Up to \$20,000,000 of Ordinary Shares and 288,684 Ordinary Shares as Commitment Shares



RAIL VISION LTD.

This prospectus supplement relates to the issuance and sale of up to \$20,000,000 of our ordinary shares, or the Advance Shares, that we may issue from time to time, in one or more transactions in amounts, at prices, and on terms that will be determined at the time these securities are offered pursuant to the Standby Equity Purchase Agreement, dated October 7, 2024, or the SEPA, that we have entered into with YA II PN, Ltd., or Yorkville, whereby Yorkville has committed to purchase up to \$20,000,000 of our ordinary shares (subject to the terms and conditions set forth in the SEPA) and we have agreed to issue to Yorkville 288,684 ordinary shares, or the Commitment Shares, on the date of the execution of the SEPA as consideration for Yorkville's irrevocable commitment to purchase our ordinary shares under the SEPA. This prospectus supplement relates to the issuance of the Commitment Shares. See "Prospectus Supplement Summary—Standby Equity Purchase Agreement with Yorkville" for a description of the SEPA.

This prospectus supplement and the accompanying prospectus also cover the sale of these shares by Yorkville to the public. Though we have been advised by Yorkville, and Yorkville represents in the SEPA, that Yorkville is purchasing the shares for its own account, for investment purposes in which it takes investment risk (including, without limitation, the risk of loss), and without any view or intention to distribute such shares in violation of the Securities Act of 1933, as amended, or the Securities Act, or any other applicable securities laws, the Securities and Exchange Commission, or the SEC, may take the position that Yorkville may be deemed an "underwriter" within the meaning of Section 2(a)(11) of the Securities Act and any profits on the sales of our ordinary shares by Yorkville and any discounts, commissions or concessions received by Yorkville are deemed to be underwriting discounts and commissions under the Securities Act. For additional information on the methods of sale that may be used by Yorkville, see the section entitled "Plan of Distribution" on page S-12.

Our ordinary shares are listed on the Nasdaq Capital Market under the symbol "RVSN." On October 4, 2024, the last reported sale price of the ordinary shares on the Nasdaq Capital Market was \$0.54 per ordinary share.

We are an emerging growth company, as defined in the Jumpstart Our Business Startups Act of 2012, and have elected to comply with certain reduced public company reporting requirements.

Investing in the securities involves a high degree of risk. See "Risk Factors" beginning on page S-4 of this prospectus supplement and in the documents incorporated by reference into this prospectus supplement and the accompanying prospectus for a discussion of information that should be considered in connection with an investment in the ordinary shares.

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

The date of this prospectus supplement is October 7, 2024

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ABOUT THIS PROSPECTUS SUPPLEMENT

A registration statement on Form F-3 (File No. 333-278645) utilizing a shelf registration process relating to the securities described in this prospectus supplement was declared effective on April 23, 2024. Under that shelf registration statement, of which this prospectus supplement is a part, we may, from time to time, sell up to an aggregate of \$100 million of ordinary shares, warrants and units. As of October 7, 2024, we have not sold any ordinary shares under that shelf registration statement. We sometimes refer to the ordinary shares as the "securities" throughout this prospectus.

This document contains two parts. The first part is this prospectus supplement, which describes the terms of this offering of the Ordinary Shares, and also adds, updates and changes information contained in the accompanying prospectus and the documents incorporated herein and therein by reference. The second part is the accompanying prospectus, which gives more general information about us, some of which may not apply to this offering. You should read both this prospectus supplement and the accompanying prospectus, including the information incorporated by reference herein and therein. To the extent the information contained in this prospectus supplement differs or varies from the information contained in the accompanying prospectus supplement and incorporated herein or therein by reference, the information in this prospectus supplement and incorporated herein or therein by reference, the information in this prospectus supplement in one of these documents is inconsistent with a statement in another document having a later date, the statement in the document having the later date modifies or supersedes the earlier statement. In addition, this prospectus supplement and the accompanying prospectus (including the exhibits to the registration statement). For further information about us, you should refer to that registration statement, which you can obtain from the SEC as described elsewhere in this prospectus supplement under "Where You Can Find Additional Information." You may obtain a copy of this prospectus supplement, the accompanying prospectus and any of the documents incorporated by reference without charge by requesting it from us in writing or by telephone at the following address or telephone number: Rail Vision Ltd., 15 Ha'Tidhar Street, Ra'anana, 4366517, Israel. Attention: Ofer Naveh, Chief Financial Officer, telephone number: +972-9-957-7706.

