

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

FORM S-1
REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

CLEARSIGN TECHNOLOGIES CORPORATION

(Exact name of registrant as specified in its charter)

Delaware (State or other jurisdiction of incorporation or organization)	3823 (Primary Standard Industrial Classification Code Number)	26-2056298 (I.R.S. Employer Identification No.)
8023 East 63rd Place, Suite 101 Tulsa, Oklahoma 74133 (206) 673-4848 (Address, including zip code, and telephone number, including area code, of principal executive offices)		
Colin James Deller Chief Executive Officer ClearSign Technologies Corporation 8023 East 63rd Place, Suite 101 Tulsa, Oklahoma 74133 (206) 673-4848 (Address, including zip code, and telephone number, including area code, of agent for service)		

Copies to:

Blake Baron, Esq.
 Nimish Patel, Esq.
 Mitchell Silberberg & Knupp LLP
 437 Madison Avenue
 New York, New York 10022
 Phone: (212) 509-3900

Approximate date of commencement of proposed sale to the public: From time to time after the effective date of this registration statement.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box.

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration number of the earlier effective registration statement for the same offering.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 under the Securities Exchange Act of 1934. (Check one):

Large Accelerated Filer	..	Accelerated Filer
Non-accelerated Filer	x	Smaller Reporting Company
		Emerging Growth Company
		..
		x

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 7(a)(2)(B) of the Securities Act.

The Registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment that specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until the registration statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED MAY 20, 2024

PRELIMINARY PROSPECTUS



2,249,763 Shares of Common Stock
3,155,642 Shares of Common Stock Issuable Upon Exercise of Pre-Funded Warrants
8,108,106 Shares of Common Stock Issuable Upon Exercise of Private Warrants

This prospectus relates to the resale, from time to time, by the selling stockholder identified in this prospectus under the section heading "Selling Stockholder," of up to (i) 2,249,763 shares (the "Private Shares") of our common stock, par value \$0.0001 per share (the "common stock"), (ii) up to 3,155,642 shares of common stock (the "Pre-Funded Warrant Shares") issuable upon the exercise of pre-funded warrants (the "Pre-Funded Warrants") and (iii) 8,108,106 shares of common stock (the "Private Warrant Shares," and together with the Pre-Funded Warrant Shares, the "Warrant Shares") issuable upon the exercise of redeemable warrants (the "Private Warrants," and together with the Pre-Funded Warrants, the "Warrants"). We issued the Private Shares and Warrants in connection with a private placement with an accredited investor pursuant to the exemption from registration provided in Section 4(a)(2) under the Securities Act of 1933, as amended (the "Securities Act") and/or Rule 506(b) promulgated thereunder. The private placement was conducted concurrently with a public offering of 4,620,760 shares of common stock and redeemable warrants to purchase up to 4,620,760 shares of common stock. Both the private placement and the public offering closed on April 23, 2024.

The selling stockholder may, from time to time, sell, transfer or otherwise dispose of any or all of his shares of common stock or interests in his shares of common stock on any stock exchange, market or trading facility on which the shares of common stock are traded or in private transactions. These dispositions may be at fixed prices, at prevailing market prices at the time of sale, at prices related to the prevailing market price, at varying prices determined at the time of sale, or at negotiated prices. See "Plan of Distribution" in this prospectus for more information. We will not receive any proceeds from the resale or other disposition of the shares of common stock by the selling stockholder. However, we will receive the proceeds of any cash exercise of the Warrants. See "Use of Proceeds" beginning on page 14 and "Plan of Distribution" beginning on page 23 of this prospectus for more information.

Our common stock is listed on the Nasdaq Capital Market ("Nasdaq") under the symbol "CLIR". On May 16, 2024, the last reported sale price of our common stock on Nasdaq was \$0.82.

You should read this prospectus, together with additional information described under the headings "Information Incorporated by Reference" and "Where You Can Find More Information," carefully before you invest in any of our securities.

An investment in our securities involves a high degree of risk. Before deciding whether to invest in our securities, you should consider carefully the risks and uncertainties described in the section captioned "Risk Factors" contained in (i) our Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2024, filed with the Securities and Exchange Commission (the "SEC") on May 15, 2024, and (ii) our Annual Report on Form 10-K for the fiscal year ended December 31, 2023, filed with the SEC on April 1, 2024, and the amendment thereto on Form 10-K/A, filed with the SEC on April 26, 2024, and other filings we make with the SEC from time to time, which are incorporated by reference herein in their entirety, together with other information in this prospectus and the information incorporated by reference herein.

2

Neither the SEC nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is , 2024

TABLE OF CONTENTS

About this Prospectus	4
Market, Industry and Other Data	4
Disclosure Regarding Forward-Looking Statements	5
Prospectus Summary	6
The Offering	11
Risk Factors	12
Use of Proceeds	14
Private Placement	15
Selling Stockholder	15
Description of Securities	17
Plan of Distribution	23
Legal Matters	25
Experts	25
Information Incorporated by Reference	25
Where You Can Find More Information	26

3

ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement on Form S-1 that we filed with the SEC to register the securities described in this prospectus for resale by the selling stockholder who may, from time to time, sell the securities described in this prospectus. We will not receive any proceeds from

the sale of shares of common stock by the selling stockholder pursuant to this prospectus.

We may also file a prospectus supplement or post-effective amendment to the registration statement of which this prospectus forms a part that may contain material information relating to this offering. The prospectus supplement or post-effective amendment may also add, update or change information contained in this prospectus with respect to this offering. If there is any inconsistency between the information in this prospectus and the applicable prospectus supplement or post-effective amendment, you should rely on the prospectus supplement or post-effective amendment, as applicable. Before purchasing any securities, you should carefully read this prospectus, any post-effective amendment, and any applicable prospectus supplement, together with the additional information described under the heading "Where You Can Find Additional Information."

Neither we, nor the selling stockholder, have authorized anyone to provide you with any information or to make any representations other than those contained in this prospectus, any post-effective amendment or any applicable prospectus supplement prepared by or on behalf of us or to which we have referred you. We and the selling stockholder take no responsibility for and can provide no assurance as to the reliability of any other information that others may give you. We and the selling stockholder will not make an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this prospectus, any post-effective amendment and any applicable prospectus supplement is accurate only as of the date on its respective cover. Our business, financial condition, results of operations and prospects may have changed since those dates. This prospectus contains, and any post-effective amendment or any prospectus supplement may contain, market data and industry statistics and forecasts that are based on independent industry publications and other publicly available information. In addition, the market and industry data and forecasts that may be included in this prospectus, any post-effective amendment or any prospectus supplement may involve estimates, assumptions and other risks and uncertainties and are subject to change based on various factors, including those discussed under the heading "Risk Factors" contained in this prospectus, any post-effective amendment and the applicable prospectus supplement. Accordingly, investors should not place undue reliance on this information.

This prospectus is an offer to sell only the securities offered hereby and only under circumstances and in jurisdictions where it is lawful to do so. This prospectus is not an offer to sell securities, and it is not soliciting an offer to buy securities, in any jurisdiction where the offer or sale is not permitted. This prospectus contains summaries of certain provisions contained in some of the documents described herein, but reference is made to the actual documents for complete information. All of the summaries are qualified in their entirety by the actual documents. Copies of some of the documents referred to herein have been filed, will be filed or will be incorporated by reference as exhibits to the registration statement of which this prospectus is a part, and you may obtain copies of those documents as described below under the section titled "Where You Can Find Additional Information."

MARKET, INDUSTRY AND OTHER DATA

This prospectus, including the information incorporated by reference, contains estimates, projections and other information concerning our industry, our business and the markets for certain products and services, including data regarding the estimated size of those markets and their projected growth rates. Information that is based on estimates, forecasts, projections or similar methodologies is based on a number of assumptions and is inherently subject to uncertainties, including those described in "Risk Factors" and elsewhere in this prospectus, and documents we incorporate by reference, and actual events or circumstances may differ materially from events and circumstances reflected in this information. You are cautioned not to give undue weight to such estimates, projections and other information.

DISCLOSURE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus, including the documents that we incorporate by reference, may contain forward-looking statements within the meaning of Section 27A of the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act").

Forward-looking statements in this prospectus include, without limitation, statements related to our plans, strategies, objectives, expectations, intentions and adequacy of resources. Investors are cautioned that such forward-looking statements involve risks and uncertainties.

Factors that could cause actual results to differ from those discussed in the forward-looking statements include, but are not limited to:

- our limited cash, history of losses, and our expectation that we will continue to experience operating losses and negative cash flows in the near future;
- our ability to successfully develop and implement our technologies and achieve profitability;
- our limited operating history;
- our ability to maintain the listing of our common stock on Nasdaq;
- changes in government regulations that could substantially reduce, or even eliminate, the need for our technology;
- emerging competition and rapidly advancing technology in our industry that may outpace our technology;
- customer demand for the products and services we develop;
- the impact of competitive or alternative products, technologies and pricing;
- our ability to manufacture any products we design;
- general economic conditions and events and the impact they may have on us and our potential customers;
- our doing business in China and related risks with respect to intellectual property protection, currency exchange, contract enforcement, rules on foreign investment;
- the impact of a cybersecurity incident or other technology disruption;
- our ability to protect our intellectual property;
- our ability to obtain adequate financing in the future;
- our ability to retain and hire personnel with the experience and talent to develop our products and business;
- our success at managing the risks involved in the foregoing items; and

- other factors discussed in this prospectus.

In some cases, you can identify forward-looking statements by terminology such as "may," "will," "should," "could," "expects," "plans," "intends," "anticipates," "believes," "estimates," "predicts," "potential," or "continue" or the negative of such terms or other comparable terminology. 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. Readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date hereof. We do not undertake any obligation to publicly update or review any forward-looking statement.

PROSPECTUS SUMMARY

This summary highlights information contained elsewhere or incorporated by reference in this prospectus and in the documents we incorporate by reference. This summary does not contain all of the information that you should consider before deciding to invest in our common stock. You should read this entire prospectus carefully, including the "Risk Factors" section contained in this prospectus and in the documents we incorporate by reference.

Our Business

We design and develop technologies that have been shown to significantly improve key performance characteristics of industrial combustion systems, including emission and operational performance, energy efficiency and overall cost-effectiveness. We believe that our patented ClearSign Core™ technology can enhance the performance of combustion systems in a broad range of markets, including the energy (upstream oil production and down-stream refining), institutional, commercial and industrial boiler, chemical, and petrochemical industries. Our ClearSign Core technology, which is our primary technology, uses either a porous ceramic structure or metal flame holder device held at a distance from the injection planes of a burner to significantly reduce flame length and achieve low emissions without the need for external flue gas recirculation, selective catalytic reduction, or high excess air systems. To date, our operations have been funded primarily through sales of our equity securities. We have earned nominal revenue since inception in 2008.

Our combustion technology has been successfully deployed in commercial projects such as down-stream refining and upstream oil production. These applications include both our process burner and boiler burner technologies. Our process burner technology is able to operate in high-intensity multiple burner industrial applications at sites that are required to meet low air pollutant emissions. Our boiler burner technology, which has been proven to achieve ground-breaking low air pollutant emissions, has been deployed in the US and is currently undergoing commercialization in China.

We believe that combustion equipment utilizing ClearSign Core technology is more effective and cost-efficient than current industry-standard air pollution control technologies, and can reduce nitrogen oxide (NOx) emissions down to the levels required by new stringent emission regulations. NOx is a regulated greenhouse gas pollutant comprised of nitrogen oxide and nitrogen dioxide. These current technologies include selective catalytic reduction devices (SCRs), low- and ultra-low NOx burners, external flue gas recirculation systems and other similar technologies. Such air pollution control systems are widely used in places within our current target markets such as in petroleum refining and petrochemical process heaters, large-scale once through steam generators (OTSGs), enclosed flares, institutional commercial and industrial boilers and other similar equipment. We believe that our ClearSign Core technology can provide value to our customers not only by helping them meet current and possible future legislative mandates to reduce pollutant emissions, but also by improving operating efficiency and increasing overall return on investment.

Based on the operating data we have obtained from our installed products, burners utilizing ClearSign Core technology can provide increased heat transfer efficiency as compared to other emission reducing technologies. This is consistent with the physics of heat transfer and the mechanisms by which the technology functions. The reported increased heat transfer efficiency may potentially result in cost savings in the low to mid-single digit percentage range for burners employing our technology. We believe that these potential cost savings could produce an extremely attractive pay-back period for an investment in ClearSign Core technology-based burners. In addition, because the flame volumes in heaters utilizing ClearSign Core technology are typically small, heaters using our technology are expected to operate at a lower cost, have increased productivity, and require less maintenance and downtime compared to heaters that operate with enlarged flames produced by traditional low NOx burners. The flames in a ClearSign Core system are established from a predominantly premixed stream of fuel, combustion air and flue gasses stabilized on a downstream structure that promotes turbulence and ignition with minimal "bulking up". In comparison, flames resulting from the traditional legacy process of slow mixing of the fuel and air, and dilutive inert flue gasses have a much larger size. With a lower volume flame in a ClearSign Core system, surfaces in the heater or boiler experience less touching by the flame and it is anticipated that our systems can virtually eliminate flame impingement. Our technology also enables burners to function better in tightly spaced heaters compared to the flames of traditional low NOx burners. Most importantly, using our technology has the potential to decrease process downtime required during installation compared to retrofits utilizing the legacy technology of SCRs or flue gas recirculation systems.

