Year Ended December 31, 2023	Year Ended December 31, 2022
Operating leases:		
Operating lease cost	\$ 580	\$ 760
Variable lease cost	100	50
Operating lease expense	<u>\$ 680</u>	<u>\$ 810</u>

Supplemental cash flow information related to the leases were as follows:

	Year Ended December 31, 2023	Year Ended December 31, 2022
Operating cash flows - operating leases	\$ 686	\$ 719
Right-of-use assets obtained in exchange for operating lease liabilities	\$ 1,168	\$ 2,336
Weighted-average remaining lease term – operating leases (in years)	2.8	3.3
Weighted-average discount rate – operating leases	12.0%	12.0%

As of December 31, 2023, future minimum payments are as follows (in thousands):

	Operating Leases
Year ended December 31, 2024	\$ 655
Year ended December 31, 2025	578
Year ended December 31, 2026	478
Year ended December 31, 2027	240
Year ended December 31, 2028, and thereafter	-
Total	1,951
Less present value discount	(224)
Operating lease liabilities	<u>\$ 1,727</u>

During the year ended December 31, 2023 and 2022, the Company recognized rent expense of approximately \$0.7 million and \$0.8 million, respectively.

As of December 31, 2023, the Company had operating lease liabilities of approximately \$1.7 million and right-of-use assets of approximately \$1.7 million, which are included in the consolidated balance sheet.

Note 17 – Segment Reporting

Crown Electrokinetics Corp. operates in two segments: the Electrokinetic Film Technology division and the Fiber Optics division.

Electrokinetic Film Technology Division: This division focuses on developing and selling optical switching films that can be embedded between sheets of glass or applied to the surface of glass or other rigid substrates like acrylic, to electronically control opacity. The technology, initially developed by Hewlett-Packard, enables a transition between clear and dark states in seconds. It is aimed at various applications including commercial buildings, automotive sunroofs, and residential windows. Crown partners with leading glass and film manufacturers for the mass production and distribution of its DynamicTint product. This segment also includes Smart Window Inserts, designed for retrofitting in commercial and residential settings, offering dynamic tinting along with additional insulation and soundproofing.

Fiber Optics Division: Crown's involvement in fiber optics is relatively recent, marked by the acquisition of Amerigen 7 LLC's assets, which was focused on the construction of 5G fiber optics infrastructure. Under the Crown Fiber Optics Corp. subsidiary, the company provides contracting services to the fiber optics and telecommunications infrastructure industry. Services range from program management and engineering to the construction of aerial and underground fiber networks. This division aims to capitalize on the demand for enhanced telecommunications bandwidth, with efforts to expand through selective market share increase, potential acquisitions, and leveraging new equipment like micro trenchers to gain a strategic advantage.

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Our CODM does not evaluate operating segments using asset or liability information.

The following table presents a comparative summary of the Company's revenues and gross profit (loss) by reportable segment for the periods presented (in thousands):

	Year Ended December 31, 2023	Year Ended December 31, 2022
Segment Revenue		
Film	\$ -	\$ -
Fiber Optics ^(a)	153	-
Total Revenue	153	-

(a) The fiber optics segment commenced operations in 2023, and as such segment information did not exist as of December 31, 2022.

Operations by reportable segment for the year ended December 31, 2023, are as follows (in thousands):

	Year ended December 31, 2023			
	Film	Fiber Optics	Corporate and Other ^(a)	Total
Total Revenue	\$ -	\$ 153	\$ -	\$ 153
Cost of revenue, excluding depreciation and amortization	-	(886)	-	(886)
Gross profit (loss)	-	(733)	-	(733)
Depreciation and amortization	(377)	(356)	-	(733)
Research and development	(2,231)	-	-	(2,231)
Selling, general and administrative	-	(4,066)	(10,896)	(14,962)
Goodwill impairment charge	-	(649)	-	(649)
Loss from operations	<u>(2,608)</u>	<u>(5,804)</u>	<u>(10,896)</u>	<u>(19,308)</u>
Other income (expense):				
Interest expense	-	(14)	(9,403)	(9,417)
Loss on extinguishment of warrant liability	-	-	(504)	(504)
Loss on extinguishment of debt	-	-	(2,345)	(2,345)
Gain on issuance of convertible notes	-	-	64	64
Change in fair value of warrants	-	-	10,458	10,458
Change in fair value of notes	-	-	(7,040)	(7,040)
Change in fair value of derivative liability	-	-	401	401
Other expense	-	-	(1,293)	(1,293)
Total other income (expense)	<u>-</u>	<u>(14)</u>	<u>(9,662)</u>	<u>(9,676)</u>
Loss before income taxes	<u>\$ (2,608)</u>	<u>\$ (5,818)</u>	<u>\$ (20,558)</u>	<u>\$ (28,984)</u>

(a) The Corporate and Other are expenses that are not currently allocated between our film and fiber divisions.

The following table presents long-lived assets by segment (in thousands):

	Year Ended December 31, 2023	Year Ended December 31, 2022
Film Segment	\$ 4,372	\$ 5,000
Fiber Optics Segment	\$ 3,146	\$ -
Other assets ^(a)	\$ 139	\$ 180

(a) "Other assets" primarily includes security deposits made with respect to the Company's lease agreements.

Note 18 – Subsequent Events

In the first quarter of 2024, as part of its strategy to improve liquidity and support continuous operations, the Company drew upon its equity line of credit (ELOC) agreement to issue and sell shares. Through this action, the Company issued 18,676,377 shares of common stock, resulting in gross proceeds of approximately \$1.4 million. After accounting for commissions and expenses totaling \$0.1 million, the net proceeds from these transactions amounted to approximately \$1.3 million. These shares were issued at a weighted average price of \$0.09 per share.

**DESCRIPTION OF THE REGISTRANT'S SECURITIES
REGISTERED PURSUANT TO SECTION 12
OF THE SECURITIES EXCHANGE ACT OF 1934**

As of December 31, 2023, Crown Electrokinetics Corp. (“Corp,” “we,” “our,” “us,” and the “Company”) had four classes of securities registered under Section 12 of the Securities Exchange Act of 1934, as amended (the “Exchange Act”):

1. Common stock, par value \$0.001 per share (“Common Stock”)
2. Preferred stock, par value \$0.001 per share (“Preferred Stock”)
3. Debt Securities
4. Warrants
5. Rights
6. Units

The following summarizes information concerning our securities and does not purport to be complete and is qualified in its entirety by reference to the Company’s Certificate of Incorporation, as amended, our Bylaws and certain provisions of Delaware law. For a complete description, you are encouraged to read our Certificate of Incorporation, as amended and our Bylaws, which have been filed as exhibits to our most recent Annual Report on Form 10-K.