You should rely only on the information contained in or incorporated by reference into this prospectus supplement and the accompanying prospectus. We have not, and Yorkville has not, authorized anyone to provide you with information that is different. No dealer, salesperson or other person is authorized to give any information or to represent anything not contained in or incorporated by reference into this prospectus supplement and the accompanying prospectus, and you must not rely upon any information or representation not contained in or incorporated by reference into this prospectus supplement or the accompanying prospectus. This prospectus supplement and the accompanying prospectus do not constitute an offer to sell or solicitation of an offer to buy these securities in any circumstances under which the offer or solicitation is unlawful. Neither we nor Yorkville are making an offer to sell or solicitation is not qualified to do so or to anyone to whom it is unlawful to make an offer or solicitation. You should not assume that the information we have included in this prospectus, respectively, or that any information we have incorporated by reference is accurate as of any date other than the date of the document incorporated by reference, regardless of the time of delivery of this prospectus supplement and the accompanying prospectus or of any of our securities. Our business, financial condition, results of operations and prospects may have changed since those dates.

We are not, and Yorkville is not, making an offer or sale of our ordinary shares in any jurisdiction where such offer or sale is not permitted.

None of we, Yorkville or any of our or their representatives are making any representation to you regarding the legality of an investment in our ordinary shares by you under applicable laws. You should consult with your own advisors as to legal, tax, business, financial and related aspects of an investment in our ordinary shares.

In this prospectus, references to the terms "Rail Vision," "the Company," "we," "us," "our" and similar terms, refer to Rail Vision Ltd. and its subsidiaries, unless we state or the context implies otherwise. We own or have rights to trademarks, service marks and trade names that we use in connection with the operation of our business, including our corporate name, logos and website names. Other trademarks, service marks and trade names appearing in this prospectus are the property of their respective owners. Solely for convenience, some of the trademarks, service marks and trade names referred to in this prospectus are listed without the \mathbb{R} and TM symbols, but we will assert, to the fullest extent under applicable law, our rights to our trademarks, service marks and trade names.

All references to "NIS" are to New Israel Shekels, the lawful currency of Israel. All references to "dollars" or "\$" are to United States dollars, the lawful currency of the United States.

PROSPECTUS SUPPLEMENT SUMMARY

This summary highlights information contained elsewhere or incorporated by reference into this prospectus supplement and the accompanying prospectus. This summary does not contain all of the information that you should consider before investing in our securities. You should carefully read the entire prospectus supplement and the accompanying prospectus, including the "Risk Factors" section, starting on page S-4 of this prospectus supplement and the documents incorporated by reference into this prospectus supplement and the accompanying statements and notes thereto and the other information incorporated by reference herein and therein, before making an investment decision.

Overview

We are a development stage technology company that is seeking to revolutionize railway safety and the data-related market. We believe we have developed cutting edge, AI based, industry-leading detection technology specifically designed for railways, with investments from Knorr-Bremse, a world-class rail system manufacturer. We have developed our railway detection and systems to save lives, increase efficiency, and dramatically reduce expenses for the railway operator.

Following a long-term pilot with Israel Railways that was concluded in August 2022, in January 2023, we signed an agreement with Israel Railways for the purchase of 10 Rail Vision Main Line Systems, which installation started in February 2024. In addition, after a successful six-month long-term pilot with a US-based rail and leasing services company, in January 2024, we signed a supply contract with this customer valued at up to \$5,000,000 for the purchase our AI-based Switch Yard Systems. The first phase of the contract is valued at \$1,000,000. Follow-on orders for additional Switch Yard Systems, valued at up to \$4,000,000, are subject to customer approval. Also, in October 2023, we received a \$500,000 purchase order for a single Main Line System and related services from a leading Latin American mining company, which was delivered to the customer in December 2023. The customer is expected to start a long-term pilot soon after completing the installation.

In addition, our railway detection system is currently in a pilot phase with several industry leading railway operators as we seek to move to the next stage of receiving commercial orders. We believe that our technology will significantly increase railway safety around the world, while creating significant benefits and adding value to everyone who relies on the train ecosystem: from passengers using trains for transportation to companies that use railways to deliver goods and services. In addition, we believe that our technology has the potential to advance the revolutionary concept of autonomous trains into a practical reality.

The increasing electrification and automation of railways and trains are two key factors that are driving growth in the transportation market. Autonomous trains are integrated with advanced systems to provide improved control over the train for stopping, departing and movement between train stations – for example the operators are aiming to increase the density on a given track that's to say more trains per kilometer. From everyday passengers to train operators, there is a rising demand for safe, secure, and efficient transport systems. Additionally, various technological advancements, such as the integration of the Internet of Things, or IoT, and artificial intelligence, or AI, solutions into railway detection systems, are market categories expected to grow in the coming years. These technologies aid in improving the overall operational efficiency and maintaining freight operations and systems.