We are also designing and commercializing a range of sensing products called the ClearSign Eye™ for two potential markets. The primary addressable market is similar to that of our ClearSign Core technology, although not limited to regions requiring emissions reduction. The flame sensing products are applicable to all installed burners that use a pilot for ignition, including in markets and regions beyond those where reducing emissions is a high priority. Like our burner technology, our burner sensing technology is being developed to provide convenient replacement and retrofit solutions for existing equipment as well as for inclusion in newly built equipment.

The secondary potential market for our sensing technology is outside of the typical combustion industry and includes transportation industries. While use of this fundamental technology in applications intended for transportation markets is proven, the development and refinement of specific products, obtaining the certifications required for commercial deployment and establishing an efficient manufacturing source and channels to market will take some time, and we cannot assure that these goals will be achieved. We believe that the opportunities for application of our sensing technology in the transportation market are global and of great value, but it will also take longer to commercialize products targeted for this market for the reasons stated above.

Overall, our sensing technologies could provide future diversification as well as the opportunity for continued business expansion and growth beyond the maturation of our combustion-related businesses.

Our Industry

The combustion and emissions control systems markets are significant, both with respect to the wide array of industries in which the systems are used and the amount of capital spent installing and upgrading the systems. Combustion systems are used to provide heat for many different industrial

and commercial processes, including boilers, petrochemical process heaters, and waste disposal systems. In order to maximize energy efficiency while keeping pace with regulatory guidelines for air pollution emissions, operators of combustion systems are continually installing, maintaining, and upgrading a variety of costly process control, air pollution control and monitoring systems. Although we believe that there are many potential markets for our ClearSign Core technology, to date we have limited the introduction of this technology to petroleum refining process heaters, energy infrastructure process heaters, boilers for steam and hot water generation, boilers for building heating systems, and enclosed flares. We have initially targeted these markets for various reasons, such as, but not limited to: (i) environmental regulations imposed on these markets, (ii) total available market size, (iii) this technology being the most readily adapted to the needs of these industries and (iv) management experience and expertise.

Our initial target markets center on the energy sector, including downstream oil refineries through the use of process heaters and boilers as well as upstream crude oil production through the use of Once Through Steam Generator (OTSGs) and wellhead enclosed flares. We believe operators in our domestic target markets are under pressure to meet current and proposed federal, state and local pollution emissions standards. The standards applicable to our target markets have been developed over the past 50 years with broad political input. Due to the localized effects of poor air quality, we expect these standards to continue to become more stringent regardless of political leadership. As an illustration, air pollution emission standards are most stringent in the states of California and Texas, which historically have had leadership from different political parties. We believe this to be the case in the U.S. and worldwide in most major developed and developing countries. As a result, these standards are a significant driver for our development and sales efforts. We believe that our ClearSign Core technology can provide a unique, cost-effective pollution control solution for operators in comparison to known competing products.

In the U.S., emissions standards largely emanate from the Clean Air Act, which is administered by the Environmental Protection Agency (EPA) and regulates six common criteria air pollutants, including ground-level ozone. These regulations are enforced by state and local air quality districts as part of their compliance plans. As a precursor to ground-level ozone, NOx is a pollutant that is regulated by local air quality districts in order to achieve the EPA limits. The 8-hour ground-level ozone regulations have been reduced from 80 parts per billion (ppb) in 1997, to 75 ppb in 2008, and 70 ppb in 2015, with the requirement of realizing these levels approximately 20 years following the year of legislation.

We have noted that local air quality districts designated by the EPA as "severe non-attainment zones" in California and Texas have undertaken a review of their air pollutant emissions regulations. These reviews are ongoing, in most regions, but two important regions have recently amended their local regulations to improve air quality. In December of 2020, the San Joaquin Valley region of California revised its regulations to require significant reductions in target NOx emissions from boilers, steam generators and process heaters. And, in November of 2021, the greater Los Angeles area also revised its regulations. These revised regulations, it substantially reduced target emissions for process heaters, boilers and other similar equipment Pursuant to a new and comprehensive Best Available Retrofit Control Technology (BARCT) analysis, which we believe will result in an increased demand for our services and products.

In addition, new regulations are starting to be adopted with respect to the NOx emissions of enclosed ground flares, which historically have not been viewed as a source of NOx emissions or subject to the same level of regulation. We believe that our ClearSign Core technology is well-suited to address the challenges faced by oil producers and other industries in complying with current and predicted future local air emission standards. There are multiple ClearSign Core flare applications now operational in California with NOx emissions below the levels required by new regulations.

In addition, we believe that current emissions standards in Europe, the Middle East, parts of Asia and Canada will continue to become stricter as these jurisdictions seek to achieve cleaner air. Existing and new emissions standards in such jurisdictions may create additional market opportunities for us. To date, we have one installation operating in the refinery of a major global oil refiner in Europe.

The current environmental impetus to reduce CO2 emissions has created an interest in burner technology that can use hydrogen as a fuel source. Because hydrogen burns at a higher temperature than most other fuel gasses, it tends to create more NOx emissions. ClearSign Core burners have demonstrated the ability to burn fuels with up to 80% hydrogen while still controlling NOx emissions to meet required regulatory levels. We believe that we can extend the capability of our ClearSign Core technology to burn "pure" hydrogen fuel.

Recent Developments

ATM Suspension

On March 18, 2024, we filed a prospectus supplement suspending the sales of common stock under our At-the-Market ("ATM") program pursuant to that certain Sales Agreement between us and Virtu Americas, LLC, as sales agent, dated December 23, 2020 (the "Sales Agreement"). We will not make any sales of our shares of common stock pursuant to the Sales Agreement unless and until a new prospectus supplement is filed with the SEC; however, the Sales Agreement remains in full force and effect.

Public Offering and Concurrent Private Placement

On April 23, 2024, we completed an underwritten public offering, whereby we sold 4,620,760 shares of common stock and 5-year redeemable warrants to purchase up to 4,620,760 shares of common stock (the "Public Warrants") (plus a 45-day option to purchase up to an additional 693,114 shares of common stock and Public Warrants to purchase up to 693,114 shares of common stock, or up to 693,114 shares of common stock only) at a price of \$0.92 per set of one share of common stock and one Public Warrant. Concurrently, we completed a private placement, whereby we sold 2,249,763 shares of common stock, or the Private Shares, Pre-Funded Warrants to purchase up to 3,155,642 shares of common stock and Private Warrants to purchase up to 8,108,106 shares of common stock. The offering prices in the private placement were \$0.91 per Private Share and \$0.01 per Private Warrant, or \$0.9099 per Pre-Funded Warrant and \$0.01 per Private Warrant, as applicable. This prospectus relates to the resale by the selling stockholder of the securities issued in the private placement. The redeemable warrants issued in both offerings have an exercise price equal to \$1.05 per share.

In connection with this offering, we issued Public Ventures, LLC ("Public Ventures") 5-year warrants to purchase up to 369,660 shares of common stock at an exercise price of \$1.1375 per share as part of their underwriter compensation, which underwriter warrants will become exercisable on October 16, 2024. We also issued Public Ventures 5-year warrants to purchase up to 432,432 shares of common stock at an exercise price of \$1.1375 per share as part of their placement agent compensation in connection with the private placement, which warrants will become exercisable on October 16, 2024. Both sets of warrants may be exercised on a cashless basis based on a formula set forth in the respective warrants.

Subsequently, on May 15, 2024, Public Ventures exercised its option in full to purchase an additional 693,114 shares of common stock and Public Warrants to purchase up to 693,114 shares of common stock at a price of \$0.92 per set of one share of common stock and one Public Warrant, in

connection with which we issued Public Ventures additional underwriter warrants to purchase up to 55,449 shares of common stock.

The public offering and the concurrent private placement resulted in combined gross proceeds of approximately \$9.3 million, and net proceeds of approximately \$8.1 million. The exercise of Public Ventures' option to purchase additional shares of common stock and Public Warrants resulted in additional gross proceeds of approximately \$0.6 million, and net proceeds of approximately \$0.6 million after deducting \$0.05 million in underwriter commissions.

Nasdaq Listing Rules Compliance

Nasdaq Compliance Notice

As previously disclosed, on November 24, 2023, we were notified by Nasdaq that we were not in compliance with Nasdaq Listing Rules 5605(b)(1) and 5605(c)(2)(A) because our Board of Directors (the "Board"), at the time of such notification, did not have a majority of directors who would be considered "independent directors," as that term is defined in Nasdaq Listing Rule 5605(a)(2), and the Board's Audit & Risk Committee (the "Audit Committee") consisted of only two independent directors as a result of the resignation of Gary DiElsi from the Board. We were initially given a cure period in order to regain compliance until the earlier of the Company's next annual stockholders' meeting or November 11, 2024, provided that if the next annual stockholders' meeting was to be held before May 7, 2024, then we would need to evidence compliance by no later than May 7, 2024.

To regain compliance, we were required to identify and select a member for the Board who qualified as "independent" and would meet the Audit Committee criteria set forth in Nasdaq Listing Rule 5605. This requirement was met on April 23, 2024, when David M. Maley was appointed as a member of the Board and Audit Committee, which appointment was disclosed in a Current Report on Form 8-K filed with the SEC on April 24, 2024.

On April 25, 2024, we received a letter from Nasdaq informing us that we had regained compliance with the Board and Audit Committee composition requirements as set forth in Nasdaq Listing Rules 5605(b)(1) and 5605(c)(2)(A), respectively.

Nasdaq Deficiency Notice

On May 2, 2024, we received a letter (the "Notice") from Nasdaq's Listing Qualifications Staff (the "Staff") indicating that, based upon our common stock's closing bid price for the last 30 consecutive business days beginning on March 20, 2024 and ending on May 1, 2024, we no longer meet the requirement to maintain a minimum bid price of \$1 per share, as set forth in Nasdaq Listing Rule 5550(a)(2).

In accordance with Nasdaq Listing Rule 5810(c)(3)(A), we have been provided a period of 180 calendar days, or until October 29, 2024, in which to regain compliance. In order to regain compliance with the minimum bid price requirement, our common stock's closing bid price must be at least \$1 per share for a minimum of ten consecutive business days during this 180 day period. In the event that we do not regain compliance within this 180 day period, we may be eligible to seek an additional compliance period of 180 calendar days if we meet the continued listing requirement for market value of publicly held shares and all other initial listing standards for Nasdaq, with the exception of the bid price requirement, and provide written notice to Nasdaq of our intent to cure the deficiency during this second compliance period, by effecting a reverse stock split, if necessary. However, if it appears to the Staff that we will not be able to cure the deficiency, or if we are not otherwise eligible, Nasdaq will provide notice to us that our common stock will be subject to delisting.

The Notice does not result in the immediate delisting of our common stock from Nasdaq, and we intend to monitor our common stock's closing bid price and consider our available options in the event that our common stock's closing bid price remains below \$1 per share.

Corporate Information

We were incorporated in the State of Washington on January 23, 2008. Effective June 14, 2023, we changed our domicile from the State of Washington to the State of Delaware by means of a plan of conversion. The address of our corporate headquarters is 8023 East 63rd Place, Suite 101, Tulsa, Oklahoma 74133 and our telephone number is (918) 236-6461. Our website can be accessed at www.clearsign.com. We currently operate in the United States, People's Republic of China and Hong Kong.

Information contained in, or accessible through, our website does not constitute part of this prospectus or registration statement and inclusions of our website address in this prospectus or registration statement are inactive textual references only. You should not rely on any such information in making your decision whether to purchase our securities.

THE OFFERING

Issuer	ClearSign Technologies Corporation.
Shares of common stock offered by the selling stockholder	13,513,511 shares of common stock, consisting of (i) 2,249,763 Private Shares, (ii) 3,155,642 shares of common stock issuable upon the exercise of the Pre-Funded Warrants, and (iii) 8,108,106 shares of common stock issuable upon the exercise of the Private Warrants. None of the shares of common stock registered hereby are being offered for sale by us.
Use of proceeds	We will not receive any proceeds from the shares of common stock offered by the selling stockholder pursuant to this prospectus. However, we will receive the proceeds of any cash exercise of the Warrants. We intend to use the net proceeds from any cash exercise of the Warrants for working capital, research and development, marketing and sales, and general corporate purposes. Please see the section entitled see "Use of Proceeds" on page 14 of this prospectus for a more detailed discussion.
Market for our securities	Our common stock is currently traded on Nasdaq under the symbol "CLIR." There is no established public trading market for the Warrants and we do not expect a market to develop. In addition, we do not intend to apply to list the Warrants on any national securities exchange or other nationally recognized trading system. Without an active trading market, the liquidity of the Warrants will be limited.

Risk factors

An investment in our securities involves a high degree of risk. Please see the section entitled "Risk Factors" beginning on page 12 of this prospectus. In addition before deciding whether to invest in our securities, you should consider carefully the risks and uncertainties described in the section captioned "Risk Factors" contained in our [Annual Report on Form 10-K for the fiscal year ended December 31, 2023, filed with the SEC on April 1, 2024](#), our [Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2024, filed with the SEC on May 15, 2024](#), and other filings we make with the SEC from time to time, which are incorporated by reference herein in their entirety, together with other information in this prospectus and the information incorporated by reference herein.