Authorized Capital Stock

Our authorized capital stock consists of 800,000,000 shares of Common Stock, par value \$0.0001 per share, and 50,000,000 shares of preferred stock, par value \$0.0001 per share, including 300 shares of Series A Preferred Stock, 1,500 shares of Series B Preferred stock, 600,000 shares of Series C Preferred Stock, 7,000 shares of Series D Preferred Stock, 77,000 shares of Series E Preferred Stock, 9,073 shares of Series F Preferred Stock, 9,052 shares of Series F-1 Preferred Stock, and 9,052 of Series F-2 Preferred Stock.

Common Stock

Our Common Stock is traded on Nasdaq under the symbol “CRKN.” The registrar and transfer agent for our Common Stock is VStock Transfer, LLC, located at 18 Lafayette Place Woodmere, New York 11598.

Voting, Dividend and Other Rights. Each outstanding share of Common Stock entitles the holder to one vote on all matters presented to the shareholders for a vote. Holders of shares of Common Stock have no cumulative voting, preemptive, subscription or conversion rights. All shares of Common Stock to be issued pursuant to this registration statement will be duly authorized, fully paid and non-assessable. Our Board of Directors determines if and when distributions may be paid out of legally available funds to the holders. To date, we have not declared any dividends with respect to our Common Stock. Our declaration of any cash dividends in the future will depend on our Board of Directors’ determination as to whether, in light of our earnings, financial position, cash requirements and other relevant factors existing at the time, it appears advisable to do so. We do not anticipate paying cash dividends on the Common Stock in the foreseeable future.

Rights Upon Liquidation. Upon liquidation, subject to the right of any holders of the preferred stock to receive preferential distributions, each outstanding share of Common Stock may participate pro rata in the assets remaining after payment of, or adequate provision for, all our known debts and liabilities.

Majority Voting. The holders of a majority of the outstanding shares of Common Stock constitute a quorum at any meeting of the shareholders. A plurality of the votes cast at a meeting of shareholders elects our directors. The Common Stock does not have cumulative voting rights. Therefore, the holders of a majority of the outstanding shares of Common Stock can elect all of our directors. In general, a majority of the votes cast at a meeting of shareholders must authorize shareholder actions other than the election of directors. Most amendments to our certificate of incorporation require the vote of the holders of a majority of all outstanding voting shares.

Preferred Stock

Authority of Board of Directors to Create Series and Fix Rights. Under our certificate of incorporation, as amended, our Board of Directors can issue up to 50,000,000 shares of preferred stock from time to time in one or more series. The Board of Directors is authorized to fix by resolution as to any series the designation and number of shares of the series, the voting rights, the dividend rights, the redemption price, the amount payable upon liquidation or dissolution, the conversion rights, and any other designations, preferences or special rights or restrictions as may be permitted by law. Unless the nature of a particular transaction and the rules of law applicable thereto require such approval, our Board of Directors has the authority to issue these shares of preferred stock without shareholder approval.

Series A Preferred Stock and Series B Preferred Stock

On January 22, 2021, we filed Amended and Restated Certificates of Designation, Preferences and Rights to create our Series A Preferred Stock and Series B Preferred Stock (collectively, “Preferred Stock”). The preferences, rights and terms of the Series A Preferred Stock and Series B Preferred Stock are identical except for the conversion price associated with each.

Voluntary Conversion. The Preferred Stock is convertible at any time at the option of the holder thereof, into that number of shares of Common Stock determined by dividing the Stated Value of such Preferred Stock (which is \$1,000) by the conversion price. The current conversion price is \$79.80 for the Series A Preferred Stock and \$42.60 for the Series B Preferred Stock. The conversion price shall be adjusted in the event that we (i) pay a stock dividend or otherwise make a distribution or distributions payable in shares of our Common Stock, (ii) subdivide outstanding shares of our Common Stock into a larger number of shares, (iii) combine (including by way of a reverse stock split) outstanding shares of our Common Stock into a small number of shares, or (iv) issue, in the event of a reclassification of shares of our Common Stock, any shares of our capital stock.

Mandatory Conversion. If (i) the closing price of our Common Stock exceeds 300% of the then-current conversion price for five consecutive trading days, (ii) the daily average trading volume during thirty consecutive trading days was in excess of \$100,000 per trading day, (iii) our Common Stock is DWAC eligible and not subject to a “DTC chill” and (iv) the shares of our Common Stock are freely tradeable pursuant to Rule 144 of the Securities Act, we have the right to require the holders of Preferred Stock to convert all remaining shares of Preferred Stock into shares of Common Stock.

Voting, Dividend and Other Rights. Holders of Preferred Stock shall have no voting rights. Each outstanding share of Preferred Stock entitles the holder, from and after the second anniversary of the issuance date thereof, to quarterly dividends at an annual rate of 8% of the Stated Value per share of Preferred Stock (subject to adjustment), payable in either cash or shares of Common Stock at our discretion.

Rights Upon Liquidation. In the event of any liquidation, dissolution or winding-up of the company, whether voluntary or involuntary, the holders of Preferred Stock shall be entitled to receive out of our assets an amount equal to the Stated Value for each share of Preferred Stock before any distribution or payment shall be made to the holders of our Common Stock. Thereafter, the holders of Preferred Stock shall be entitled to receive the same amount that a holder of our Common Stock is entitled to receive if the shares of Preferred Stock were fully converted into shares of our Common Stock, which amounts are to be paid *pari passu* with holders of our Common Stock, Series C Preferred Stock and Series D Preferred Stock.

Series C Preferred Stock

On March 31, 2021, we filed Certificate of Designation, Preferences and Rights to create our Series C Preferred Stock (“Series C Preferred Stock”). The preferences, rights and terms of the Series C Preferred Stock are as follows.

Voluntary Conversion. The Series C Preferred Stock is convertible at any time at the option of the holder thereof, into that number of shares of Common Stock determined by dividing the Stated Value of such Series C Preferred Stock (which is \$1.00) by the conversion price. The conversion price is \$53.58 for the Series C Preferred Stock. The conversion price shall be adjusted in the event that we (i) pay a stock dividend or otherwise make a distribution or distributions payable in shares of our Common Stock, (ii) subdivide outstanding shares of our Common Stock into a larger number of shares, (iii) combine (including by way of a reverse stock split) outstanding shares of our Common Stock into a small number of shares, or (iv) issue, in the event of a reclassification of shares of our Common Stock, any shares of our capital stock.

Mandatory Conversion. If (i) the closing price of our Common Stock exceeds 300% of the then-current conversion price for five consecutive trading days, (ii) the daily average trading volume during thirty consecutive trading days was in excess of \$100,000 per trading day, (iii) our Common Stock is DWAC eligible and not subject to a “DTC chill” and (iv) the shares of our Common Stock are freely tradeable pursuant to Rule 144 of the Securities Act, we have the right to require the holders of Series C Preferred Stock to convert all remaining shares of Series C Preferred Stock into shares of Common Stock.