Autonomous trains, also known as driverless trains, are operated automatically without any human intervention, and are monitored from the control station when communication is available. In case of any obstacle incurred in the route, the obstacle detection system commands the train to stop and in parallel a message is sent to operational control center and to the attendant on the train if any, to further command the train. Owing to increase in traffic congestion on road network, the need for smart and frequent trains has boosted the growth of the global market. According to Allied Market Research, the autonomous train technology market was valued at \$5.88 billion in 2018, and is projected to reach \$15.57 billion by 2026, growing at a CAGR of 12.9% from 2019 to 2026.

Since our founding in April 2016, we have developed unique railway detection systems for railway safety, based on image processing and deep leaning technologies that provide early warnings to train driver of hazards on and around the railway track, including during severe weather and in all lighting conditions. Our unique system uses special high resolution cameras to identify objects up to 2,000 meters away, along with a computer unit that uses AI machine learning algorithms to analyze the images, identify objects on or near the tracks, and warn the train driver of the obstacle and potential danger. In 2017, we were recognized as the winner of Deutsche Banh's MINDBOX competition for our automated early warning systems to prevent railway accidents.

Our railway detection system includes different types of cameras, including optics, visible light spectrum cameras (video) and thermal cameras that transmit data to a ruggedized on-board computer which is designed to be suitable for the rough environment of a train's locomotive. Our railway detection and classification system includes an image-processing and machine-learning algorithm that processes the data for identifying potential hazards on and around the track. These algorithms are designed to identify and classify objects such as people, animals, vehicles, signs, signals along the track, and anomalies. Our railway detection system actively classifies objects by severity to determine if an alarm should be signaled to the train driver. These data collection and classification capabilities can be extended to further use-cases such as predictive maintenance and big-data analyses.

We believe that our technology demonstrates capabilities and results that are better than existing solutions. Most of the currently available safety solutions for the railway industry focus on stationary systems in dedicated hazardous locations, such as at level track crossings and passenger train stations, among others. At these dedicated locations, different technologies are used for detecting obstacles that are on the vicinity of level crossing tracks, and usually include different cameras and radars. The problem with this type of solution is that the train is only monitored at specific points in the railroad junction, leaving the vast majority of the railway unprotected. In addition, even when detected something on the level crossing tracks, the message has to be transmitted in a way that the driver would be able to react on time. In recognition of the limitations of existing solutions, we integrate a collision avoidance system using long-range real-time AI and electro-optics technologies on trains that is designed to address this unmet need. as well as providing solutions to most of the challenges train operators face during transit such as collisions, derailments and other accidents caused by obstacles on tracks, or poor infrastructure.

Standby Equity Purchase Agreement with Yorkville

On October 7, 2024, we entered into the SEPA with Yorkville.

Pursuant to the SEPA, we have the right, but not the obligation, to sell to Yorkville from time to time (each such occurrence, an "Advance") up to \$20.0 million, or the Commitment Amount, of our ordinary shares during the 36 months following the date of execution of the SEPA, subject to the restrictions and satisfaction of the conditions in the SEPA. At the Company's option, the ordinary shares would be purchased by Yorkville from time to time at a price equal to 97% of the lowest of the three daily VWAPs (as hereinafter defined) during a three consecutive trading day period commencing on the date that we, subject to certain limitations, deliver a notice to Yorkville that we are committing Yorkville to purchase such ordinary shares as Advance Shares. We may also specify a certain minimum acceptable price per share in each Advance. "VWAP" means, for any trading day, the daily volume weighted average price of our ordinary shares ADSs for such trading day on the Nasdaq Stock Market during regular trading hours as reported by Bloomberg L.P. As consideration for Yorkville's irrevocable commitment to purchase our ordinary shares up to the Commitment Amount, we issued 288,684 ordinary shares to Yorkville as the Commitment Shares, representing 0.75% of the Commitment Amount, based on the average of the daily VWAPs of our ordinary shares during the three trading days immediately prior to the date of the execution of the SEPA, and also paid a \$10,000 structuring fee to Yorkville.

Pursuant to the SEPA, Yorkville shall not be obligated to purchase or acquire any ordinary shares under the SEPA which, when aggregated with all other ordinary shares beneficially owned by Yorkville and its affiliates, would result in the beneficial ownership of Yorkville and its affiliates (on an aggregated basis) to exceed 4.99% of the then outstanding voting power or number of our ordinary shares.