The number of shares of common stock outstanding as of May 16, 2024, was 46,606,660, and excludes, as of such date, the following:

- 924,000 shares of common stock issuable upon the vesting of outstanding restricted stock units;
- 2,657,000 shares issuable upon the exercise of outstanding stock options with a weighted-average exercise price of \$2.11 per share;
- 491,000 shares issuable upon the exercise of outstanding stock options granted outside of our Equity Incentive Plans at a weighted average exercise price of \$1.53 per share;
- 1,966,000 shares reserved for future issuances under the 2021 Plan;
- 188,000 shares reserved for future issuances under the ClearSign Technologies Corporation 2013 Consultant Stock Plan;
- 5,313,874 shares of our common stock issuable upon exercise of the warrants issued, or reserved for future issuance, in connection with an underwritten public offering at an exercise price of \$1.05 per share;

11

- 425,109 shares of our common stock issuable upon exercise of underwriter warrants issued to Public Ventures in connection with an underwritten public offering at an exercise price of \$1.1375 per share;
- 8,108,106 shares of common stock issuable upon exercise of the Private Warrants at an exercise of \$1.05 per share;
- 3,155,642 shares of common stock issuable upon exercise of Pre-Funded Warrants at an exercise of \$0.0001 per share; and
- 432,432 shares of common stock issuable upon exercise of placement agent warrants issued to Public Ventures as placement agent at an exercise of \$1.1375 per share.

RISK FACTORS

An investment in our securities involves a high degree of risk. Before deciding whether to invest in our securities, you should consider carefully the risks and uncertainties described in the section captioned "Risk Factors" contained in our [Annual Report on Form 10-K for the fiscal year ended December 31, 2023, filed with the SEC on April 1, 2024](#), our [Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2024, filed with the SEC on May 15, 2024](#), and our other filings we make with the SEC from time to time, which are incorporated by reference herein in their entirety, together with other information in this prospectus and the information incorporated by reference herein. If any of these risks actually occurs, our business, financial condition, results of operations or cash flow could suffer materially. In such an event, the trading price of our shares of common stock could decline, and you might lose all or part of your investment.

Risks Related to this Offering and to Our Common Stock

If the selling stockholder sells significant amounts of common stock, or the perception exists that these sales could occur, such events could cause the common stock price to decline.

The Private Shares and Warrant Shares held by the selling stockholder being registered for resale in this prospectus will be freely tradable without restriction or further registration under the Securities Act. As a result, a substantial number of shares of common stock may be sold in the public market following this offering. If there are significantly more shares of common stock offered for sale than buyers are willing to purchase, then the market price of the common stock may decline to a market price at which buyers are willing to purchase the offered common stock and sellers remain willing to sell common stock.

We will have broad discretion as to the proceeds that we receive from the cash exercise by any holder of the Warrants, and we may not use the proceeds effectively.

We will not receive any of the proceeds from the sale of the Private Shares and Warrant Shares by the selling stockholder pursuant to this prospectus. However, we may receive up to approximately \$8.5 million in aggregate gross proceeds from cash exercises of the Warrants, based on the per share exercise price of the Warrants, and to the extent that we receive such proceeds, we intend to use the net proceeds from cash exercises of the Warrants for working capital, research and development, marketing and sales, and general corporate purposes. We have considerable discretion in the application of such proceeds. You will not have the opportunity, as part of your investment decision, to assess whether such proceeds are being used in a manner agreeable to you. You must rely on our judgment regarding the application of the net proceeds from cash exercises of the Warrants, which may be used for corporate purposes that do not improve our profitability or increase the price of our shares of common stock. Such proceeds may also be placed in investments that do not produce income or that lose value. The failure to use such funds by us effectively could have a material adverse effect on our business, financial condition, operating results and cash flow.

12

You may experience future dilution as a result of issuance of the Warrant Shares, future equity offerings by us and other issuances of our common stock or other securities. In addition, the issuance of the Warrant Shares, to the extent the Warrants are exercisable, and future equity offerings and other issuances of our common stock or other securities may adversely affect our common stock price.

You may experience future dilution as a result of issuance of the Warrant Shares, future equity offerings by us and other issuances of our common stock or other securities. In order to raise additional capital, we may in the future offer additional shares of our common stock or other securities convertible into or exchangeable for our common stock at prices that may not be the same as the price per share as prior issuances of common stock.

We may not be able to sell shares or other securities in any other offering at a price per share that is equal to or greater than the price per share previously paid by investors, and investors purchasing shares or other securities in the future could have rights superior to existing stockholders. The price per share at which we sell additional shares of our common stock or securities convertible into common stock in future transactions may be higher or lower than the prices per share for previous issuances of common stock or securities convertible into common stock paid by certain investors. In addition, the exercise price of the Warrants for the Warrant Shares may be equal to or greater than the price per share previously paid by certain investors. You will incur dilution upon exercise of any outstanding stock options, warrants or upon the issuance of shares of common stock under our equity incentive programs. In addition, the issuance of the Warrant Shares and any future sales of a substantial number of shares of our common stock in the public market, or the perception that such sales may occur, could adversely affect the price of our common stock. We cannot predict the effect, if any, that market sales of those shares of common stock or the availability of those shares for sale will have on the market price of our common stock.

In making your investment decision, you should rely only on statements made in this prospectus in determining whether to purchase our securities.

You should carefully evaluate all of the information in this prospectus. We have received in the past, and may continue in the future to receive, media coverage, including coverage that is not directly attributable to statements made by our officers and employees, that incorrectly reports on statements made by our officers or employees or that is misleading as a result of omitting to state information provided by us or our officers or employees. You should rely only on the information contained in this prospectus in determining whether to purchase our securities.

The price of our common stock may be volatile, and the market price of our common stock may decrease.

The price of our common stock may vary from time to time. The factors that may cause the market price of our common stock to fluctuate include, but are not limited to:

- progress, or lack of progress, in developing and commercializing our technology;
- our ability to recruit and retain qualified personnel;
- changes in the perception of investors and securities analysts regarding the risks to our business or the condition of our business;
- changes in our relationships with key customers;
- changes in the market valuation or earnings of our competitors or companies viewed as similar to us;
- changes in key personnel;
- changes in our capital structure, such as future issuances of securities or the incurrence of debt;
- the granting or exercise of employee stock options or other equity awards; and
- general market and economic conditions.

In addition, the equity markets have experienced significant price and volume fluctuations that have affected the market prices for the securities of small companies such as ours for a number of reasons, including reasons that may be unrelated to the business or operating performance. These broad market fluctuations may result in a material decline in the market price of our common stock and you may not be able to sell your shares of common stock at prices you deem acceptable. In the past, following periods of volatility in the equity markets, securities class action lawsuits have been instituted against public companies. Such litigation, if instituted against us, could result in substantial cost and in the diversion of management attention.

If we do not have sufficient authorized shares, we will be limited in our ability to reserve adequate shares for certain outstanding warrants.

On April 23, 2024, we consummated an underwritten public offering of 4,620,760 shares of our common stock and accompanying redeemable warrants to purchase up to 4,620,760 shares of common stock, as well as a concurrent private placement of 2,249,763 Private Shares, Pre-Funded Warrants to purchase up to 3,155,642 shares of our common stock and Private Warrants to purchase up to 8,108,106 shares of our common stock. Pursuant to the terms of the Private Warrants, we are required to reserve and maintain at any time after the initial exercise date thereof, which is October 23, 2024, a sufficient amount of shares issuable upon exercise of the Private Warrants. Based on the authorized but unissued and unreserved shares of common stock as of the date of this report, we may not have sufficient shares available to establish and maintain the required amount for such reserve when required, and we may not be able to issue shares of our common stock upon the exercise of the Private Warrants, which may result in a breach by us of the terms of the Private Warrants. Accordingly, we are asking stockholders to approve an amendment to our certificate of incorporation to increase the authorized shares of common stock issuable under our certificate of incorporation to 87,500,000 from 62,500,000 shares currently authorized. If the proposal is not approved by the stockholders, based on the authorized but unissued and unreserved shares of common stock as of the date hereof, we may not have sufficient shares available to establish and maintain the required amount for such reserve when required. There are no assurances that stockholder approval will be obtained and we may not be able to issue shares of our common stock upon the exercise of the Private Warrants, which may result in a breach by us of the terms of the Private Warrants. In addition, without the increase to the number of authorized shares of common stock, we will be limited in the amount of equity we may issue in the future to raise additional capital needed to fund research, development and commercialization of our technologies, to obtain and maintain patents and other intellectual property rights in our technology and for working capital and other purposes.

If we fail to comply with Nasdaq's continued minimum closing bid requirements by October 29, 2024, or other requirements for continued listing, including stockholder equity requirements, our common stock may be delisted and the price of our common stock and our ability to access the capital markets could be negatively impacted.

Our common stock is listed for trading on Nasdaq, therefore, we must satisfy Nasdaq's continued listing requirements, including, among other things, a minimum closing bid price requirement of \$1.00 per share. On May 2, 2024, the Nasdaq staff notified us that we did not comply with the minimum \$1.00 per share bid price requirement for continued listing, as set forth in Nasdaq Listing Rule 5550(a)(2) during the 30 consecutive business day period beginning on March 20, 2024 and ending on May 1, 2024. We have been granted 180 calendar days, or until October 29, 2024, to regain compliance. In the event that we do not regain compliance within this 180 day period, we may be eligible to seek an additional compliance period of 180 calendar days if we meet certain requirements.

There can be no assurance that we will be able to regain compliance with Nasdaq's listing rules. If we are unable to regain compliance with the minimum closing bid price requirement or if we fail to meet any of the other continued listing requirements, including stockholder equity requirements, our securities may be delisted from Nasdaq, which could reduce the liquidity of our common stock materially and result in a corresponding material reduction in the price of our common stock. In addition, delisting could harm our ability to raise capital on terms acceptable to us, or at all, and may result in the potential loss of confidence by investors, employees and business development opportunities.

USE OF PROCEEDS

We will not receive any proceeds from the sale of common stock offered by the selling stockholder under this prospectus. However, we will receive the proceeds of any cash exercise of the Warrants. If all of the Warrants were exercised for cash, we would receive aggregate proceeds of approximately \$8.5 million. We intend to use the net proceeds from any cash exercise of the Warrants for working capital, research and development, marketing and sales, and general corporate purposes.

This expected use of the net proceeds from any cash exercise of the Warrants represents our intentions based upon our current plans and business conditions, and our management will retain broad discretion as to the ultimate allocation of the proceeds. We may temporarily invest funds that we do not immediately need for these purposes in investment securities or use them to make payments on our borrowings.

PRIVATE PLACEMENT

On April 23, 2024, we completed a private placement concurrently with a public offering, in accordance with a Securities Purchase Agreement, dated April 19, 2024, and subsequently amended on April 22, 2024 (as amended, the "Purchase Agreement"), pursuant to which we issued to one accredited investor (i) 2,249,763 Private Shares, (ii) Pre-Funded Warrants to purchase up to 3,155,642 shares of common stock, and (iii) Private Warrants to purchase up to 8,108,106 shares of common stock. The Pre-Funded Warrants are each exercisable immediately upon issuance for one share of common stock at an exercise price of \$0.0001 per share and will expire when exercised in full. We are prohibited from effecting an exercise of any Pre-Funded Warrants to the extent that such exercise would result in the number of shares of common stock beneficially owned by the holder and its affiliates exceeding 4.99% (or 9.99% at election of the holder) of the total number of shares of common stock outstanding immediately after giving effect to the exercise, which percentage may be increased or decreased at the holder's election not to exceed 9.99%.

The Private Warrants were offered and sold at the rate of three Private Warrant for every two shares of common stock (or Pre-Funded Warrants in lieu thereof) purchased in the private placement. The offering prices in the private placement per set of securities was \$0.91 per share and \$0.01 per accompanying Private Warrant, or \$0.9099 per Pre-Funded Warrant and \$0.01 per accompanying Private Warrant, as applicable. The Private Warrants will be exercisable at an exercise price of \$1.05 per share, will be exercisable 6 months after issuance and will expire 5 years from the date of issuance. The Private Warrants are redeemable at any time once they become exercisable upon 30 days' advance notice if the closing price of our common stock reported equals to or exceeds \$2.275 for any 20 business days within a 30 consecutive business-day period, provided that there is an effective registration statement covering the resale of the shares issuable upon exercise of the Private Warrants.

In connection with the private placement, we also issued Public Ventures, as our exclusive placement agent, warrants to purchase up to 432,432 shares of our common stock at an exercise price of \$1.1375 per share as a consideration for the services provided (the "Placement Agent Warrants"). The Placement Agent Warrants will be exercisable 180 days after the execution of the Purchase Agreement, expire 5 years after the date of the Purchase Agreement and may be exercised on a cashless basis based on a formula set forth in the Placement Agent Warrants.