Voting, Dividend and Other Rights. Holders of Series C Preferred Stock shall have no voting rights. Each outstanding share of Series C Preferred Stock entitles the holder, from and after the second anniversary of the issuance date thereof, to quarterly dividends at an annual rate of 8% of the Stated Value per share of Series C Preferred Stock (subject to adjustment), payable in either cash or shares of Common Stock at our discretion.

Rights Upon Liquidation. In the event of any liquidation, dissolution or winding-up of the company, whether voluntary or involuntary, the holders of Series C Preferred Stock shall be entitled to receive out of our assets an amount equal to the Stated Value for each share of Series C Preferred Stock before any distribution or payment shall be made to the holders of our Common Stock. Thereafter, the holders of Series C Preferred Stock shall be entitled to receive the same amount that a holder of our Common Stock is entitled to receive if the shares of Series C Preferred Stock were fully converted into shares of our Common Stock, which amounts are to be paid *pari passu* with holders of our Common Stock, Series A Preferred Stock, Series B Preferred Stock and Series D Preferred Stock.

Series D Preferred Stock

On July 8, 2022, we filed the Certificate of Designations, Preferences and Rights (the “Series D Certificate of Designations”) to create our Series D Preferred Stock (“Series D Preferred Stock”). On February 1, 2023, we filed Amendment No. 1 to the Series D Certificate of Designations. The preferences, rights and terms of the Series D Preferred Stock, as amended, are as follows.

Voluntary Conversion. The Series D Preferred Stock is convertible at any time at the option of the holder thereof, into that number of shares of Common Stock determined by dividing the Stated Value of such Series D Preferred Stock (which is \$1,000) by the conversion price. The conversion price is \$30.00 for the Series D Preferred Stock. The conversion price shall be adjusted in the event that we (i) pay a stock dividend or otherwise make a distribution or distributions payable in shares of our Common Stock, (ii) subdivide outstanding shares of our Common Stock into a larger number of shares, (iii) combine (including by way of a reverse stock split) outstanding shares of our Common Stock into a small number of shares, or (iv) issue, in the event of a reclassification of shares of our Common Stock, any shares of our capital stock.

Voting, Dividend and Other Rights. Holders of Series D Preferred Stock shall have no voting rights. Each outstanding share of Series D Preferred Stock entitles the holder to cumulative dividends at an annual rate of 12% of the Stated Value per share of Series D Preferred Stock (subject to adjustment), payable in shares of Common Stock at our discretion.

Rights Upon Liquidation. In the event of any liquidation, dissolution or winding-up of the company, whether voluntary or involuntary, the holders of Series D Preferred Stock shall be entitled to receive out of our assets an amount equal to the Stated Value for each share of Series D Preferred Stock before any distribution or payment shall be made to the holders of our Common Stock. Thereafter, the holders of Series D Preferred Stock shall be entitled to receive the same amount that a holder of our Common Stock is entitled to receive if the shares of Series D Preferred Stock were fully converted into shares of our Common Stock, which amounts are to be paid *pari passu* with holders of our Common Stock, Series A Preferred Stock, Series B Preferred Stock and Series C Preferred Stock.

Series E Preferred Stock

On February 1, 2023, we filed the Certificate of Designations, Preferences and Rights to create our Series E Preferred Stock. The preferences, rights and terms of the Series E Preferred Stock are as follows.

Voluntary Conversion. Each share of Series E Preferred Stock is convertible at any time at the option of the holder thereof into 1,000 shares of Common Stock, subject to adjustment for stock splits, stock combinations and the like.

Voting, Dividend and Other Rights. Holders of Series E Preferred Stock shall have no voting rights. Each outstanding share of Series E Preferred Stock entitles the holder to receive dividends on an as converted basis together with holders of Common Stock.

Rights Upon Liquidation. In the event of any liquidation, dissolution or winding-up of the company, whether voluntary or involuntary, the holders of Series E Preferred Stock shall be entitled to receive out of our assets the same amount that a holder of Common Stock would receive if the Series E Preferred Stock were fully converted (disregarding any conversion limitations), which amounts are to be paid *pari passu* with holders of our Common Stock, Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock and Series D Preferred Stock.

Series F Preferred Stock

On June 5, 2023, we filed a Certificate of Designations, Preferences and Rights of the Series F Preferred Stock with the Secretary of State of the State of Delaware (the "Series F COD"). The preferences, rights and terms of the Series F Preferred Stock are as follows.

Designation, Amount, and Par Value. The number of shares of Series F Preferred Stock designated is 9,073. The shares of Series F Preferred Stock have a par value of \$0.0001 per share and a stated value of \$1,000 per share.

Conversion Price. The Series F Preferred Stock will be convertible into shares of Common Stock at an initial conversion price of \$8.87 (subject to adjustment pursuant to the Certificate of Designation) (the "Conversion Price").

Dividends. The Series F Preferred Stock will accrue dividends at a rate of 10% per annum (the "Series F Dividend Rate") payable on the first calendar day of each month in shares of Common Stock, cash, or a combination of the two, at our option. If any shares of Series F Preferred Stock remain outstanding on the eighteen (18) month anniversary of the Initial Issuance Date (as defined in the Series F COD), the Series F Dividend Rate will increase by thirty percent (30%) on the first calendar day of each quarter until no shares of Series F Preferred Stock remain outstanding.

Liquidation. In the event of a Liquidation Event (as defined in the Series F COD), the holders the Series F Preferred Stock shall be entitled to receive in cash out of the assets of the company, before any amount shall be paid to the holders of any other shares of capital stock of the company, equal to the sum of (i) the Black Scholes Value (as defined in the Series F Warrants) with respect to the outstanding portion of all warrants held by such holder of Series F Preferred Stock (without regard to any limitations on the exercise thereof) as of the date of such event and (ii) the greater of (A) 125% of the Series F Conversion Amount (as defined below) on the date of such payment and (B) the amount per share such holder of Series F Preferred Stock would receive if they converted such share of Series F Preferred Stock into Common Stock immediately prior to the date of such payment

Company Redemption. We may redeem all, or any portion, of the Series F Preferred Stock for cash, at a price per share of Series F Preferred Stock equal to the greater of (i) the sum of the stated value plus any declared and unpaid dividends on such share of Series F Preferred Stock (the "Series F Conversion Amount"), and (ii) solely if an Equity Conditions Failure (as defined in the Series F COD) exists, the product of (1) the Series F Conversion Amount divided by the Series F Conversion Price with respect to the amount being redeemed by us multiplied by (2) the greatest Closing Sale Price (as defined in the Series F COD) of the Common Stock on any trading day during the period commencing on the date immediately preceding the notice given by us of such redemption and ending on the trading day immediately prior to the date we make the entire payment required to be made for such redemption.

Maximum Percentage. Holders of Series F Preferred Stock are prohibited from converting shares of Series F Preferred Stock into shares of Common Stock if, as a result of such conversion, such holder, together with its affiliates, would beneficially own more than a specified percentage (to be initially set at 4.99% and thereafter adjusted by the holder to a number between 4.99% and 9.99%) (the "Series F Maximum Percentage") of the total number of shares of Common Stock issued and outstanding immediately after giving effect to such conversion.