Subject to the mutual agreement of us and Yorkville, Yorkville may advance to us up to an aggregate of \$3.0 million of the Commitment Amount, which will be evidenced in the form of a promissory note, or the Promissory Note, in one or more tranches and in the amounts that we set forth in such request. Each Promissory Note will mature on the twelve-month anniversary from the issuance date. Each Promissory Note accrues interest at a rate of 5%, and was issued with a 5% original issue discount, and will be repaid in 10 equal monthly installments beginning on the 60th day following the date of such Promissory Note's date of issuance. Each Promissory Note may be repaid with the proceeds of an Advance or series of Advances under the SEPA or repaid in cash.

Subject to the terms set forth in the Promissory Notes, at any time on or after the issuance date, Yorkville shall be entitled to convert any portion of the outstanding principal of the Promissory Notes plus accrued and unpaid interest on such outstanding principal of the Promissory Notes to, but excluding, the conversion date (such amount, the "Conversion Amount") into our ordinary shares at the Conversion Price (as defined below). The number of ordinary shares issuable upon conversion of the Conversion Amount will be determined by dividing (x) such Conversion Amount by (y) the Conversion Price. The "Conversion Price" means, as of any conversion date or other date of determination and subject to adjustments set forth in the Promissory Notes, \$1.00 per ordinary share. The Conversion Price will be adjusted from time to time pursuant to the terms and conditions of the Promissory Notes.

We, at our option and in our sole discretion, shall have the right, but not the obligation, to redeem, each, an Optional Redemption, early a portion or all amounts outstanding under the Promissory Notes, provided that we provide Yorkville with prior written notice, each, a Redemption Notice, of our desire to exercise an Optional Redemption. Unless otherwise agreed with Yorkville, we may only deliver a Redemption Notice (i) after the close of regular trading hours on a trading day and (ii) if the VWAP of our ordinary shares was less than the Conversion Price on the date such Redemption Notice is delivered. Each Redemption Notice will be irrevocable and will specify the date for the Optional Redemption (each, a "Redemption Date"), the outstanding principal of the Promissory Notes to be redeemed and the Redemption Amount (as defined below) applicable to such principal. With respect to any Redemption Notice, the "Redemption Amount" will be an amount equal to the outstanding principal actually being redeemed by us (after giving effect to any conversions with a Conversion Date prior to the relevant Redemption Date) on the relevant Redemption Date, plus the Redemption Premium, plus all accrued and unpaid interest on the principal amount being redeemed by us to, but excluding, the relevant Redemption Date. "Redemption Notice, Yorkville shall have ten trading days (beginning with the trading day immediately following the date we deliver such Redemption Notice to Yorkville) to elect to convert all or any portion of such Promissory Note. On the eleventh trading day following the delivery of the applicable Redemption Notice, we shall deliver to the Yorkville the Redemption Amount with respect to the principal amount redeemed to the extent not converted and otherwise after giving effect to conversions or other payments made during such ten trading day period.

Yorkville's obligation to purchase our ordinary shares pursuant to the SEPA is subject to a number of conditions, including that this prospectus supplement be filed with the SEC registering the Commitment Shares issued and the Advance Shares to be issued and sold pursuant to an Advance under the Securities Act.

The SEPA contains customary representations and warranties, agreements and obligations, conditions to closing and termination provisions. The representations, warranties and covenants contained in the SEPA were made only for purposes of such agreement and as of specific dates, were solely for the benefit of the parties to the SEPA, and may be subject to limitations agreed upon by the contracting parties. In addition, subject to limited exceptions, the SEPA provides that for so long as any Promissory Note is outstanding, we will not effect or enter into an agreement to effect a "variable rate transaction" as defined in the SEPA.

Company Information

Our registered office and principal place of business is located at Rail Vision Ltd., 15 Ha'Tidhar Street, Ra'anana, 4366517, Israel. Our telephone number in Israel is +972-9-957-7706. Our website address is www.railvision.io. The information contained on our website or available through our website is not incorporated by reference into and should not be considered a part of this prospectus supplement.