SELLING STOCKHOLDER

This prospectus relates to the possible offer and resale by the selling stockholder from time to time of up to 13,513,511 shares of common stock, consisting of (i) 2,249,763 Private Shares, (ii) 3,155,642 shares of our common stock issuable upon the exercise of the Pre-Funded Warrants, and (iii) 8,108,106 shares of our common stock issuable upon the exercise of the Private Warrants. See "Private Placement" section above for more details. We will not receive any proceeds from the sale of Private Shares, Pre-Funded Warrant Shares or Private Warrant Shares (collectively, the "Shares") by the selling stockholder pursuant to this prospectus.

We are registering the resale of the Shares to fulfill our contractual obligation under the Purchase Agreement we entered into with the selling stockholder in connection with the private placement, pursuant to which we have agreed to, as soon as reasonably practicable after April 23, 2024 but in no event later than 30 days following April 19, 2024, file with the SEC a registration statement on Form S-1 covering the resale of the Shares, and to use our commercially reasonable efforts to, as soon as reasonably practicable thereafter but in no event later than 45 days after April 19, 2024, or 90 days in the event of a review by the SEC, effect such registration statement on Form S-1 covering the Shares, and keep such registration statement on Form S-1 continuously effective under the Securities Act until the date on which the Shares cease to be "Registrable Securities," as defined in the Purchase Agreement. The Shares will cease to be Registrable Securities when (a) a registration statement with respect to the sale of such Registrable Securities is declared effective by the SEC and the Shares have been disposed of by the selling stockholder in accordance with the effective registration statement, (b) the Shares have been previously sold in accordance with Rule 144 promulgated by the SEC pursuant to the Securities Act ("Rule 144"), or (c) such Registrable Securities become eligible for resale without volume or manner-of-sale restrictions and without current public information pursuant to Rule 144.

The selling stockholder may from time to time offer and sell any or all of the securities set forth below pursuant to this prospectus. As used in this prospectus, the term "selling stockholder" includes the persons listed in the table below, together with any additional selling stockholder listed in a subsequent amendment to this prospectus, and their pledgees, donees, transferees, assignees, successors, designees and others who later come to hold any of the selling stockholder's interests in the securities, other than through a public sale.

The following table sets forth, based on written representations from the selling stockholder, certain information as of May 16, 2024, regarding the beneficial ownership of our common stock by the selling stockholder and the securities being offered by the selling stockholder. Information with respect to securities owned beneficially after the offering assumes the sale of all of the shares of common stock registered hereby and full exercise of the Warrants without regard to beneficial ownership limitations set forth in the Warrants. The selling stockholder may offer and sell some, all or none of their shares of common stock.

Beneficial ownership is determined in accordance with the rules and regulations of the SEC. A person is a "beneficial owner" of a security if that person has or shares "voting power," which includes the power to vote or to direct the voting of the security, or "investment power," which includes the power to dispose of or to direct the disposition of the security, or has the right to acquire such powers within 60 days.

Unless otherwise noted in the footnotes to the following table, and subject to applicable community property laws, the persons and entities named in the table have sole voting and investment power with respect to their beneficially owned securities.

Name of Selling Stockholder	Number of Shares of Common Stock Owned Prior to Offering ⁽¹⁾	Maximum Number of Shares of Common Stock to be Being Registered For Resale Pursuant to this Prospectus ⁽²⁾	Number of Shares of Common Stock Owned After the Offering ⁽³⁾	Percentage of Shares Beneficially Owned After the Offering ⁽³⁾
Andrew Schwartzberg	2,325,672 ⁽⁴⁾	13,513,511	-	-%

- (1) The Pre-Funded Warrants that are exercisable for the Pre-Funded Warrant Shares offered hereby contain certain beneficial ownership limitations, which provide that the holder of the Pre-Funded Warrants will not have the right to exercise any portion of its Pre-Funded Warrants if such holder, together with its affiliates, would beneficially own in excess of 4.99%, or 9.99% if elected by the holder, of the number of shares of common stock outstanding immediately after giving effect to such exercise (each such limitation, a "Beneficial Ownership Limitation"). As a result, the number of shares of common stock reflected in this column as beneficially owned by the selling stockholder includes (i) any outstanding shares of common stock held by the selling stockholder, and (ii) if any, the number of shares of common stock subject to the Pre-Funded Warrants exercisable for the Pre-Funded Warrant Shares offered hereby and any other warrants that may be held by such selling stockholder, in each case which such selling stockholder has the right to acquire as of May 16, 2024, or within 60 days thereafter and without it or any of its affiliates beneficially owning more than 4.99%, or 9.99% if applicable, of the number of outstanding shares of common stock as of May 16, 2024. Additionally, in accordance with Rule 13d-3(d) under the Exchange Act, we have excluded from the number of shares of common stock beneficially owned by the selling stockholder prior to the offering all of the shares of our common stock issuable upon exercise of the Private Warrants, because the selling stockholder is restricted from exercising the Private Warrants until October 23, 2024, which is beyond 60 days from the date hereof.
- (2) Represents shares of common stock held by the selling stockholder and shares of common stock issuable upon full exercise of the Warrants without regard to any limitations set forth in the Warrants.
- (3) Percentage is based on 46,606,660 shares of common stock outstanding as of May 16, 2024, assuming the exercise of all of the Warrants and the resale of all of the shares of common stock covered by this prospectus.
- (4) Consists of (i) 2,249,763 Private Shares and (ii) 75,909 shares of our common stock issuable upon the exercise of the Pre-Funded Warrants. The number of shares beneficially owned by the selling stockholder prior to this offering excludes (i) 3,079,733 shares of our common stock issuable upon the exercise of the Pre-Funded Warrants because of the Beneficial Ownership Limitation of 4.99% included in the Pre-Funded Warrants, and (ii) 8,108,106 shares of our common stock issuable upon exercise of the Private Warrants. The securities are directly held by Andrew Schwartzberg. The address of Andrew Schwartzberg is 1135 Rivas Canyon Road, Pacific Palisades, CA 90272.

DESCRIPTION OF SECURITIES

General

The following summary of certain material terms of our securities is not intended to be a complete summary of the rights and preferences of such securities. You should refer to our bylaws and our certificate of incorporation, which are included as exhibits to the Company's [Current Report on Form 8-K, filed with the Securities and Exchange Commission on June 15, 2023](#). The summary below is also qualified by reference to the provisions of the Delaware General Corporation Law (the "DGCL"), as applicable.

Authorized and Outstanding Stock

Our certificate of incorporation authorized capital stock consists of 64,500,000 shares, \$0.0001 par value per share, consisting of: (i) 62,500,000 shares of common stock; and (ii) 2,000,000 shares of preferred stock.

Common Stock

Dividend Rights

The DGCL permits a corporation to declare and pay dividends out of "surplus" or, if there is no "surplus," out of its net profits for the fiscal year in which the dividend is declared and/or the preceding fiscal year. "Surplus" is defined as the excess of the net assets of the corporation over the amount determined to be the capital of the corporation by the Board. The capital of the corporation is typically calculated to be (and cannot be less than) the aggregate par value of all issued shares of capital stock. Net assets equals the fair value of the total assets minus total liabilities. The DGCL also provides that dividends may not be paid out of net profits if, after the payment of the dividend, capital is less than the capital represented by the outstanding stock of all classes having a preference upon the distribution of assets. Delaware common law also imposes a solvency requirement in connection with the payment of dividends.

Subject to applicable law and the rights and preferences of any holders of any outstanding series of preferred stock, the holders of common stock will be entitled to the payment of dividends on the common stock when, as and if declared by the Board in accordance with applicable law.

Voting Rights

Holders of common stock will be entitled to one vote for each share held as of the record date for determining stockholders entitled to vote on such matters, except as otherwise required by law.

Right to Receive Liquidation Distributions

Subject to the rights and preferences of any holders of any shares of any outstanding series of preferred stock, in the event of any liquidation, dissolution or winding up of the Company, the funds and assets of the Company that may be legally distributed to the stockholders will be distributed among the holders of the then outstanding common stock pro rata in accordance with the number of shares of common stock held by each such holder.

Other Matters

All outstanding shares of the common stock will be fully paid and nonassessable. The common stock will not be entitled to preemptive rights and will not be subject to redemption or sinking fund provisions.

Preferred Stock

Our certificate of incorporation provides that shares of preferred stock may be issued from time to time in one or more series. The Board will be authorized to fix the voting rights, if any, designations, powers, preferences, the relative, participating, optional or other special rights and any qualifications, limitations and restrictions thereof, applicable to the shares of each series. The Board will be able to, without stockholder approval, issue preferred stock with voting and other rights that could have anti-takeover effects. The ability of the Board to issue preferred stock without stockholder approval could have the effect of delaying, deferring or preventing a change of control of us or the removal of existing management. We have no preferred stock outstanding at the date hereof. Although we do not currently intend to issue any shares of preferred stock, we cannot assure you that we will not do so in the future.

Warrants

Private Warrants

The Private Warrants were issued on April 23, 2024 in connection with the private placement that was completed simultaneously with a public offering. See "Private Placement" section above for more details.

Exercisability. The Private Warrants are exercisable beginning on October 23, 2024 and expire on April 23, 2029. The Private Warrants are exercisable, at the option of the holder, in whole or in part by delivering to us a duly executed exercise notice and by payment in full in immediately available funds for the number of shares of common stock purchased upon such exercise. No fractional shares of common stock will be issued in connection with the exercise of a Private Warrant. In lieu of fractional shares upon exercise of a Private Warrant, we will, at our election, either pay a cash adjustment in respect of such fraction in an amount equal to such fraction multiplied by the exercise price or round up to the next whole share.

Exercise Price. The Private Warrants have an exercise price of \$1.05 per share. The exercise price is subject to appropriate adjustment in the event of certain stock dividends and distributions, stock splits, stock combinations, reclassifications or similar events affecting our common shares and also upon any distributions of assets, including cash, stock or other property to our stockholders.

Exchange Listing. There is no established public trading market for the Private Warrants and we do not expect a market to develop. We do not intend to apply for listing of the Private Warrants on any securities exchange or other nationally recognized trading system. Without an active trading market, the liquidity of the Private Warrants will be limited.

Fundamental Transactions. In the event of a fundamental transaction, as described in the warrants and generally including any reorganization, recapitalization or reclassification of our common stock, the sale, transfer or other disposition of all or substantially all of our properties or assets, or our consolidation or merger with or into another person, the holders of the warrants will be entitled to receive upon exercise of the warrants the kind and amount of securities, cash or other property that the holders would have received had they exercised the warrants immediately prior to such fundamental transaction.

Amendment. The Private Warrants may be modified or amended and the provisions thereof may be waived with the written consent of the Company and holders of a majority of the then outstanding Private Warrants (based on the number of Private Warrant Shares then underlying such Private Warrants).

Rights as a Stockholder. Except as otherwise provided in the Private Warrants or by virtue of such holder's ownership of our common shares, the holder of a Private Warrant does not have the rights or privileges of a holder of our common shares, including any voting rights, until the holder exercises the Private Warrant.

Pre-Funded Warrants

The Pre-Funded Warrants were issued on April 23, 2024 in connection with the private placement that was completed simultaneously with a public offering. See "Private Placement" section above for more details.

The Pre-Funded Warrants have substantially the same terms as the Private Warrants except as follows:

Exercisability. The Pre-Funded Warrants are exercisable immediately and the holder of the Pre-Funded Warrant is entitled to exercise at any time until the Pre-Funded Warrant is exercised in full. The aggregate exercise price of each Pre-Funded Warrant, except for a nominal exercise price of \$0.0001 per Pre-Funded Warrant Share, was pre-funded to the Company on or prior to April 23, 2024, and consequently, no additional consideration (other than the nominal exercise price of \$0.0001 per Pre-Funded Warrant Share) shall be required to be paid by the holder of the Pre-Funded Warrant to any person to effect any exercise of the Pre-Funded Warrant. The holder of the Pre-Funded Warrant is not entitled to return or refund all, or any portion of such prepaid aggregate exercise price under any circumstance for any reason whatsoever. The remaining unpaid exercise price per share of common stock under the Pre-Funded Warrant is \$0.0001, subject to adjustment in accordance with the terms of the Pre-Funded Warrants.

Exercise Limitation. A holder will not have the right to exercise any portion of the Pre-Funded Warrant if the holder (together with its affiliates) would beneficially own in excess of 4.99% (or 9.99% upon the request of the holder) of the number of common stock outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the Pre-Funded Warrants. However, any holder may increase or decrease such percentage not to exceed 9.99%, provided that any increase will not be effective until the 61st day after such election.

Public Warrants

The Public Warrants were issued in connection with an underwritten public offering on April 23, 2024 and, in connection with the underwriter's exercise of its over-allotment option, on May 15, 2024. See "Recent Developments – Public Offering and Concurrent Private Placement" section above for more details.

Exercise Price. The initial exercise price of the Public Warrants is \$1.05 per share of common stock. The exercise price is subject to appropriate

adjustment in the event of certain stock dividends and distributions, stock splits, stock combinations, reclassifications or similar events affecting our common stock.

Exercisability. The Public Warrants are exercisable at any time after the date of issuance, in whole or in part, and at any time up to the date that is five years from the date of issuance, at which time any unexercised Public Warrants will expire and cease to be exercisable. The Public Warrants will be exercisable, at the option of each holder, in whole or in part by delivering to us a duly executed exercise notice and by payment in full in immediately available funds for the number of shares of common stock purchased upon such exercise. No fractional shares of common stock will be issued in connection with the exercise of a Public Warrant. In lieu of fractional shares upon exercise of a Public Warrant, we will, at our election, either pay a cash adjustment in respect of such fraction in an amount equal to such fraction multiplied by the exercise price or round up to the next whole share.