Voting Rights. The holders of Series F Preferred Stock shall have the right to vote with the holders of shares of Common Stock, voting together as one class, with a number of votes per share of Series F Preferred Stock as is equal to the number of shares of Common Stock into which it is the Series F Preferred Stock is then convertible (subject to the Series F Maximum Percentage) on all matters in which the holders of Series F Preferred Stock are permitted to vote with the class of shares of Common Stock pursuant to applicable law. Holders of Series F Preferred Stock are also entitled to vote as a class as expressly provided in the Series F COD and where required pursuant to applicable law.

Series F-1 Preferred Stock

On June 13, 2023, we filed a Certificate of Designations, Preferences and Rights of the Series F-1 Preferred Stock with the Secretary of State of the State of Delaware (the "Series F-1 COD"). The preferences, rights and terms of the Series F-1 Preferred Stock are as follows.

Designation, Amount, and Par Value. The number of shares of Series F-1 Preferred Stock designated is 9,052. The shares of Series F-1 Preferred Stock have a par value of \$0.0001 per share and a stated value of \$1,000 per share.

Conversion Price. The Series F-1 Preferred Stock will be convertible into shares of Common Stock at an initial conversion price of \$8.99 (subject to adjustment pursuant to the Series F-1 COD) (the "F-1 Conversion Price").

Dividends. The Series F-1 Preferred Stock will accrue dividends at a rate of 10% per annum (the "F-1 Dividend Rate") payable on the first calendar day of each month in shares of Common Stock, cash, or a combination of the two, at our option. If any shares of Series F-1 Preferred Stock remain outstanding on the eighteen (18) month anniversary of the Initial Issuance Date (as defined in the Series F-1 COD), the F-1 Dividend Rate will increase by thirty percent (30%) on the first calendar day of each quarter until no shares of Series F-1 Preferred Stock remain outstanding.

Liquidation. In the event of a Liquidation Event (as defined in the Series F-1 COD), the holders the Series F-1 Preferred Stock shall be entitled to receive in cash out of the assets of the company, before any amount shall be paid to the holders of any other shares of capital stock of the company, equal to the sum of (i) the Black Scholes Value (as defined in the Series F-1 Warrants) with respect to the outstanding portion of all Series F-1 Warrants held by such holder of Series F-1 Preferred Stock (without regard to any limitations on the exercise thereof) as of the date of such event and (ii) the greater of (A) 125% of the F-1 Conversion Amount (as defined below) on the date of such payment and (B) the amount per share such holder of Series F-1 Preferred Stock would receive if they converted such share of Series F-1 Preferred Stock into Common Stock immediately prior to the date of such payment

Company Redemption. We may redeem all, or any portion, of the Series F-1 Preferred Stock for cash, at a price per share of Series F-1 Preferred Stock equal to the greater of (i) the sum of the stated value plus any declared and unpaid dividends on such share of Series F-1 Preferred Stock (the "F-1 Conversion Amount"), and (ii) solely if an Equity Conditions Failure (as defined in the Series F-1 COD) exists, the product of (1) the F-1 Conversion Amount divided by the F-1 Conversion Price with respect to the amount being redeemed by us multiplied by (2) the greatest Closing Sale Price (as defined in the Series F-1 COD) of the Common Stock on any trading day during the period commencing on the date immediately preceding the notice given by us of such redemption and ending on the trading day immediately prior to the date we make the entire payment required to be made for such redemption.

Maximum Percentage. Holders of Series F-1 Preferred Stock are prohibited from converting shares of Series F-1 Preferred Stock into shares of Common Stock if, as a result of such conversion, such holder, together with its affiliates, would beneficially own more than a specified percentage (to be initially set at 4.99% and thereafter adjusted by the holder to a number between 4.99% and 9.99%) (the "F-1 Maximum Percentage") of the total number of shares of Common Stock issued and outstanding immediately after giving effect to such conversion.

Voting Rights. The holders of Series F-1 Preferred Stock shall have the right to vote with the holders of shares of Common Stock, voting together as one class, with a number of votes per share of Series F-1 Preferred Stock as is equal to the number of shares of Common Stock into which it is the Series F-1 Preferred Stock is then convertible (subject to the F-1 Maximum Percentage) on all matters in which the holders of Series F-1 Preferred Stock are permitted to vote with the class of shares of Common Stock pursuant to applicable law. Holders of Series F-1 Preferred Stock are also entitled to vote as a class as expressly provided in the Series F-1 COD and where required pursuant to applicable law.

Series F-2 Preferred Stock

On June 14, 2023, we filed a Certificate of Designations, Preferences and Rights of the Series F-2 Preferred Stock with the Secretary of State of the State of Delaware (the "Series F-2 COD"). The preferences, rights and terms of the Series F-2 Preferred Stock are as follows.

Designation, Amount, and Par Value. The number of shares of Series F-2 Preferred Stock designated is 9,052. The shares of Series F-2 Preferred Stock have a par value of \$0.0001 per share and a stated value of \$1,000 per share.

Conversion Price. The Series F-2 Preferred Stock will be convertible into shares of Common Stock at an initial conversion price of \$9.23 (subject to adjustment pursuant to the Series F-2 COD) (the "F-2 Conversion Price").

Dividends. The Series F-2 Preferred Stock will accrue dividends at a rate of 10% per annum (the "F-2 Dividend Rate") payable on the first calendar day of each month in shares of Common Stock, cash, or a combination of the two, at our option. If any shares of Series F-2 Preferred Stock remain outstanding on the eighteen (18) month anniversary of the Initial Issuance Date (as defined in the Series F-2 COD), the F-2 Dividend Rate will increase by thirty percent (30%) on the first calendar day of each quarter until no shares of Series F-2 Preferred Stock remain outstanding.

Liquidation. In the event of a Liquidation Event (as defined in the Series F-2 COD), the holders the Series F-2 Preferred Stock shall be entitled to receive in cash out of the assets of the company, before any amount shall be paid to the holders of any other shares of capital stock of the company, equal to the sum of (i) the Black Scholes Value (as defined in the Series F-2 Warrants) with respect to the outstanding portion of all Series F-2 Warrants held by such holder of Series F-2 Preferred Stock (without regard to any limitations on the exercise thereof) as of the date of such event and (ii) the greater of (A) 125% of the F-2 Conversion Amount (as defined below) on the date of such payment and (B) the amount per share such holder of Series F-2 Preferred Stock would receive if they converted such share of Series F-2 Preferred Stock into Common Stock immediately prior to the date of such payment

Company Redemption. We may redeem all, or any portion, of the Series F-2 Preferred Stock for cash, at a price per share of Series F-2 Preferred Stock equal to the greater of (i) the sum of the stated value plus any declared and unpaid dividends on such share of Series F-2 Preferred Stock (the "F-2 Conversion Amount"), and (ii) solely if an Equity Conditions Failure (as defined in the Series F-2 COD) exists, the product of (1) the F-2 Conversion Amount divided by the F-2 Conversion Price with respect to the amount being redeemed by us multiplied by (2) the greatest Closing Sale Price (as defined in the Series F-2 COD) of the Common Stock on any trading day during the period commencing on the date immediately preceding the notice given by us of such redemption and ending on the trading day immediately prior to the date we make the entire payment required to be made for such redemption.