	THE OFFERING
Ordinary Shares Outstanding Prior to this Offering	20,110,965 ordinary shares as of September 30, 2024.
Ordinary Shares offered by us	Up to \$20,000,000 of our ordinary shares we may sell to Yorkville from time to time, at our sole discretion, in accordance with the SEPA.
Ordinary Shares Outstanding After to this Offering	57,436,686 ordinary shares, which includes the 288,684 ordinary shares that we issued to Yorkville as the Commitment Shares, and in addition assumes the sale of approximately 37,037,037 ordinary shares to Yorkville as Advance Shares at an assumed offering price of \$0.54 per ordinary share, which was the closing price of our ordinary shares on the Nasdaq on October 4, 2024, which represent the \$20,00,000 of our ordinary shares we may sell to Yorkville from time to time under this prospectus supplement. The actual number of ordinary shares issued will vary depending on the sales prices under the SEPA.
Manner of offering	See "Plan of Distribution" beginning on page S-12.
Use of proceeds	We will not receive any proceeds from the resale of the Commitment Shares and Advance Shares by Yorkville included in this prospectus supplement, which will be sold by Yorkville for its own account. We intend to use the net proceeds from the sale of securities under the SEPA for general corporate purposes, which include financing our operations, capital expenditures and business development.
	See "Use of Proceeds" on page S-9 of this prospectus supplement.
Risk factors	Investing in the ordinary shares involves a high degree of risk. See "Risk Factors" beginning on page S-4 of this prospectus supplement and in the documents incorporated by reference into this prospectus supplement and the accompanying prospectus for a discussion of the risks you should carefully consider before deciding to invest in the ordinary shares.
Nasdaq Capital Market symbol	"RVSN"
	vise stated, all information in this prospectus supplement, is based on 20,110,965 Ordinary Shares outstanding as of September include the following as of that date:
	ordinary shares reserved for issuance under our Amended Share Option Plan, of which options to purchase 192,239 ordinary re outstanding as of such date at a weighted average exercise price of \$16.99, of which 127,098 were vested as of such date;
• the issuar	nce of 2,881,000 ordinary shares underlying restricted share units, or RSUs, that are issuable upon the applicable vesting date

- the issuance of 2,881,000 ordinary shares underlying restricted share units, or RSUs, that are issuable upon the applicable vesting date under our Amended Share Option Plan;
- 11,439,843 ordinary shares issuable upon the exercise of warrants, at a weighted average exercise price of \$2.34;
- the issuance of 288,684 ordinary shares as the Commitment Shares pursuant to the SEPA; and
- up to \$20.0 million of ordinary shares that we may issue from time to time to Yorkville pursuant to the SEPA should we elect to sell such ordinary shares to Yorkville.

Unless otherwise indicated, all information in this prospectus assumes or gives effect to:

- no exercise of the warrants or options, as described above; and
- a reverse share split of the Company's ordinary shares at the ratio of 8:1 effected on November 15, 2023, and the customary adjustments to our outstanding options and warrants.

RISK FACTORS

Investing in our securities involves significant risks. Before making an investment decision, you should carefully consider the risks described below and in the documents incorporated by reference into this prospectus supplement and the accompanying prospectus, together with all of the other information appearing in this prospectus supplement or the accompanying prospectus or incorporated by reference herein or therein, including in light of your particular investment objectives and financial circumstances. The risks so described are not the only risks we face. Additional risks not presently known to us or that we currently deem immaterial may also impair our business operations and become material. Our business, financial condition and results of operations could be materially adversely affected by any of these risks. The trading price of our securities could decline due to any of these risks, and you may lose all or part of your investment. The discussion of risks includes or refers to forward-looking statements; you should read the explanation of the qualifications and limitations on such forward-looking statements discussed elsewhere in this prospectus supplement under the caption "Cautionary Statement Regarding Forward-Looking Statements" below.

Risks Related to this Offering

It is not possible to predict the actual number of shares we will sell under the SEPA to the Selling Shareholder, or the actual gross proceeds resulting from those sales.

On October 7, 2024, we entered into the SEPA with Yorkville, pursuant to which Yorkville has committed to purchase up to \$20.0 million in ordinary shares, subject to certain limitations and conditions set forth in the SEPA. The ordinary shares that may be issued under the SEPA may be sold by us to Yorkville at our discretion from time to time during the Commitment Period.

We generally have the right to control the timing and amount of any sales of our ordinary shares to Yorkville under the SEPA. Sales of our ordinary shares, if any, to Yorkville under the SEPA will depend upon market conditions and other factors. We may ultimately decide to sell to Yorkville all, some or none of the ordinary shares that may be available for us to sell to Yorkville pursuant to the SEPA.

Because the purchase price per share to be paid by Yorkville for the ordinary shares that we may elect to sell to Yorkville under the SEPA, if any, will fluctuate based on the market prices of our ordinary shares during the applicable Pricing Period for each purchase made pursuant to the SEPA, if any, it is not possible for us to predict, as of the date of this prospectus and prior to any such sales, the number of ordinary shares that we will sell to Yorkville under the SEPA, the purchase price per share that Yorkville will pay for shares purchased from us under the SEPA, or the aggregate gross proceeds that we will receive from those purchases by Yorkville under the SEPA, if any.

Limitations in the SEPA, including the Ownership Limitation, and our ability to meet the conditions necessary to deliver an Advance Notice, could prevent us from being able to raise funds up to the Commitment Amount.