Transferability. A Public Warrant in book entry form may be transferred at the option of the holder through the facilities of The Depository Trust Company ("DTC") and Public Warrants in physical form may be transferred upon surrender of the Public Warrant to the warrant agent together with the appropriate instruments of transfer. Pursuant to a warrant agent agreement between us and the warrant agent, the Public Warrants were issued in book-entry form and were represented by one or more global certificates deposited with DTC and registered in the name of Cede & Co., a nominee of DTC, or as otherwise directed by DTC.

Redemption. At any time prior to the full exercise or the termination date of the Public Warrants, the Company has the right to call the Public Warrants for redemption upon 30 days' prior written or published notice at a price of \$0.01 per Public Warrant, provided that the closing price of the common stock reported, for at least 20 of the 30 consecutive business days ending on the business day prior to the Company's giving notice of redemption, has been at least \$2.275 per share, subject to adjustment. Holders of the Public Warrants have the right to exercise the Public Warrants prior to the date set forth in the Company's notice of redemption. After such date, all rights of the holders will terminate, other than the right to receive the redemption price of \$0.01 per Public Warrant, without interest.

Fundamental Transactions. In the event of a fundamental transaction, as described in the Public Warrants and generally including any reorganization, recapitalization or reclassification of our common stock, the sale, transfer or other disposition of all or substantially all of our properties or assets, or our consolidation or merger with or into another person, the holders of the Public Warrants will be entitled to receive upon exercise of the Public Warrants the kind and amount of securities, cash or other property that the holders would have received had they exercised the Public Warrants immediately prior to such fundamental transaction.

Exchange Listing. The Public Warrants are not listed on Nasdaq or any other national securities exchange or any other nationally recognized trading system, and we do not intend to do so.

Rights as a Stockholder. Except as otherwise provided in the Public Warrants or by virtue of such holder's ownership of shares of our common stock, the holder of a Public Warrant does not have the rights or privileges of a holder of our common stock, including any voting rights, until the holder exercises the Public Warrant.

Underwriter and Placement Agent Warrants

In connection with the public offering and concurrent private placement, on April 23, 2024, we issued Public Ventures 5-year warrants to purchase up to 369,660 shares of common stock part of their underwriter compensation (the "Underwriter's Warrants," together with the Placement Agent Warrants, the "Public Venture Warrants"). Subsequently, on May 15, 2024, we issued additional Underwriter's Warrants to purchase up to 55,449 shares of common stock in connection with Public Ventures' full exercise of its over-allotment option. We also issued Placement Agent Warrants to purchase up to 432,432 shares of common stock as part of Public Ventures' placement agent compensation for the private placement. The terms of the Public Venture Warrants are substantially the same.

Exercisability. The Public Venture Warrants will become exercisable on October 16, 2024, in whole or in part, and at any time after such date up to the date that is five years from the date of issuance, at which time any unexercised Public Venture Warrants will expire and cease to be exercisable. The Public Venture Warrants may be exercised on a cashless basis based on a formula set forth in the Public Venture Warrants.

Exercise Price. The initial exercise price is \$1.1375 per share of common stock. The exercise price is subject to appropriate adjustment in the event of certain stock dividends and distributions, stock splits, stock combinations, reclassifications or similar events affecting our common stock.

Exercise Limitation. A holder will not have the right to exercise any portion of the Public Venture Warrants if the holder (together with its affiliates) would beneficially own in excess of 4.99% (or 9.99% upon the request of the investor) of the number of common stock outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the Public Venture Warrants. However, any holder may increase or decrease such percentage not to exceed 9.99%, provided that any increase will not be effective until the 61st day after such election.

Registration Rights. We agreed to, upon written demand of the majority holders of the Underwriter's Warrants and the majority holders of the Placement Agent Warrants, which rights are exercisable together only, each of the Public Venture Warrants, register on one occasion all of the shares issuable upon exercise of the Public Venture Warrants (the "Public Ventures Shares"). On such occasion, we will file a registration statement or a post-effective amendment to the registration statement covering the Public Ventures Shares within 45 days after receipt of a demand notice and use reasonable commercial efforts to have such registration statement or post-effective amendment declared effective as soon as possible thereafter. Additionally, if during the period of 5 years after issuance we propose to register any of our securities under the Securities Act, subject to certain exceptions, whether for our account or for the account of any holder of our securities other than the Public Ventures Shares, we shall at each time give prompt written notice to such holders of our intention to do so, and the holders will be able to exercise "piggy-back" rights provided in the Public Venture Warrants by giving us written notice within 10 days after the receipt of any such notice of their intent to exercise such "piggy-back" rights provided therein.

Anti-Takeover Provisions

Certain provisions of Delaware law, the certificate of incorporation, and the bylaws, which are summarized below, may have the effect of delaying, deferring, or discouraging another person from acquiring control of the Company. They are also designed, in part, to encourage persons seeking to acquire control of the Company to negotiate first with the Board.

Removal of Directors

Subject to the special rights of the holders of one or more outstanding series of preferred stock to elect directors, the certificate of incorporation provides that directors may be removed from office at any time, with or without cause, only by the affirmative vote of the holders of at least a majority of the voting power of all of the then outstanding shares of voting stock of the Company entitled to vote at an election of directors.

Board of Directors Vacancies

Subject to the special rights of the holders of one or more outstanding series of preferred stock to elect directors, and except as otherwise provided by law, our certificate of incorporation authorizes only a majority of the remaining members of the Board (other than any directors elected by the separate vote of one or more outstanding series of preferred stock), even though less than a quorum, to fill vacant directorships, including newly created seats. In addition, the number of directors constituting the Board will be permitted to be set only by a resolution of the Board. These provisions would prevent a stockholder from increasing the size of the Board and then gaining control of the Board by filling the resulting vacancies with its own nominees. This will make it more difficult to change the composition of the Board and will promote continuity of management.

Stockholder Action; Special Meeting of Stockholders

Our bylaws provide that the our stockholders may take any action required or permitted to be taken at an annual or special meeting of stockholders by written consent in lieu of a meeting. The certificate of incorporation and bylaws further provide that special meetings of the Company's stockholders may be called only by the chairman of the Board, the Chief Executive Officer of the Company or the Board pursuant to a resolution adopted by a majority of Board, and may not be called by any other person, including the Company's stockholders.

Section 203 of the DGCL

We have opted out of Section 203 of the DGCL under our certificate of incorporation. As a result, pursuant to our certificate of incorporation, we are prohibited from engaging in any business combination with any stockholder for a period of three years following the time that such stockholder (the "interested stockholder") came to own at least 15% of our outstanding voting stock (the "acquisition"), except if:

- the Board approved the acquisition prior to its consummation;
- the interested stockholder owned at least 85% of the outstanding voting stock upon consummation of the acquisition; or
- the acquisition is approved by our Board, and by the affirmative vote of at least two-thirds vote of the non-interested stockholders in a meeting.

The restrictions described above will apply subject to certain exceptions, including if a stockholder becomes an interested stockholder inadvertently and, as soon as practicable, divests itself of ownership of such shares so that the stockholder ceases to be an interest stockholder, and, within the three (3) year period, that stockholder has not become an interested stockholder but for such inadvertent acquisition of ownership. Generally, a "business combination" or "acquisition" includes any merger, consolidation, asset or stock sale or certain other transactions resulting in a financial benefit to the interested stockholder. Subject to certain exceptions, an "interested stockholder" is a person who, together with that person's affiliates and associates, owns, or within the previous three years owned, 15% or more of our outstanding voting stock.

Our certificate of incorporation provisions that elect to opt out of Section 203 of the DGCL may make it more difficult for a person who would be an "interested stockholder" to effect various business combinations with us for a three-year period. This may encourage companies interested in acquiring us to negotiate in advance with our Board because the stockholder approval requirement would be avoided if our Board approves the acquisition which results in the stockholder becoming an interested stockholder. This may also have the effect of preventing changes in our Board and may make it more difficult to accomplish transactions which stockholders may otherwise deem to be in their best interests.

Advance Notice Requirements for Stockholder Proposals and Director Nominations

The bylaws provide that the Company's stockholders seeking to bring business before the Company's annual meeting of stockholders, or to nominate candidates for election as directors at the Company's annual or a special meeting of stockholders must provide timely notice of their intent in writing. To be timely, a stockholder's notice must be received by the Secretary at the Company's principal executive offices (i) in the case of an annual meeting, not later than the close of business on the 90th day nor earlier than the close of business on the 120th day before the anniversary date of the immediately preceding annual meeting of stockholders (subject to certain exceptions), and (ii) in the case of a special meeting of stockholders called for the purpose of electing directors, not later than the close of business on the 10th day following the day on which public announcement of the date of the special meeting is first made by the Company. The bylaws also specify certain requirements as to the form and content of a stockholders' meeting. These provisions may preclude the Company stockholders from bringing matters before an annual meeting of stockholders or from making nominations for directors at an annual meeting of stockholders.

No Cumulative Voting

The DGCL provides that stockholders are not entitled to cumulate votes in the election of directors unless a corporation's certificate of incorporation provides otherwise. Our certificate of incorporation does not provide for cumulative voting.

Amendment of Certificate of Incorporation Provisions

Amendments to the provisions of the certificate of incorporation related to restrictions on any business combination with any interested stockholder and indemnification of directors and officers of the Company require the affirmative vote of the holders of at least sixty six and two-thirds percent (66 and 2/3%) of the total voting power of all the then outstanding shares of stock of the Company entitled to vote thereon, voting together as a single class.

Authorized but Unissued Capital Stock

Our authorized but unissued common stock and preferred stock are available for future issuances without stockholder approval and could be utilized for a variety of corporate purposes, including future offerings to raise additional capital, acquisitions and employee benefit plans. The existence of authorized but unissued and unreserved common stock and preferred stock could render more difficult or discourage an attempt to obtain control of the Company by means of a proxy contest, tender offer, merger or otherwise.

Exclusive Forum

The certificate of incorporation provides that, unless the Company consents in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware (or, if the Court of Chancery does not have jurisdiction, the federal district court for the District of Delaware or other

state courts of the State of Delaware) and any appellate court thereof shall, to the fullest extent permitted by law, be the sole and exclusive forum for: (i) any derivative action, suit or proceeding ("Proceeding") brought on behalf of the Company; (ii) any Proceeding asserting a claim of breach of a fiduciary duty owed by any of the Company's directors, officers, or stockholders to the Company or its stockholders; (iii) any Proceeding arising pursuant to any provision of the DGCL, certificate of incorporation or the bylaws, as amended; (iv) any Proceeding as to which the DGCL confers jurisdiction on the Court of Chancery of the State of Delaware; or (v) any Proceeding asserting a claim against the Company or any current or former director, officer or stockholder governed by the internal affairs doctrine. This provision would not apply to suits brought to enforce any liability or duty created by or apply to suits brought to enforce any liability or duty created by the Securities Act, the Exchange Act or any other claim for which the federal courts of the United States have exclusive jurisdiction. The certificate of incorporation further provides that, unless the Company consents in writing to the selection of an alternative forum, the federal district courts of the United States shall be the exclusive forum for the resolution of any complaint asserting a cause of action arising under the Securities Act. These provisions may have the effect of discouraging lawsuits against the Company or its directors and officers.

Limitations on Liability and Indemnification of Directors and Officers

The certificate of incorporation provides that no director of the Company shall have any personal liability to the Company or its stockholders for monetary damages for any breach of fiduciary duty as a director, except to the extent such exemption from liability or limitation thereof is not permitted under the DGCL. Amendments to these provisions shall not adversely affect any right or protection of a director of the Company in respect of any act or omission occurring prior to the time of such amendment.

The certificate of incorporation further provides that the Company indemnify directors and officers to the fullest extent permitted by law. The Company is also expressly authorized to advance certain expenses (including, without limitation, attorneys' fees) to its directors and officers and to maintain insurance, at its expense, to protect itself and/or any director, officer, employee or agent of the Company against any expense, liability or loss, whether or not the Company would have the power to indemnify such person against such expense, liability or loss under the DGCL.

In addition, the Company entered into separate indemnification agreements with its directors and officers. These agreements, among other things, requires the Company to indemnify its directors and officers for certain expenses, including attorneys' fees, judgments, fines and settlement amounts incurred by a director or officer in any action or proceeding arising out of their services as one of the Company's directors or officers or any other company or enterprise to which the person provides services at the Company's request.

Stockholders' Derivative Actions

Under the DGCL, any of our stockholders may bring an action in the Company's name to procure a judgment in its favor, also known as a derivative action; provided that the stockholder bringing the action is a holder of our shares at the time of the transaction to which the action relates.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is VStock Transfer, LLC.

Trading Symbols and Market

Our common stock is listed on Nasdaq under the symbol "CLIR."