Maximum Percentage. Holders of Series F-2 Preferred Stock are prohibited from converting shares of Series F-2 Preferred Stock into shares of Common Stock if, as a result of such conversion, such holder, together with its affiliates, would beneficially own more than a specified percentage (to be initially set at 4.99% and thereafter adjusted by the holder to a number between 4.99% and 9.99%) (the "F-2 Maximum Percentage") of the total number of shares of Common Stock issued and outstanding immediately after giving effect to such conversion.

Voting Rights . The holders of Series F-2 Preferred Stock shall have the right to vote with the holders of shares of Common Stock, voting together as one class, with a number of votes per share of Series F-2 Preferred Stock as is equal to the number of shares of Common Stock into which it is the Series F-2 Preferred Stock is then convertible (subject to the F-2 Maximum Percentage) on all matters in which the holders of Series F-2 Preferred Stock are permitted to vote with the class of shares of Common Stock pursuant to applicable law. Holders of Series F-2 Preferred Stock are also entitled to vote as a class as expressly provided in the Series F-2 COD and where required pursuant to applicable law.

Debt Securities

We may issue debt securities, in one or more series, as either senior or subordinated debt or as senior or subordinated convertible debt. When we offer to sell debt securities, we will describe the specific terms of any debt securities offered from time to time in a supplement to this prospectus, which may supplement or change the terms outlined below. Senior debt securities will be issued under one or more senior indentures, dated as of a date prior to such issuance, between us and a trustee to be named in a prospectus supplement, as amended or supplemented from time to time. Any subordinated debt securities will be issued under one or more subordinated indentures, dated as of a date prior to such issuance, between us and a trustee to be named in a prospectus supplement, as amended or supplemented from time to time. The indentures will be subject to and governed by the Trust Indenture Act of 1939, as amended.

We will describe in the applicable prospectus supplement the terms of the series of debt securities being offered, including:

- the title;
- whether or not such debt securities are guaranteed;
- the principal amount being offered, and if a series, the total amount authorized and the total amount outstanding;
- any limit on the amount that may be issued;
- whether or not we will issue the series of debt securities in global form, the terms and who the depositary will be;
- the maturity date;
- the annual interest rate, which may be fixed or variable, or the method for determining the rate and the date interest will begin to accrue, the dates interest will be payable and the regular record dates for interest payment dates or the method for determining such dates;
- whether or not the debt securities will be secured or unsecured, and the terms of any secured debt;
- the terms of the subordination of any series of subordinated debt;
- the place where payments will be payable;
- restrictions on transfer, sale or other assignment, if any;
- our right, if any, to defer payment of interest and the maximum length of any such deferral period;
- the date, if any, after which, and the price at which, we may, at our option, redeem the series of debt securities pursuant to any optional or provisional redemption provisions and the terms of those redemption provisions;
- the date, if any, on which, and the price at which we are obligated, pursuant to any mandatory sinking fund or analogous fund provisions or otherwise, to redeem, or at the holder's option to purchase, the series of debt securities and the currency or currency unit in which the debt securities are payable;

- any restrictions our ability to:
 - incur additional indebtedness;
 - issue additional securities;
 - create liens;
 - pay dividends and make distributions in respect of our capital stock;
 - redeem capital stock;
 - make investments or other restricted payments;
 - sell or otherwise dispose of assets;
 - enter into sale-leaseback transactions;
 - engage in transactions with stockholders and affiliates; or
 - effect a consolidation or merger;
- whether the indenture will require us to maintain any interest coverage, fixed charge, cash flow-based, asset-based or other financial ratios;
- a discussion of any material United States federal income tax considerations applicable to the debt securities;
- information describing any book-entry features;
- provisions for a sinking fund purchase or other analogous fund, if any;
- the denominations in which we will issue the series of debt securities;
- the currency of payment of debt securities if other than U.S. dollars and the manner of determining the equivalent amount in U.S. dollars; and
- any other specific terms, preferences, rights or limitations of, or restrictions on, the debt securities, including any additional events of default or covenants provided with respect to the debt securities, and any terms that may be required by us or advisable under applicable laws or regulations.

Conversion or Exchange Rights

We will set forth in the prospectus supplement the terms on which a series of debt securities may be convertible into or exchangeable for our common stock or our other securities. We will include provisions as to whether conversion or exchange is mandatory, at the option of the holder or at our option. We may include provisions pursuant to which the number of shares of our common stock or our other securities that the holders of the series of debt securities receive would be subject to adjustment.

Warrants

We may issue warrants for the purchase of common stock, preferred stock and/or debt securities in one or more series. We may issue warrants independently or together with common stock, preferred stock and/or debt securities, and the warrants may be attached to or separate from these securities. While the terms summarized below will apply generally to any warrants that we may offer, we will describe the particular terms of any series of warrants in more detail in the applicable prospectus supplement. The terms of any warrants offered under a prospectus supplement may differ from the terms described below.

General

We will describe in the applicable prospectus supplement the terms of the series of warrants being offered, including:

- the offering price and aggregate number of warrants offered;
- the currency for which the warrants may be purchased;
- if applicable, the designation and terms of the securities with which the warrants are issued and the number of warrants issued with each such security or each principal amount of such security;
- if applicable, the date on and after which the warrants and the related securities will be separately transferable;
- in the case of warrants to purchase debt securities, the principal amount of debt securities purchasable upon exercise of one warrant and the price at, and currency in which, this principal amount of debt securities may be purchased upon such exercise;
- in the case of warrants to purchase common stock or preferred stock, the number of shares of common stock or preferred stock, as the case may be, purchasable upon the exercise of one warrant and the price at which these shares may be purchased upon such exercise;
- the effect of any merger, consolidation, sale or other disposition of our business on the warrant agreements and the warrants;
- the terms of any rights to redeem or call the warrants;
- any provisions for changes to or adjustments in the exercise price or number of securities issuable upon exercise of the warrants;
- the dates on which the right to exercise the warrants will commence and expire;
- the manner in which the warrant agreements and warrants may be modified;
- a discussion of any material or special United States federal income tax consequences of holding or exercising the warrants;
- the terms of the securities issuable upon exercise of the warrants; and
- any other specific terms, preferences, rights or limitations of or restrictions on the warrants.