Moreover, although the SEPA provides that we may sell up to an aggregate of \$20.0 million of our ordinary shares to Yorkville, this prospectus supplement is registered for resale by Yorkville (i) the Commitment Shares that we issued to Yorkville upon execution of the SEPA as consideration for its commitment to purchase our ordinary shares under the SEPA, and (ii) the Advance Shares that we may elect to sell to Yorkville, in our sole discretion, from time to time from during the Commitment Period, subject to the restrictions and satisfaction of the conditions in the SEPA, through sales under the SEPA. Even if we elect to sell to Yorkville all of the shares being registered for resale under this prospectus, depending on the market prices of our ordinary shares at the time of such sales, the actual gross proceeds from the sale of all such shares may be substantially less than the \$20.0 million Commitment Amount under the SEPA, which could materially adversely affect our liquidity.

If we desire to issue and sell to Yorkville under the SEPA more than the a number of ordinary shares in excess of the Yorkville Shares being registered for resale under this prospectus, and the Ownership Limitation and other limitations in the SEPA would allow us to do so, we would need to file with the SEC one or more additional this prospectus supplements to register under the Securities Act the resale by Yorkville of any such additional ordinary shares.

Any issuance and sale by us under the SEPA of a substantial amount of ordinary shares in addition to the ordinary shares being registered for resale by Yorkville under this prospectus could cause additional substantial dilution to our shareholders. The number of our ordinary shares ultimately offered for sale by Yorkville is dependent upon the ordinary shares, if any, we ultimately sell to Yorkville under the SEPA.

The resale by Yorkville of a significant amount of shares registered for resale in this offering at any given time, or the perception that these sales may occur, could cause the market price of our ordinary shares to decline and to be highly volatile.

Investors who buy shares at different times will likely pay different prices.

Pursuant to the SEPA, we will have discretion, subject to market demand, to vary the timing, prices, and numbers of shares sold to Yorkville. If and when we do elect to sell ordinary shares to Yorkville pursuant to the SEPA, Yorkville may resell all, some or none of such shares at any time or from time to time in its discretion and at different prices. As a result, investors who purchase shares from Yorkville in this offering at different times will likely pay different prices for those shares, and so may experience different levels of dilution and in some cases substantial dilution and different outcomes in their investment results. Investors may experience a decline in the value of the shares they purchase from Yorkville in this offering as a result of future sales made by us to Yorkville at prices lower than the prices such investors paid for their shares in this offering.

We may require additional financing to sustain our operations and without it we will not be able to continue operations.

The extent to which we rely on Yorkville as a source of funding will depend on a number of factors, including the prevailing market price of our ordinary shares, our ability to meet the conditions necessary to deliver Advance Notices under the SEPA, the impacts of the Ownership Limitation and the extent to which we are able to secure funding from other sources. Regardless of the amount of funds we ultimately raise under the SEPA, if any, we expect to continue to seek other sources of funding. Even if we were to sell to Yorkville the total Commitment Amount under the SEPA, we expect that we will need additional capital to fully implement our business plan.

The sale of a substantial amount of our ordinary shares or ordinary shares, including resale of the held by the selling shareholder in the public market could adversely affect the prevailing market price of our ordinary shares.

We are registering for resale \$20.0 million of ordinary shares that we may issue to Yorkville from time to time pursuant to the SEPA and 288,684 ordinary shares the Commitment Shares that we issued to Yorkville upon execution of the SEPA as consideration for its commitment to purchase our ordinary shares under the SEPA. Sales of substantial amounts of shares of our ordinary shares or ordinary shares in the public market, or the perception that such sales might occur, could adversely affect the market price of our ordinary shares, and the market value of our other securities. We cannot predict if and when the selling shareholder may sell such shares in the public markets. Furthermore, in the future, we may issue additional ordinary shares or ordinary shares or other equity or debt securities convertible into ordinary shares or ordinary shares. Any such issuance could result in substantial dilution to our existing shareholders and could cause our share price to decline.

Future sales and issuances of our ordinary shares or other securities might result in significant dilution and could cause the price of our ordinary shares to decline.

To raise capital, we may sell ordinary shares, convertible securities or other equity securities in one or more transactions other than those contemplated by the SEPA, at prices and in a manner we determine from time to time. We may sell shares or other securities in any other offering at a price per share that is less than the price per share paid by investors in this offering, and investors purchasing shares or other securities in the future could have rights superior to existing shareholders. The price per share at which we sell additional ordinary shares, or securities convertible or exchangeable into ordinary shares, in future transactions may be higher or lower than the price per share paid by investors in this offering. Any sales of additional shares will dilute our shareholders.

Sales of a substantial number of ordinary shares in the public market or the perception that these sales might occur could depress the market price of our ordinary shares and could impair our ability to raise capital through the sale of additional equity securities. We are unable to predict the effect that sales may have on the prevailing market price of our ordinary shares. In addition, the sale of substantial numbers of our ordinary shares could adversely impact their price.