PLAN OF DISTRIBUTION

The selling stockholder, as used herein, includes donees, pledgees, transferees or other successors-in-interest selling the Private Shares and the Warrant Shares, or interests in the Private Shares or Warrant Shares received after the date of this prospectus from the selling stockholder as a gift, pledge, partnership distribution or other transfer, may, from time to time, sell, transfer or otherwise dispose of any or all of such selling stockholder's shares of common stock or interests in the shares of common stock on any stock exchange, market or trading facility on which the shares are traded or in private transactions. The selling stockholder may sell all or a portion of the shares of common stock held by the selling stockholder and offered hereby from time to time directly or through one or more underwriters, broker-dealers or agents. If the shares of common stock are sold through underwriters or broker-dealers, the selling stockholder will be responsible for underwriting discounts or commissions or agent's commissions. The shares of common stock may be sold in one or more transactions at fixed prices, at prevailing market prices at the time of the sale, at varying prices determined at the time of sale or at negotiated prices. These sales may be effected in transactions, which may involve crosses or block transactions, pursuant to one or more of the following methods:

- on any national securities exchange or quotation service on which the securities may be listed or quoted at the time of sale;
- in the over-the-counter market;
- in transactions otherwise than on these exchanges or systems or in the over-the-counter market;
- through the writing or settlement of options or other hedging transactions, whether such options are listed on an options exchange or otherwise;
- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- block trades in which the broker-dealer will attempt to sell the shares as agent but may position and resell a portion of the block as principal to facilitate the transaction;

- purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- short sales effected after the date the registration statement of which this prospectus is a part was declared effective by the SEC;
- broker-dealers may agree with the selling stockholder to sell a specified number of such shares at a stipulated price per share;
- a combination of any such methods of sale; and
- any other method permitted pursuant to applicable law.

The aggregate proceeds to the selling stockholder from the sale of the shares of common stock offered by the selling stockholder will be the purchase price of the shares of common stock less discounts or commissions, if any. The selling stockholder reserves the right to accept and, together with their agents from time to time, to reject, in whole or in part, any proposed purchase of shares of common stock to be made directly or through agents. We will not receive any of the proceeds from sales of shares by the selling stockholder.

The selling stockholder may also sell shares of common stock under Rule 144 promulgated under the Securities Act, if available, rather than under this prospectus. In addition, the selling stockholder may transfer the shares of common stock by other means not described in this prospectus. If the selling stockholder effects such transactions by selling shares of common stock to or through underwriters, broker-dealers or agents, such underwriters, broker-dealers or agents may receive commissions in the form of discounts, concessions or commissions from the selling stockholder or commissions from purchasers of the shares of common stock for whom they may act as agent or to whom they may sell as principal (which discounts, concessions or commissions as to particular underwriters, broker-dealers or agents may be in excess of those customary in the types of transactions involved but, except as set forth in a supplement to this prospectus to the extent required, in the case of an agency transaction will not be in excess of a customary brokerage commission in compliance with FINRA Rule 5110).

In connection with sales of the shares of common stock or otherwise, the selling stockholder may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of the shares of common stock in the course of hedging in positions it assumes. The selling stockholder may also sell shares of common stock short and deliver shares of common stock covered by this prospectus to close out short positions and to return borrowed shares in connection with such short sale. The selling stockholder may also loan or pledge shares of common stock to broker-dealers that in turn may sell such shares. The selling stockholder may also enter into option or other transactions with broker-dealers or other financial institutions or the creation of one or more derivative securities which require the delivery to such broker-dealer or other financial institution of shares of common stock offered by this prospectus, which shares of common stock such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction).

The selling stockholder may pledge or grant a security interest in some or all of the shares of common stock owned by the selling stockholder and, if the selling stockholder defaults in the performance of his secured obligations, the pledgees or secured parties may offer and sell the shares of common stock from time to time pursuant to this prospectus or any amendment to this prospectus under Rule 424(b)(3) or other applicable provision of the Securities Act amending, if necessary, the list including the selling stockholder to include the pledgee, transferee or other successors in interest as selling stockholders under this prospectus. The selling stockholder also may transfer and donate the shares of common stock in other circumstances as permitted by applicable law, in which case the transferees, donees, pledgees or other successors in interest will be the selling beneficial owners for purposes of this prospectus.

To the extent required by the Securities Act and the rules and regulations thereunder, the selling stockholder and any broker-dealer participating in the distribution of the shares of common stock may be deemed to be "underwriters" within the meaning of the Securities Act. In such event, any commission paid, or any discounts or concessions allowed to, any such broker-dealer may be deemed to be underwriting commissions or discounts under the Securities Act. Selling stockholders who are deemed to be "underwriters" under the Securities Act (if any) will be subject to the prospectus delivery requirements of the Securities Act and may be subject to certain statutory liabilities of, including but not limited to, Sections 11, 12 and 17 of the Securities Act and Rule 10b-5 under the Exchange Act.

The selling stockholder has informed us that the selling stockholder is not a registered broker-dealer and does not have any written or oral agreement or understanding, directly or indirectly, with any person to engage in a distribution of the shares of common stock. Upon us being notified in writing by the selling stockholder that any material arrangement has been entered into with a broker-dealer for the distribution of shares of common stock, a prospectus supplement, if required, will be distributed, which will set forth the aggregate amount of shares of common stock being distributed and the terms of the offering, including the name or names of any broker-dealers or agents, any discounts, commissions and other terms constituting compensation from the selling stockholder and any discounts, commissions or concessions allowed or re-allowed or paid to broker-dealers.

Under the securities laws of some states, the shares of common stock may be sold in such states only through registered or licensed brokers or dealers. In addition, in some states the shares of common stock may not be sold unless such shares have been registered or qualified for sale in such state or an exemption from registration or qualification is available and is complied with.

The selling stockholder may sell all, some or none of the shares of common stock registered pursuant to the registration statement on Form S-1 of which this prospectus forms a part. If sold under the registration statement on Form S-1 of which this prospectus forms a part, the shares of common stock registered hereunder will be freely tradable in the hands of persons other than our affiliates that acquire such shares.

We have advised the selling stockholder that the anti-manipulation rules of Regulation M under the Exchange Act may apply to sales of shares of common stock in the market and to the activities of the selling stockholder and his affiliates. In addition, to the extent applicable, we will make copies of this prospectus (as it may be supplemented or amended from time to time) available to the selling stockholder for the purpose of satisfying the prospectus delivery requirements of the Securities Act. The selling stockholder may indemnify any broker-dealer that participates in transactions involving the sale of the shares of common stock against certain liabilities, including liabilities arising under the Securities Act.

LEGAL MATTERS

The validity of the shares of common stock offered hereby will be passed upon for us by Mitchell Silberberg & Knupp LLP, New York, New York.

EXPERTS

The consolidated financial statements for ClearSign Technologies Corporation as of December 31, 2023 and 2022, and for each of the two years in the period ended December 31, 2023, incorporated in this prospectus by reference to the [Annual Report on Form 10-K for the year ended December 31, 2023](#) (which contains an explanatory paragraph relating to the Company's ability to continue as a going concern as described in Note 1 to the consolidated financial statements) have been so incorporated in reliance on the report of BPM CPA LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

INFORMATION INCORPORATED BY REFERENCE

The SEC allows us to incorporate by reference the information we file with it, which means that we can disclose important information to you by referring you to another document that we have filed separately with the SEC. We hereby incorporate by reference the following information or documents into this prospectus, except for information "furnished" under Item 2.02 or Item 7.01 of Form 8-K or other information "furnished" to the SEC which is not deemed filed and not incorporated in this prospectus:

- [our Annual Report on Form 10-K for the year ended December 31, 2023, filed with the SEC on April 1, 2024;](#)
- [Amendment No. 1 on Form 10-K/A to our Annual Report on Form 10-K for the year ended December 31, 2023, filed with the SEC on April 26, 2024;](#)
- [our Quarterly Report on Form 10-Q for the quarter ended March 31, 2024, filed with the SEC on May 15, 2024;](#)

- [our Definitive Proxy Statement on Schedule 14A filed with the SEC on May 10, 2024;](#)
- our Current Reports on Form 8-K filed with the SEC on [January 5, 2024](#), [February 7, 2024](#), [April 19, 2024](#), [April 23, 2024](#), [April 24, 2024](#), [April 25, 2024](#), [May 3, 2024](#) and [May 10, 2024](#); and

- [the description of our common stock contained in Exhibit 4.1 to our Annual Report on Form 10-K for the fiscal year ended December 31, 2023, filed with the SEC on April 1, 2024, and any amendment or report filed for the purpose of updating such description.](#)

Any information in any of the foregoing documents will automatically be deemed to be modified or superseded to the extent that information in this prospectus or in a later filed document that is incorporated or deemed to be incorporated herein by reference modifies or replaces such information.

We also incorporate by reference any future filings (other than current reports furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits filed on such form that are related to such items) made with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, prior to the termination of the offering of the securities made by this prospectus. Information in such future filings updates and supplements the information provided in this prospectus. Any statements in any such future filings will automatically be deemed to modify and supersede any information in any document we previously filed with the SEC that is incorporated or deemed to be incorporated herein by reference to the extent that statements in the later filed document modify or replace such earlier statements.

Notwithstanding the statements in the preceding paragraphs, no document, report or exhibit (or portion of any of the foregoing) or any other information that we have "furnished" to the SEC pursuant to the Exchange Act shall be incorporated by reference into this prospectus.

Upon written or oral request, we will provide to each person, including any beneficial owner, to whom a prospectus is delivered, without charge, a copy of any or all of the documents incorporated by reference, other than exhibits to those documents unless the exhibits are specifically incorporated by reference in the documents. Please send requests to ClearSign Technologies Corporation, 8023 E. 63rd Place, Suite 101, Tulsa, Oklahoma 74133, Attn: Brent Hinds, Telephone: (918) 236-6461.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC, under the Securities Act, a registration statement on Form S-1 relating to the securities offered hereby. This prospectus does not contain all of the information set forth in the registration statement and the exhibits and schedules thereto. For further information with respect to our company and the securities we are offering by this prospectus you should refer to the registration statement, including the exhibits and schedules thereto. The SEC also maintains an Internet site that contains reports, proxy and information statements and other information regarding registrants that file electronically with the SEC. The SEC's website address is <http://www.sec.gov>.

We file annual, quarterly and current reports, proxy statements and other information with the SEC. Our SEC filings are available to the public over the Internet at the SEC's website at <http://www.sec.gov>. The SEC's website contains reports, proxy statements and other information regarding issuers, such as ClearSign Technologies Corporation, that file electronically with the SEC. We make available free of charge through our website our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, Proxy Statements on Schedule 14A and all amendments to those reports as soon as reasonably practicable after such material is electronically filed with or furnished to the SEC. Our website address is <http://www.clearsign.com>. Please note that our website address is provided as an inactive textual reference only. Information contained on or accessible through our website is not part of this prospectus and is therefore not incorporated by reference unless such information is otherwise specifically referenced elsewhere in this prospectus.



2,249,763 Shares of Common Stock
3,155,642 Shares of Common Stock Issuable Upon Exercise of Pre-Funded Warrants
8,108,106 Shares of Common Stock Issuable Upon Exercise of Private Warrants

PRELIMINARY PROSPECTUS

, 2024

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 13. Other Expenses of Issuance and Distribution.

The following table sets forth the costs and expenses, other than placement agent fees, paid or payable by ClearSign Technologies Corporation (the "Registrant") in connection with the sale and distribution of the securities being registered. All amounts are estimated except the SEC registration fee.

Item	Amount
SEC registration fee	\$ 1,592.78
Legal fees and expenses	\$ 25,000
Accounting fees and expenses	10,000
Transfer agent and registrar fees and expenses	5,000
Miscellaneous fees and expenses	5,000
Total	\$ 46,592.78

Item 14. Indemnification of Directors and Officers.

As permitted by Section 102 of the Delaware General Corporation Law (the "DGCL"), the Registrant's Certificate of Incorporation (the "Certificate of Incorporation") and Bylaws (the "Bylaws") contain provisions that limit or eliminate the personal liability of the Registrant's officers and directors for a breach of their fiduciary duty as a director and/or officer, as applicable. For example, the fiduciary duty of care generally requires that, when acting on behalf of the corporation, directors exercise an informed business judgment based on all material information reasonably available to them. Consequently, a director will not be personally liable to the Registrant or its stockholders for monetary damages for breach of fiduciary duty as a director, except to the extent such exemption from liability or limitation thereof is not permitted under the DGCL.

These limitations of liability do not affect the availability of equitable remedies such as injunctive relief or rescission. The Certificate of Incorporation will also authorize the Registrant to indemnify officers, directors, and other agents of the Registrant to the fullest extent permitted under Delaware law.

As permitted by Section 145 of the DGCL, the Bylaws will provide that:

- the Registrant may indemnify directors, officers, and employees of the Registrant to the fullest extent permitted by the DGCL, subject to limited exceptions; and
- the rights provided in the Bylaws are not exclusive.

The Certificate of Incorporation and Bylaws provide for the indemnification provisions described above. The Registrant has entered into, and intends to continue to enter into, separate indemnification agreements with the Registrant's directors and officers that may be broader than the specific indemnification provisions contained in the DGCL. These indemnification agreements generally requires the Registrant, among other things, to indemnify the Registrant's officers and directors against certain liabilities that may arise by reason of their status or service as directors or officers, other than liabilities arising from willful misconduct. These indemnification agreements also generally requires the Registrant to advance any expenses incurred by the directors or officers as a result of any proceeding against them as to which they could be indemnified. These indemnification provisions and the indemnification agreements may be sufficiently broad to permit indemnification of the Registrant's officers and directors for liabilities, including reimbursement of expenses incurred, arising under the Securities Act.