Before exercising their warrants, holders of warrants will not have any of the rights of holders of the securities purchasable upon such exercise, including:

- in the case of warrants to purchase debt securities, the right to receive payments of principal of, or premium, if any, or interest on, the debt securities purchasable upon exercise or to enforce covenants in the applicable indenture; or
- in the case of warrants to purchase common stock or preferred stock, the right to receive dividends, if any, or payments upon our liquidation, dissolution or winding up or to exercise voting rights, if any.

Exercise of Warrants

Each warrant will entitle the holder to purchase the securities that we specify in the applicable prospectus supplement at the exercise price that we describe in the applicable prospectus supplement. Holders of the warrants may exercise the warrants at any time up to the specified time on the expiration date that we set forth in the applicable prospectus supplement. After the close of business on the expiration date, unexercised warrants will become void.

Holders of the warrants may exercise the warrants by delivering the warrant certificate representing the warrants to be exercised together with specified information, and paying the required amount to the warrant agent in immediately available funds, as provided in the applicable prospectus supplement. We will set forth on the reverse side of the warrant certificate and in the applicable prospectus supplement the information that the holder of the warrant will be required to deliver to the warrant agent.

If any warrants represented by the warrant certificate are not exercised, we will issue a new warrant certificate for the remaining amount of warrants. If we so indicate in the applicable prospectus supplement, holders of the warrants may surrender securities as all or part of the exercise price for warrants.

Rights

We may issue rights to purchase our common stock or preferred stock, in one or more series. Rights may be issued independently or together with any other offered security and may or may not be transferable by the person purchasing or receiving the subscription rights. In connection with any rights offering to our stockholders, we may enter into a standby underwriting arrangement with one or more underwriters pursuant to which such underwriters will purchase any offered securities remaining unsubscribed after such rights offering. In connection with a rights offering to our stockholders, we will distribute certificates evidencing the rights and a prospectus supplement to our stockholders on the record date that we set for receiving rights in such rights offering. The applicable prospectus supplement or free writing prospectus will describe the following terms of rights in respect of which this prospectus is being delivered:

- the title of such rights;
- the securities for which such rights are exercisable;
- the exercise price for such rights;
- the date of determining the security holders entitled to the rights distribution;
- the number of such rights issued to each security holder;
- the extent to which such rights are transferable;
- if applicable, a discussion of the material United States federal income tax considerations applicable to the issuance or exercise of such rights;
- the date on which the right to exercise such rights shall commence, and the date on which such rights shall expire (subject to any extension);
- the conditions to completion of the rights offering;
- any provisions for changes to or adjustments in the exercise price or number of securities issuable upon exercise of the rights;
- the extent to which such rights include an over-subscription privilege with respect to unsubscribed securities;
- if applicable, the material terms of any standby underwriting or other purchase arrangement that we may enter into in connection with the rights offering; and
- any other terms of such rights, including terms, procedures and limitations relating to the exchange and exercise of such rights.

Each right will entitle the holder thereof the right to purchase for cash such amount of shares of common stock or preferred stock, or any combination thereof, at such exercise price as shall in each case be set forth in, or be determinable as set forth in, the prospectus supplement relating to the rights offered thereby. Rights may be exercised at any time up to the close of business on the expiration date for such rights set forth in the prospectus supplement. After the close of business on the expiration date, all unexercised rights will become void. Rights may be exercised as set forth in the prospectus supplement relating to the rights offered thereby. Upon receipt of payment and the proper completion and due execution of the rights certificate at the office of the rights agent, if any, or any other office indicated in the prospectus supplement, we will forward, as soon as practicable, the shares of common stock and/or preferred stock purchasable upon such exercise. We may determine to offer any unsubscribed offered securities directly to persons other than stockholders, to or through agents, underwriters or dealers or through a combination of such methods, including pursuant to standby underwriting arrangements, as set forth in the applicable prospectus supplement.

Units

As specified in the applicable prospectus supplement, we may issue, in one more series, units consisting of common stock, preferred stock, debt securities and/or warrants or rights for the purchase of common stock, preferred stock and/or debt securities in any combination. The applicable prospectus supplement will describe:

- the securities comprising the units, including whether and under what circumstances the securities comprising the units may be separately traded;
- the terms and conditions applicable to the units, including a description of the terms of any applicable unit agreement governing the units; and
- a description of the provisions for the payment, settlement, transfer or exchange of the units.

Anti-Takeover Effects of Certain Provisions of Our Articles of Incorporation, as Amended, and Our Bylaws

Our certificate of incorporation and our Bylaws contain certain provisions that could have the effect of delaying, deferring or discouraging another party from acquiring control of us. These provisions and certain provisions of Delaware law, which are summarized below, may discourage coercive takeover practices and inadequate takeover bids. These provisions also may encourage persons seeking to acquire control of us to first negotiate with our Board of Directors. We believe that the benefits of increased protection of our potential ability to negotiate with an unfriendly or unsolicited acquirer outweigh the disadvantages of discouraging a proposal to acquire us because negotiation of these proposals could result in an improvement of their terms.

Undesignated Preferred Stock. As discussed above, our Board of Directors has the ability to issue preferred stock with voting or other rights or preferences that could impede the success of any attempt to change control of us. These and other provisions may have the effect of deferring hostile takeovers or delaying changes in our control or management.

Delaware Anti-Takeover Statute. We are subject to the provisions of Section 203 of the Delaware General Corporation Law regulating corporate takeovers. In general, Section 203 prohibits a publicly held Delaware corporation from engaging, under certain circumstances, in a business combination with an interested stockholder for a period of three years following the date the person became an interested stockholder unless:

- Prior to the date of the transaction, the Board of Directors of the corporation approved either the business combination or the transaction that resulted in the stockholder's becoming an interested stockholder;
- Upon completion of the transaction that resulted in the stockholder's becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the voting stock outstanding, but not the outstanding voting stock owned by the interested stockholder, (1) shares owned by persons who are directors and also officers and (2) shares owned by employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or
- At or subsequent to the date of the transaction, the business combination is approved by the Board of Directors and authorized at an annual or special meeting of stockholders, and not by written consent, by the affirmative vote of at least 66-2/3% of the outstanding voting stock that is not owned by the interested stockholder.

Generally, a business combination includes a merger, asset or stock sale, or other transaction resulting in a financial benefit to the interested stockholder. 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 outstanding voting stock. We expect the existence of this provision to have an anti-takeover effect with respect to transactions our Board of Directors does not approve in advance. We also anticipate that Section 203 may discourage attempts that might result in a premium over the market price for the shares of Common Stock held by stockholders.

The provisions of Delaware law and the provisions of our certificate of incorporation and Bylaws, as amended, could have the effect of discouraging others from attempting hostile takeovers and, as a consequence, they may also inhibit temporary fluctuations in the market price of our Common Stock that often result from actual or rumored hostile takeover attempts. These provisions may also have the effect of preventing changes in our management. It is possible that these provisions could make it more difficult to accomplish transactions that stockholders may otherwise deem to be in their best interests.