Management will have broad discretion as to the use of the net proceeds from the SEPA.

Our management will have broad discretion in the allocation of the net proceeds and could use them for purposes other than those contemplated at the time of this offering. Accordingly, you will be relying on the judgment of our management with regard to the use of those net proceeds, and you will not have the opportunity, as part of your investment decision, to assess whether the proceeds are being used appropriately. It is possible that, pending their use, we may invest those net proceeds in a way that does not yield a favorable, or any, return for us. The failure of our management to use such funds effectively could have a material adverse effect on our business, financial condition, operating results and cash flows.



Risks Related to Our Operations in Israel

Our headquarters, research and development and other significant operations are located in Israel, and, therefore, our results may be adversely affected by political, economic and military instability in Israel.

Our executive office is located in Ra'anana, Israel. In addition, certain of our key employees, officers and directors are residents of Israel. Accordingly, political, economic and military conditions in the Middle East may affect our business directly. Since the establishment of the State of Israel in 1948, a number of armed conflicts have occurred between Israel and its neighboring countries and terrorist organizations active in the region, including Hamas (an Islamist militia and political group in the Gaza Strip) and Hezbollah (an Islamist militia and political group in Lebanon).

In particular, in October 2023, Hamas terrorists infiltrated Israel's southern border from the Gaza Strip and conducted a series of attacks on civilian and military targets. Hamas also launched extensive rocket attacks on the Israeli population and industrial centers located along Israel's border with the Gaza Strip and in other areas within the State of Israel. These attacks resulted in thousands of deaths and injuries, and Hamas additionally kidnapped many Israeli civilians and soldiers. As a result of the events of October 7, 2023, the Israeli government declared that the country was at war and the Israeli military began to call-up reservists for active duty. As of the date of this prospectus supplement, three (3) of our employees are serving in active duty, none of whom are executives or perform critical or exclusive functions. Military service call ups that result in absences of personnel from us for an extended period of time may materially and adversely affect our business, prospects, financial condition and results of operations.

Since the commencement of these events, there have been continued hostilities along Israel's northern border with Lebanon (with the Hezbollah terror organization) and on other fronts from various extremist groups in the region, such as the Houthis in Yemen and various rebel militia groups in Syria and Iraq. Israel has carried out a number of targeted strikes on sites belonging to these terror organizations. In October 2024, Israel began limited ground operations against Hezbollah in Lebanon. In addition, Iran recently launched direct attacks on Israel involving hundreds of drones and missiles, has threatened to continue to attack Israel, and is widely believed to be developing nuclear weapons. Iran is also believed to have a strong influence among extremist groups in the region, such as Hamas in Gaza, Hezbollah in Lebanon, the Houthis in Yemen and various rebel militia groups in Syria and Iraq. These situations may potentially escalate in the future to more violent events which may affect Israel and us. Any hostilities, armed conflicts, terrorist activities involving Israel or the interruption or curtailment of trade between Israel and its trading partners, or any political instability in the region could adversely affect business conditions and our results of operations and could make it more difficult for us to raise capital and could adversely affect the market price of our ordinary shares. An escalation of tensions or violence might result in a significant downturn in the economic or financial condition of Israel, which could have a material adverse effect on our operations in Israel and our business. Parties with whom we do business have sometimes declined to travel to Israel during periods of heightened unrest or tension, forcing us to make alternative arrangements when necessary in order to meet our business partners face to face. In addition, the political and security situation in Israel may result in parties with whom we have agreements involving performance in Israel claiming that they are not obliga

Since the war broke out on October 7, 2023, our operations have not been adversely affected by this situation, and we have not experienced disruptions to our business operations. As such, our product and business development activities remain on track. However, the intensity and duration of Israel's current war against Hamas is difficult to predict at this stage, as are such war's economic implications on our business and operations and on Israel's economy in general, and we continue to monitor the situation closely and examine the potential disruptions that could adversely affect our operations.

Our insurance does not cover losses that may occur as a result of an event associated with the security situation in the Middle East or for any resulting disruption in our operations. Although the Israeli government has in the past covered the reinstatement value of direct damages that were caused by terrorist attacks or acts of war, we cannot assure you that this government coverage will be maintained or, if maintained, will be sufficient to compensate us fully for damages incurred, and the government may cease providing such coverage or the coverage might not suffice to cover potential damages. Any losses or damages incurred by us could have a material adverse effect on our business.