The Registrant has purchased and currently maintains insurance on behalf of each and every person who is or was a director or officer of the Registrant against any loss arising from any claim asserted against him or her and incurred by him or her in any such capacity, subject to certain exclusions.

Item 15. Recent Sales of Unregistered Securities.

During July 2022, the Registrant issued 1,591,594 shares of common stock to clirSPV LLC (the "SPV") pursuant the SPV's participation right, at a price per share of \$1.11, resulting in net cash proceeds to the Registrant of approximately \$1,741,000. The participation right was exercised by the SPV on July 8, 2022 pursuant to the terms and conditions of a Stock Purchase Agreement, dated as of July 12, 2018, as modified from time to time. These shares were issued in reliance upon the exemption from registration provided by Section 4(a)(2) of the Securities Act of 1933, as amended (the "Securities Act") for a transaction by an issuer not involving a public offering.

On April 23, 2024, in connection with a public offering, the Registrant issued warrants to Public Ventures, LLC, as underwriter of the public offering ("Public Ventures"), to purchase up to 369,660 shares of common stock at an exercise price of \$1.1375 per share as a consideration for the services provided (the "Underwriter Warrants"), which will become exercisable on October 16, 2024. Subsequently, on May 15, 2024, in connection with Public Ventures' full exercise of its over-allotment option, we issued to Public Ventures additional Underwriter Warrants to purchase up to 55,449 shares of common stock. The Underwriter Warrants may be exercised on a cashless basis based on a formula set forth in the Underwriter Warrants. The Underwriter Warrants were offered pursuant to the exemption provided in Section 4(a)(2) under the Securities Act and Rule 506(b) promulgated thereunder.

On April 23, 2024, in connection with a private placement that was completed concurrently with the public offering described above, the Registrant issued to one accredited investor (i) 2,249,763 shares of common stock (the "Private Shares"), (ii) pre-funded warrants (the "Pre-Funded Warrants") to purchase up to 3,155,642 shares of common stock, and (iii) redeemable warrants (the "Private Warrants," together with the Private Shares and Pre-Funded Warrants, the "Private Securities") to purchase up to 8,108,106 shares of common stock, resulting in gross proceeds to the Registrant of approximately \$5,000,000. The Private Securities were offered pursuant to the exemption provided in Section 4(a)(2) under the Securities Act and Rule 506(b) promulgated thereunder.

On April 23, 2024, the Registrant issued Public Ventures, as exclusive placement agent in connection with the private placement described above, warrants to purchase up to 432,432 shares of common stock (the "Placement Agent Warrants") as consideration for their services. The Placement Agent Warrants will become exercisable on October 16, 2024, have an exercise price of \$1.1375 per share and may be exercised on a cashless basis based on a formula set forth in the Placement Agent Warrants. The Placement Agent Warrants were offered pursuant to the exemption provided in Section 4(a)(2) under the Securities Act and Rule 506(b) promulgated thereunder.

From May 16, 2021 to May 16, 2024, the Registrant issued 45,000 shares of common stock pursuant to its 2013 Consultant Stock Plan to Firm IR Group, LLC, with a per share value ranging from \$0.66 to \$2.33, in exchange for their services. These shares were issued in reliance upon the exemption from registration provided by Section 4(a)(2) of the Securities Act, for a transaction by an issuer not involving a public offering.

Item 16. Exhibits and Financial Statement Schedules.

- (a) Exhibit Index

**Exhibit
No.**

Description of Document

- [1.1**](#) [Underwriting Agreement, dated April 19, 2024, by and between ClearSign Technologies Corporation and Public Ventures, LLC, as Representative of the Underwriters \(incorporated by reference to Exhibit 1.1 to the Company's Form 8-K filed with the Securities and Exchange Commission on April 19, 2024\).](#)
- [3.1**](#) [Certificate of Incorporation of ClearSign Technologies Corporation, a Delaware corporation \(incorporated by reference to Exhibit 3.3 to the Company's Form 8-K filed with the Securities and Exchange Commission on June 15, 2023\).](#)

- [3.2**](#) [Bylaws of ClearSign Technologies Corporation, a Delaware corporation \(incorporated by reference to Exhibit 3.4 to the Company's Form 8-K filed with the Securities and Exchange Commission on June 15, 2023\).](#)
- [3.3**](#) [Certificate of Conversion, as filed with the Secretary of State of the State of Delaware on June 14, 2023 \(incorporated by reference to Exhibit 3.1 to the Company's Form 8-K filed with the Securities and Exchange Commission on June 15, 2023\).](#)
- [3.4**](#) [Articles of Conversion, as filed with the Secretary of State of the State of Washington on June 14, 2023 \(incorporated by reference to Exhibit 3.2 to the Company's Form 8-K filed with the Securities and Exchange Commission on June 15, 2023\).](#)
- [4.1**](#) [Form of Common Warrant \(incorporated by reference to Exhibit 4.1 of the Company's Form 8-K filed with the Securities and Exchange Commission on April 19, 2024\).](#)
- [4.2**](#) [Form of Underwriter's Warrant \(incorporated by reference to Exhibit 4.2 of the Company's Form 8-K filed with the Securities and Exchange Commission on April 19, 2024\).](#)
- [4.3**](#) [Form of Private Warrant \(incorporated by reference to Exhibit 4.3 of the Company's Form 8-K filed with the Securities and Exchange Commission on April 19, 2024\).](#)
- [4.4**](#) [Form of Pre-Funded Warrant \(incorporated by reference to Exhibit 4.1 of the Company's Form 8-K filed with the Securities and Exchange Commission on April 23, 2024\).](#)
- [4.5**](#) [Form of Placement Agent Warrant \(incorporated by reference to Exhibit 4.4 of the Company's Form 8-K filed with the Securities and Exchange Commission on April 19, 2024\).](#)
- [5.1*](#) [Opinion of Mitchell Silberberg & Knupp LLP.](#)
- [10.1+**](#) [Form of Confidentiality and Proprietary Rights Agreement \(incorporated by reference to Exhibit 10.6 to the Company's Form 10-K filed with the Securities and Exchange Commission on February 26, 2015\).](#)
- [10.2**](#) [Form of Director and Officer Indemnification Agreement \(incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q filed with the Securities and Exchange Commission on August 14, 2023\).](#)
- [10.3**](#) [ClearSign Combustion Corporation 2013 Consultant Stock Plan \(incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q filed with the Securities and Exchange Commission on May 6, 2013\).](#)
- [10.4+**](#) [Employment Agreement dated January 28, 2019 between the registrant and Colin James Deller \(incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed with the Securities and Exchange Commission on January 30, 2019\).](#)
- [10.5**](#) [Stock Purchase Agreement dated July 12, 2018 between the registrant and clirSPV LLC \(incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed with the Securities and Exchange Commission on July 17, 2018\).](#)
- [10.6**](#) [At-the-Market Sales Agreement, dated December 23, 2020, by and between ClearSign Technologies Corporation and Virtu Americas LLC \(incorporated by reference to Exhibit 1.1 to the Company's Form 8-K filed with the Securities and Exchange Commission on December 23, 2020\).](#)
- [10.7+**](#) [ClearSign Technologies Corporation 2021 Equity Incentive Plan \(incorporated by reference to Appendix A from the Company's Proxy Statement on Schedule 14A filed with the Securities and Exchange Commission on May 7, 2021\).](#)
- [10.8**](#) [2021 Equity Incentive Plan Form of Stock Option Award Agreement \(incorporated by reference to Exhibit 10.13 to the Company's Form 10-K filed with the Securities and Exchange Commission on March 31, 2022\).](#)
- [10.9**](#) [2021 Equity Incentive Plan Form of Restricted Stock Unit Award Agreement \(incorporated by reference to Exhibit 10.14 to the Company's Form 10-K filed with the Securities and Exchange Commission on March 31, 2022\).](#)
- [10.10**](#) [2021 Equity Incentive Plan Form of Restricted Stock Award Agreement \(incorporated by reference to Exhibit 10.15 to the Company's Form 10-K filed with the Securities and Exchange Commission on March 31, 2022\).](#)
- [10.11+**](#) [Offer Letter dated October 18, 2021 by and between the Company and Brent Hinds \(incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q filed with the Securities and Exchange Commission on November 12, 2021\).](#)
- [10.12**](#) [Lease Agreement, entered into as of June 20, 2016, between Paradigm Realty Advisors, L.L.C. and ClearSign Technologies Corporation \(incorporated by reference to Exhibit 10.18 to the Company's Form 10-K filed with the Securities and Exchange Commission on March 31, 2022\).](#)

- [10.13**](#) [First Amendment to Lease, entered into as of July 29, 2019, between Tulsa Portfolio Oklahoma Realty LP and ClearSign Technologies Corporation \(incorporated by reference to Exhibit 10.19 to the Company's Form 10-K filed with the Securities and Exchange Commission on March 31, 2022\).](#)
- [10.14**](#) [Second Amendment to Lease, entered into as of January 14, 2020, between Tulsa Portfolio Oklahoma Realty LP and ClearSign Technologies Corporation \(incorporated by reference to Exhibit 10.20 to the Company's Form 10-K filed with the Securities and Exchange Commission on March 31, 2022\).](#)
- [10.15**](#) [Purchase Right Waiver of clirSPV LLC \(incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed with the Securities and Exchange Commission on May 31, 2022\).](#)
- [10.16+**](#) [Amendment to Employment Agreement between the Company and Colin James Deller \(incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q filed with the Securities and Exchange Commission on August 15, 2022\).](#)
- [10.17**](#) [Catharine de Lacy's Offer Letter, dated February 20, 2023 \(incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed with the Securities and Exchange Commission on February 24, 2023\).](#)
- [10.18**+](#) [Amendment to Offer Letter between the Company and Brent Hinds, dated August 8, 2023 \(incorporated by reference to the Company's Form 10-Q filed with the Securities and Exchange Commission on August 14, 2023\).](#)
- [10.19**](#) [Form of Warrant Agent Agreement by and between ClearSign Technologies Corporation and VStock Transfer, LLC \(incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed with the Securities and Exchange Commission on April 19, 2024\).](#)
- [10.20**](#) [Form of Lock-Up Agreement \(directors and officers\) \(incorporated by reference to Exhibit 10.2 to the Company's Form 8-K filed with the Securities and Exchange Commission on April 19, 2024\).](#)
- [10.21**](#) [Form of Lock-Up Agreement \(5% or greater stockholder\) \(incorporated by reference to Exhibit 10.3 to the Company's Form 8-K filed with the Securities and Exchange Commission on April 19, 2024\).](#)

10.22**	Securities Purchase Agreement, dated as of April 19, 2024 (incorporated by reference to Exhibit 10.4 to the Company's Form 8-K filed with the Securities and Exchange Commission on April 19, 2024).
10.23**	Amendment to Securities Purchase Agreement, dated as of April 22, 2024 (incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed with the Securities and Exchange Commission on April 23, 2024).
10.24**	David M. Maley's Offer Letter, dated April 23, 2024 (incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed with the Securities and Exchange Commission on April 24, 2024).
10.25*	Amendment to Warrant Agency Agreement, dated as of May 15, 2024, by and between ClearSign Technologies Corporation and VStock Transfer, LLC.
21.1**	Subsidiaries of the registrant (incorporated by reference to Exhibit 21 to the Company's Form 10-K filed with the Securities and Exchange Commission on March 31, 2022).
23.1*	Consent of BPM CPA LLP, Independent Registered Public Accounting Firm.
23.2*	Consent of Mitchell Silberberg & Knupp LLP (included in Exhibit 5.1).
24.1*	Power of Attorney (included on the signature page of this Registration Statement).
107*	Filing fee table.

* Filed herewith.

** Previously filed.

+ Agreement with management or compensatory plan or arrangement.

Item 17. Undertakings.

The undersigned registrant hereby undertakes:

- (1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:
 - (i) To include any prospectus required by Section 10(a)(3) of the Securities Act;
 - (ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the SEC pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20% change in the maximum aggregate offering price set forth in the *"Calculation of Registration Fee"* table in the effective registration statement; and
 - (iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement; *provided, however,* that the undertakings set forth in paragraphs (1)(i), (1)(ii) and (1)(iii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in this registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the registration statement.
- (2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.
- (3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.
- (4) That, for purpose of determining liability under the Securities Act of 1933 to any purchaser:
 - (i) Each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and
 - (ii) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii), or (x) for the purpose of providing the information required by Section 10(a) of the Securities Act of 1933 shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof; *provided, however,* that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date.
- (5) That, for the purpose of determining liability of the registrant under the Securities Act of 1933 to any purchaser in the initial distribution of the securities: The undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:
 - (i) Any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;

- (5) That, for the purpose of determining liability of the registrant under the Securities Act of 1933 to any purchaser in the initial distribution of the securities: The undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

- (i) Any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;

- (ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;
 - (iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and
 - (iv) Any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.
- (6) That, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934 of a third party that is incorporated by reference in the registration statement in accordance with Item 1100(c)(1) of Regulation AB shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.
- (7) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

33

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-1 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Tulsa, State of Oklahoma, on May 20, 2024.