SUBSIDIAIRES OF CROWN ELECTROKINETICS CORP.

List of subsidiaries

Place of Incorporation

Crown Fiber Optics Corp.

Delaware

**CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER OF CROWN ELECTROKINETICS CORP.
PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Doug Croxall, certify that:

1. I have reviewed this Annual Report on Form 10-K of Crown Electrokinetics Corp.;
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(s) 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 fourth fiscal quarter 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(s) 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 registrant's board of directors (or persons performing the equivalent function):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal controls 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: April 1, 2024

/s/ Doug Croxall

Doug Croxall
Chief Executive Officer
(principal executive officer)

**CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER OF CROWN ELECTROKINETICS CORP.
PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Joel Krutz, certify that:

1. I have reviewed this Annual Report on Form 10-K of Crown Electrokinetics Corp.;
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(s) 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 fourth fiscal quarter 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(s) 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 registrant's board of directors (or persons performing the equivalent function):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal controls 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: April 1, 2024

/s/ Joel Krutz

Joel Krutz
Chief Financial Officer
(principal financial officer and principal accounting officer)

**CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

The undersigned, Doug Croxall, hereby certifies, in his capacity as Chief Executive Officer of Crown Electrokinetics Corp. (the “Company”), for the purposes of 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to the best of his knowledge:

- (1) The Annual Report of the Company on Form 10-K for the year ended December 31, 2023 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.

Dated: April 1, 2024

/s/ Doug Croxall

Doug Croxall
Chief Executive Officer
(principal executive officer)

A signed original of this written statement required by Section 906 has been provided to Crown Electrokinetics Corp. and will be retained by Crown Electrokinetics Corp. and furnished to the Securities and Exchange Commission or its staff upon request.

**CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

The undersigned, Joel Krutz, hereby certifies, in his capacity as Chief Financial Officer of Crown Electrokinetics Corp. (the "Company"), for the purposes of 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to the best of his knowledge:

- (1) The Annual Report of the Company on Form 10-K for the year ended December 31, 2023 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.

Dated: April 1, 2024

/s/ Joel Krutz

Joel Krutz
Chief Executive Officer
(principal financial officer and principal accounting officer)

A signed original of this written statement required by Section 906 has been provided to Crown Electrokinetics Corp. and will be retained by Crown Electrokinetics Corp. and furnished to the Securities and Exchange Commission or its staff upon request.

CROWN ELECTROKINETICS CORP.**CLAWBACK POLICY**

A. OVERVIEW

The Board of Directors (the “*Board*”) of Crown Electrokinetics Corp. (the “*Company*”) believes that it is in the best interests of the Company and its shareholders to create and maintain a culture that emphasizes integrity and accountability. Accordingly, in accordance with the applicable rules of The Nasdaq Stock Market (the “*Nasdaq Rules*”), Section 10D and Rule 10D-1 of the Securities Exchange Act of 1934, as amended (the “*Exchange Act*”) (“*Rule 10D-1*”), the Board has adopted this Policy (the “*Policy*”) to provide for the recovery of erroneously awarded Incentive-based Compensation from Executive Officers. All capitalized terms used and not otherwise defined herein shall have the meanings set forth in Section H, below.

B. RECOVERY OF ERRONEOUSLY AWARDED COMPENSATION

(1) In the event of an Accounting Restatement, the Company will reasonably promptly recover the Erroneously Awarded Compensation Received in accordance with the Nasdaq Rules and Rule 10D-1 as follows:

- (i) After an Accounting Restatement, the Compensation Committee (if composed entirely of independent directors, or in the absence of such a committee, a majority of independent directors serving on the Board) (the “*Committee*”) shall determine the amount of any Erroneously Awarded Compensation Received by each Executive Officer and shall promptly notify each Executive Officer with a written notice containing the amount of any Erroneously Awarded Compensation and a demand for repayment or return of such compensation, as applicable.
 - (a) For Incentive-based Compensation based on (or derived from) the Company’s stock price or total shareholder return, where the amount of Erroneously Awarded Compensation is not subject to mathematical recalculation directly from the information in the applicable Accounting Restatement:
 - i. The amount to be repaid or returned shall be determined by the Committee based on a reasonable estimate of the effect of the Accounting Restatement on the Company’s stock price or total shareholder return upon which the Incentive-based Compensation was Received; and
 - ii. The Company shall maintain documentation of the determination of such reasonable estimate and provide the relevant documentation as required to Nasdaq.
 - (ii) The Committee shall have discretion to determine the appropriate means of recovering Erroneously Awarded Compensation based on the particular facts and circumstances. Notwithstanding the foregoing, except as set forth in Section B(2) below, in no event may the Company accept an amount that is less than the amount of Erroneously Awarded Compensation in satisfaction of an Executive Officer’s obligations hereunder.
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- (iii) To the extent that the Executive Officer has already reimbursed the Company for any Erroneously Awarded Compensation Received under any duplicative recovery obligations established by the Company or applicable law, it shall be appropriate for any such reimbursed amount to be credited to the amount of Erroneously Awarded Compensation that is subject to recovery under this Policy.
- (iv) To the extent that an Executive Officer fails to repay all Erroneously Awarded Compensation to the Company when due, the Company shall take all actions reasonable and appropriate to recover such Erroneously Awarded Compensation from the applicable Executive Officer. The applicable Executive Officer shall be required to reimburse the Company for any and all expenses reasonably incurred (including legal fees) by the Company in recovering such Erroneously Awarded Compensation in accordance with the immediately preceding sentence.

(2) Notwithstanding anything herein to the contrary, the Company shall not be required to take the actions contemplated by Section B(1) above if the Committee (which, as specified above, is composed entirely of independent directors or in the absence of such a committee, a majority of the independent directors serving on the Board) determines that recovery would be impracticable *and* any of the following three (3) conditions are met:

- (i) The Committee has determined that the direct expenses paid to a third party to assist in enforcing the Policy would exceed the amount to be recovered. Before making this determination, the Company must make a reasonable attempt to recover the Erroneously Awarded Compensation, document such attempt(s) and provide such documentation to Nasdaq;
- (ii) Recovery would violate home country law where that law was adopted prior to November 28, 2022, provided that, before determining that it would be impracticable to recover any amount of Erroneously Awarded Compensation based on violation of home country law, the Company has obtained an opinion of home country counsel, acceptable to Nasdaq, that recovery would result in such a violation and a copy of the opinion is provided to Nasdaq; 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.

(3) The Board may also cancel or recoup Incentive-based Compensation if the Executive Officer, without the consent of the Company, (A) has engaged in or engages in activity that is in conflict with or adverse to the interests of the Company or any affiliate thereof while employed by or providing services to the Company or any affiliate thereof, including fraud or conduct intentionally contributing to any material financial restatements or irregularities, or (B) violates in any material respect a non-competition, non-solicitation, non-disparagement or non-disclosure covenant or agreement with the Company or any affiliate thereof, as determined by the Board, and fails to cure such violation in all material respects within thirty (30) days of demand by the Company, or if the Executive Officer's employment or service is terminated for cause.

C. DISCLOSURE REQUIREMENTS

The Company shall file all disclosures with respect to this Policy required by applicable U.S. Securities and Exchange Commission (“SEC”) filings and rules, including without limitation, filing a copy of this Policy and any amendments thereto as an exhibit to the Company’s annual report on Form 10-K.

D. PROHIBITION OF INDEMNIFICATION

The Company shall not be permitted to insure or indemnify any Executive Officer against (i) the loss of any Erroneously Awarded Compensation that is repaid, returned or recovered pursuant to the terms of this Policy, or (ii) any claims relating to the Company’s enforcement of its rights under this Policy. Further, the Company shall not enter into any agreement that exempts any Incentive-based Compensation that is granted, paid or awarded to an Executive Officer from the application of this Policy or that waives the Company’s right to recovery of any Erroneously Awarded Compensation, and this Policy shall supersede any such agreement (whether entered into before, on or after the Effective Date of this Policy).

E. ADMINISTRATION AND INTERPRETATION

This Policy shall be administered by the Committee, and any determinations made by the Committee shall be final and binding on all affected individuals.

The Committee is authorized to interpret and construe this Policy and to make all determinations necessary, appropriate, or advisable for the administration of this Policy and for the Company’s compliance with Nasdaq Rules, Section 10D, Rule 10D-1 and any other applicable law, regulation, rule or interpretation of the SEC or Nasdaq promulgated or issued in connection therewith.

F. AMENDMENT; TERMINATION

The Committee may amend this Policy from time to time in its discretion and shall amend this Policy as it deems necessary. Notwithstanding anything in this Section F to the contrary, no amendment or termination of this Policy shall be effective if such amendment or termination would (after taking into account any actions taken by the Company contemporaneously with such amendment or termination) cause the Company to violate any federal securities laws, SEC rule or Nasdaq rule.

G. OTHER RECOVERY RIGHTS

This Policy shall be binding and enforceable against all Executive Officers and, to the extent required by applicable law or guidance from the SEC or Nasdaq, their beneficiaries, heirs, executors, administrators or other legal representatives. The Committee intends that this Policy will be applied to the fullest extent required by applicable law. Any employment agreement, equity award agreement, compensatory plan or any other agreement or arrangement with an Executive Officer shall be deemed to include, as a condition to the grant of any benefit thereunder, an agreement by the Executive Officer to abide by the terms of this Policy. Any right of recovery under this Policy is in addition to, and not in lieu of, any other remedies or rights of recovery that may be available to the Company under applicable law, regulation or rule or pursuant to the terms of any policy of the Company or any provision in any employment agreement, equity award agreement, compensatory plan, agreement or other arrangement.

H. DEFINITIONS

For purposes of this Policy, the following capitalized terms shall have the meanings set forth below.

(1) “**Accounting Restatement**” means an accounting restatement due to the material noncompliance of the Company with any financial reporting requirement under the securities laws, including any required accounting restatement to correct an error in previously issued financial statements that is material to the previously issued financial statements (a “**Big R**” restatement), or that would result in a material misstatement if the error were corrected in the current period or left uncorrected in the current period (a “**little r**” restatement).

(2) “**Clawback Eligible Incentive Compensation**” means all Incentive-based Compensation Received by an Executive Officer (i) on or after the effective date of the applicable Nasdaq rules, (ii) after beginning service as an Executive Officer, (iii) who served as an Executive Officer at any time during the applicable performance period relating to any Incentive-based Compensation (whether or not such Executive Officer is serving at the time the Erroneously Awarded Compensation is required to be repaid to the Company), (iv) while the Company has a class of securities listed on a national securities exchange or a national securities association, and (v) during the applicable Clawback Period (as defined below).

(3) “**Clawback Period**” means, with respect to any Accounting Restatement, the three (3) completed fiscal years of the Company immediately preceding the Restatement Date (as defined below), and if the Company changes its fiscal year, any transition period of less than nine (9) months within or immediately following those three (3) completed fiscal years.

(4) “**Erroneously Awarded Compensation**” means, with respect to each Executive Officer in connection with an Accounting Restatement, the amount of Clawback Eligible Incentive Compensation that exceeds the amount of Incentive-based Compensation that otherwise would have been Received had it been determined based on the restated amounts, computed without regard to any taxes paid.

(5) “**Executive Officer**” means each individual who is currently or was previously designated as an “officer” of the Company as defined in Rule 16a-1(f) under the Exchange Act. For the avoidance of doubt, the identification of an executive officer for purposes of this Policy shall include each executive officer who is or was identified pursuant to Item 401(b) of Regulation S-K or Item 6.A of Form 20-F, as applicable, as well as the principal financial officer and principal accounting officer (or, if there is no principal accounting officer, the controller).

(6) “**Financial Reporting Measures**” means measures that are determined and presented in accordance with the accounting principles used in preparing the Company’s financial statements, and all other measures that are derived wholly or in part from such measures. Stock price and total shareholder return (and any measures that are derived wholly or in part from stock price or total shareholder return) shall, for purposes of this Policy, be considered Financial Reporting Measures. For the avoidance of doubt, a Financial Reporting Measure need not be presented in the Company’s financial statements or included in a filing with the SEC.

(7) “**Incentive-based Compensation**” means any compensation that is granted, earned or vested based wholly or in part upon the attainment of a Financial Reporting Measure.

(8) “**Nasdaq**” means The Nasdaq Stock Market.

(9) “**Received**” means, with respect to any Incentive-based Compensation, actual or deemed receipt, and Incentive-based Compensation shall be deemed received in the Company’s fiscal period during which the Financial Reporting Measure specified in the Incentive-based Compensation award is attained (even if the payment or grant of the Incentive-based Compensation to the Executive Officer occurs after the end of that period).

(10) “**Restatement Date**” means the earlier to occur of (i) the date the Board, a committee of the Board or the officers of the Company authorized to take such action if Board action is not required, concludes, or reasonably should have concluded, that the Company is required to prepare an Accounting Restatement, or (ii) the date a court, regulator or other legally authorized body directs the Company to prepare an Accounting Restatement.

I. EFFECTIVE DATE

This Policy shall be effective as of the date it is adopted by the Board.

Exhibit A

CROWN ELECTROKINETICS CORP.

CLAWBACK POLICY

By my signature below, I acknowledge and agree that:

- I have received and read the attached Policy for the Recovery of Erroneously Awarded Compensation (this "**Policy**").
- I hereby agree to abide by all of the terms of this Policy both during and after my employment with the Company, including, without limitation, by promptly repaying or returning any Erroneously Awarded Compensation to the Company as determined in accordance with this Policy.

Signature: _____
Printed Name: _____
Date: _____