CLEARSIGN TECHNOLOGIES CORPORATION

By: /s/ Colin James Deller
Name: Colin James Deller
Title: Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Colin James Deller and Brent Hinds, and each of them singly, as his true and lawful attorney-in-fact and agent with full power of substitution and resubstitution, for him and in his name, place and stead, in any and all capacities, to sign any or all amendments (including any pre-effective or post-effective amendments) to this registration statement or any related registration statement that is to be effective upon filing pursuant to Rule 462(b), and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorney-in-fact and agent full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection with the above premises, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent or his substitute or substitutes, may lawfully do or cause to be done by virtue thereof.

In accordance with the requirements of the Securities Act of 1933, as amended, this registration statement was signed by the following persons in the capacities and on the dates stated.

Dated: May 20, 2024

/s/ Colin James Deller

Colin James Deller
Chief Executive Officer and Director
(Principal Executive Officer)

Dated: May 20, 2024

/s/ Brent Hinds

Brent Hinds
Chief Financial Officer
(Principal Financial and Accounting Officer)

Dated: May 20, 2024

/s/ David M. Maley.

David M. Maley, Director

Dated: May 20, 2024

/s/ Catharine M. de Lacy

Catharine M. de Lacy, Director

Dated: May 20, 2024

/s/ Judith S. Schrecker

Judith S. Schrecker, Director



MITCHELL SILBERBERG & KNUPP LLP
A LAW PARTNERSHIP INCLUDING PROFESSIONAL CORPORATIONS

May 20, 2024

ClearSign Technologies Corporation
8023 East 63rd Place, Suite 101
Tulsa, Oklahoma 74133

Ladies and Gentlemen:

You have requested our opinion with respect to certain matters in connection with the registration by ClearSign Technologies Corporation, a Delaware corporation (the "Company"), of the resale of up to: (i) 2,249,763 shares (the "Shares") of the common stock, par value \$0.0001 per share (the "Common Stock"), of the Company; (ii) 3,155,642 shares of Common Stock issuable upon the exercise of pre-funded warrants (the "Pre-Funded Warrants," and the shares of Common Stock issuable upon the exercise thereof, the "Pre-Funded Warrant Shares") and (iii) 8,108,106 shares of Common Stock issuable upon the exercise of redeemable warrants (the "Private Warrants," and the shares of Common Stock issuable upon the exercise thereof, the "Private Warrant Shares," and the Private Warrants together with the Pre-Funded Warrants, the "Warrants," and the Pre-Funded Warrant Shares together with the Private Warrant Shares, the "Warrant Shares"), to be offered and sold by the named selling stockholder or its permitted transferee (the "Selling Stockholder") pursuant to the Registration Statement on Form S-1 (the "Registration Statement") filed with the Securities and Exchange Commission (the "Commission") under the Securities Act of 1933, as amended (the "Act"), on May 20, 2024. The Shares and Warrants were issued in accordance with a Securities Purchase Agreement entered into by the Company and the Selling Stockholder, dated as of April 19, 2024, and subsequently amended on April 22, 2024 (as amended, the "Purchase Agreement").

In connection with this opinion letter, we have examined and relied upon original, certified, conformed, photostat or other copies of (i) the Certificate of Incorporation of the Company (the "Certificate of Incorporation") and the Bylaws of the Company; (ii) resolutions of the Company's board of directors and a properly constituted and authorized committee thereof; (iii) the Registration Statement and the exhibits thereto; (iv) the Purchase Agreement; (v) the forms of Warrants; and (vi) such other records, documents and instruments as we deemed relevant and necessary for purposes of the opinions stated herein. We have assumed the genuineness of all signatures, the authenticity of all documents submitted to us as originals, the conformity to originals of all documents submitted to us as copies, the accuracy, completeness and authenticity of certificates of public officials; and the due authorization, execution and delivery of all documents by all persons other than by the Company where authorization, execution and delivery are prerequisites to the effectiveness thereof. In passing upon certain corporate records and documents of the Company, we have necessarily assumed the correctness and completeness of the statements made or included therein by the Company, and we express no opinion thereon.

This opinion is being furnished in connection with the requirements of Item 601(b)(5) of Regulation S-K under the Act, and no opinion is expressed herein as to any matter pertaining to the contents of the Registration Statement, other than as expressly stated herein with respect to the resale of the Shares and Warrant Shares. Our opinion is limited to the matters stated herein and no opinion is implied or may be inferred beyond the matters expressly stated. Our opinion herein is expressed solely with respect to the federal laws of the United States and the State of New York and the General Corporation Law of the State of Delaware. Our opinion is based on these laws as in effect on the date hereof, and we disclaim any obligation to advise you of facts, circumstances, events or developments which hereafter may be brought to our attention and which may alter, affect or modify the opinion expressed herein. We are not rendering any opinion as to compliance with any federal or state antifraud law, rule or regulation relating to securities, or to the sale or issuance thereof.

We express no opinion with respect to the enforceability of any agreement or instrument or any provision thereof (i) to the extent such enforceability may be subject to, or affected by, applicable bankruptcy, insolvency, moratorium or similar state or federal laws affecting the rights and remedies of creditors generally (including, without limitation, fraudulent conveyance laws) or general principles of equity (regardless of whether enforceability is considered in a proceeding at law or in equity), (ii) providing for specific performance, injunctive relief or other equitable remedies (regardless of whether such enforceability is sought in a proceeding in equity or at law), (iii) providing for indemnification or contribution, which provisions may be limited by federal and state securities laws or policies underlying such laws, (iv) requiring any waiver of stay or extension laws, diligent performance or other acts which may be unenforceable under principles of public policy or (v) providing for a choice of law, jurisdiction or venue. We have assumed that such agreements, instruments or provisions are enforceable.

Subject to the foregoing and the other matters set forth herein, it is our opinion that:

1. The Shares have been duly authorized and are validly issued, fully paid and nonassessable.
2. The Warrants have been duly authorized and are valid and binding obligations of the Company.
3. The Pre-Funded Warrant Shares have been duly authorized and, when and if issued upon exercise of the Pre-Funded Warrants in accordance with the terms of the Pre-Funded Warrants, will be validly issued, fully paid and nonassessable.
4. The Private Warrant Shares have been duly authorized and, when and if issued upon (i) exercise of the Private Warrants in accordance with the terms of the Private Warrants, (ii) approval by the Company's stockholders of the amendment to the Certificate of Incorporation to increase the number of authorized shares of Common Stock from 62,500,000 to 87,500,000 (the "Amendment") and (iii) filing of the Amendment with the Delaware Secretary of State and the effectiveness thereof, will be validly issued, fully paid and nonassessable.

We consent to the reference to our firm under the caption "Legal Matters" in the prospectus included in the Registration Statement and to the filing of this opinion as an exhibit to the Registration Statement. In giving such consent, we do not thereby admit that we are in the category of persons whose consent is required under Section 7 of the Act or the rules and regulations of the Commission thereunder.

Very truly yours,

/s/ Mitchell Silberberg & Knupp LLP

CLEARSIGN TECHNOLOGIES CORPORATION
AMENDMENT TO WARRANT AGENCY AGREEMENT

This Amendment to the Warrant Agency Agreement (this "Amendment"), dated as of May 15, 2024, is made by and between ClearSign Technologies Corporation, a Delaware corporation (the "Company"), and VStock Transfer, LLC ("VStock"). Unless otherwise defined herein, capitalized terms shall have the meanings assigned to such terms in the Original WAA (as defined below).

WHEREAS, the Company and VStock are parties to that certain Warrant Agency Agreement, dated as of April 23, 2024 (the "Original WAA"), pursuant to which the Company engaged VStock to act on behalf of the Company as the Company's transfer agent in connection with the issuance, registration, transfer, exchange and replacement of Warrants offered and sold by the Company in the Offering pursuant to the terms of that certain Underwriting Agreement (the "Underwriting Agreement"), dated April 19, 2024, by and between the Company and Public Ventures, LC, as representative of the underwriters named therein (the "Representative");

WHEREAS, the parties desire to amend the Original WAA to engage VStock to act on behalf of the Company as the Company's transfer agent in connection with the issuance, registration, transfer, exchange and replacement of additional warrants to purchase Common Stock to be offered and sold by the Company pursuant to the exercise of its over-allotment option under the Underwriting Agreement.

NOW, THEREFORE, in consideration of the mutual covenants and agreements contained herein and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, and with the intent to be legally bound, the parties hereto hereby agree as follows:

1. The reference to "4,620,760 units" in the first paragraph of the preamble to the Original WAA is hereby replaced with a reference to "5,313,874 units".
2. Wherever the terms and conditions of this Amendment and the terms and conditions of the Original WAA are in conflict, the terms and conditions of this Amendment shall be deemed to supersede the conflicting terms and conditions of the Original WAA. Unless expressly amended by this Amendment, the terms and conditions of the Original WAA shall remain in full force and effect.
3. All questions concerning the construction, validity, enforcement and interpretation of this Amendment shall be governed by and construed and enforced in accordance with the internal laws of the State of New York, without regard to the principles of conflicts of law thereof.
4. This Amendment may be executed in two or more counterparts, all of which when taken together shall be considered one and the same agreement and shall become effective when counterparts have been signed by each party and delivered to each other party, it being understood that the parties need not sign the same counterpart. In the event that any signature is delivered by e-mail delivery of a ".pdf" format data file, such signature shall create a valid and binding obligation of the party executing (or on whose behalf such signature is executed) with the same force and effect as if such ".pdf" signature page were an original thereof.

(Signature Pages Follow)

IN WITNESS WHEREOF, the undersigned have executed and delivered this Amendment as of the date first written above.

CLEARSIGN TECHNOLOGIES CORPORATION

By: /s/ Colin James Deller
 Name: Colin James Deller
 Title: Chief Executive Officer

VSTOCK TRANSFER, LLC

By: /s/ Jenny Chen
 Name: Jenny Chen
 Title: Compliance Officer

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in this Registration Statement on Form S-1 of our report (which contains an explanatory paragraph relating to the Company's ability to continue as a going concern as described in Note 1 to the consolidated financial statements) dated March 29, 2024, relating to the consolidated financial statements of ClearSign Technologies Corporation, which appears in ClearSign Technologies Corporation's Annual Report on Form 10-K for the year ended December 31, 2023. We also consent to the reference to us under the heading "Experts" in such Registration Statement.

/s/ BPM CPA LLP
May 20, 2024
Santa Monica, California

Calculation of Filing Fee Tables

Form S-1
(Form Type)ClearSign Technologies Corporation
(Exact Name of Registrant as Specified in its Charter)

	Security Type	Security Class Title	Fee Calculation or Carry Forward Rule	Amount Registered	Proposed Maximum Offering Price Per Share ⁽⁴⁾	Maximum Aggregate Offering Price	Fee Rate	Amount of Registration Fee ⁽⁵⁾		
Fees to be Paid	Equity	Common stock, par value \$0.0001 per share	Rule 457(c)	2,249,763 ⁽¹⁾	\$0.79855	\$1,796,548.24	0.00014760	\$ 265.17		
Fees to be Paid	Equity	Common stock issuable upon exercise of redeemable warrants	Rule 457(c)	8,108,106 ⁽²⁾	\$0.79855	\$6,474,728.05	0.00014760	\$955.67		
Fees to be Paid	Equity	Common stock issuable upon exercise of pre-funded warrants	Rule 457(c)	3,155,642 ⁽³⁾	\$0.79855	\$2,519,937.92	0.00014760	\$371.94		
Total Offering Amounts					\$10,791,214.21		\$1,592.78			
Total Fees Previously Paid					—					
Total Fee Offsets					—					
Net Fee Due					\$1,592.78					

(1) Consists of 2,249,763 shares of the Registrant's common stock, par value \$0.0001 per share (the "common stock"), to be offered and sold by the selling stockholder named in the registration statement or their permitted transferees.

(2) Represents shares of common stock issuable upon the exercise of redeemable warrants to purchase common stock at an exercise price of \$1.05 per share, subject to adjustment in accordance with the terms of the redeemable warrants, issued by the Registrant on April 23, 2024, , to be offered and sold by the selling stockholder named in the registration statement or their permitted transferees

(3) Represents shares of common stock issuable upon the exercise of pre-funded warrants to purchase common stock at a nominal exercise price of \$0.0001 per share, subject to adjustment in accordance with the terms of the pre-funded warrants, issued by the Registrant on April 23, 2024, to be offered and sold by the selling stockholder named in the registration statement or their permitted transferees.

(4) Estimated solely for the purpose of calculating the registration fee, based on the average of the high and low prices of the common stock on the Nasdaq Capital Market on May 14, 2024 (such date being within five business days of the date that this registration statement was filed with the Securities and Exchange Commission). This calculation is in accordance with Rule 457(c) of the Securities Act of 1933, as amended (the "Securities Act").

(5) The fee is calculated by multiplying the aggregate offering amount by 0.00014760, pursuant to Section 6(b) of the Securities Act.