Finally, political conditions within Israel may affect our operations. Israel has held five general elections between 2019 and 2022, and prior to October 2023, the Israeli government pursued extensive changes to Israel's judicial system, which sparked extensive political debate and unrest. To date, these initiatives have been substantially put on hold. Actual or perceived political instability in Israel or any negative changes in the political environment, may individually or in the aggregate adversely affect the Israeli economy and, in turn, our business, financial condition, results of operations and growth prospects.

General Risk Factors

If we are unable for any reason to meet the continued listing requirements of Nasdaq, such action or inaction could result in a delisting of our ordinary shares.

As previously disclosed, on July 22, 2024, we received an initial notification letter from Nasdaq's Listing Qualifications Department notifying us that we had 180 days to regain compliance with the minimum bid price requirement set forth in Nasdaq's continued listing rules. Nasdaq's continued listing rules require that listed securities maintain a minimum bid price of \$1.00 per share, and that a failure to meet the minimum bid price requirement exists if the deficiency continues for a period of 30 consecutive business days or more. We have until January 21, 2025, to regain compliance with the minimum bid price requirement, our ordinary shares must have a closing bid price of at least \$1.00 for a minimum of 10 consecutive business days. In the event that we do not regain compliance by January 21, 2025, we may then be eligible for additional 180 days if we meet the continued listing requirement for market value of publicly held shares and all other initial listing standards for the Nasdaq, with the exception of the bid price requirement, and will need to provide written notice of our intention to cure the deficiency during the second compliance period. If we do not qualify for the second compliance period or fail to regain compliance during the second compliance period, then Nasdaq will notify us of its determination to delist our ordinary shares, at which point we will have an opportunity to appeal the delisting determination to a hearings panel.

If we fail to satisfy the continued listing requirements of Nasdaq, such as the minimum closing bid price requirement, Nasdaq may take steps to delist our ordinary shares. Such a delisting would likely have a negative effect on the price of our ordinary shares and would impair your ability to sell or purchase our ordinary shares when you wish to do so. In the event of a delisting, we can provide no assurance that any action taken by us to restore compliance with listing requirements would allow our ordinary shares to become listed again, stabilize the market price or improve the liquidity of our ordinary shares, prevent our ordinary shares from dropping below the Nasdaq minimum bid price requirement or prevent future non-compliance with Nasdaq's listing requirements.

NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus supplement, the accompanying prospectus and certain information incorporated by reference in this prospectus supplement and the accompanying prospectus 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, or the Exchange Act, and the Private Securities Litigation Reform Act of 1995. Also, documents that we incorporate by reference into this prospectus, including documents that we subsequently file with the SEC, contain and will contain forward-looking statements. Forward-looking statements are those that predict or describe future events or trends and that do not relate solely to historical matters. You can generally identify forward-looking statements as statements containing the words "may," "will," "could," "should," "expect," "anticipate" "objective," "goal," "intend," "estimate," "believe," "project," "plan," "assume" or other similar expressions, or negatives of those expressions, although not all forward-looking statements contain these identifying words. All statements contained or incorporated by reference in this prospectus and any prospectus supplement regarding our future strategy, future operations, projected financial position, proposed products, anticipated collaborations, estimated future revenues, projected costs, future prospects, the future of our industry and results that might be obtained by pursuing management's current plans and objectives, are forward-looking statements.

You should not place undue reliance on our forward-looking statements because the matters they describe are subject to certain risks, uncertainties and assumptions, including in many cases decisions or actions by third parties, that are difficult to predict. Our forward-looking statements are based on the information currently available to us and speak only as of the date on the cover of this prospectus supplement, the accompanying prospectus, or, in the case of forward-looking statements incorporated by reference, the date of the filing that includes the statement. Over time, our actual results, performance or achievements may differ from those expressed or implied by our forward-looking statements, and such difference might be significant and materially adverse to our security holders. We undertake no obligation to update publicly any forward-looking statements, whether as a result of new information, future events or otherwise.

We have identified some of the important factors that could cause future events to differ from our current expectations and they are described in this prospectus supplement under the caption "Risk Factors," as well as in our most recent Annual Report on Form 20-F, including without limitation under the captions "Risk Factors" and "Operating and Financial Review and Prospects," and in other documents that we may file with the SEC, all of which you should review carefully. Please consider our forward-looking statements in light of those risks as you read this prospectus supplement, the accompanying prospectus, and the documents incorporated by reference herein.

USE OF PROCEEDS

We will not receive any proceeds from the resale of the Commitment Shares and Advance Shares by Yorkville included in this prospectus supplement, which will be sold by Yorkville for its own account.

We may receive up to \$20,00,000 in aggregate gross proceeds from any sales we make to Yorkville pursuant to the SEPA from and after the date of this prospectus supplement. We may sell fewer than all of the ordinary shares offered by this prospectus supplement, in which case our offering proceeds will be less. Because we are not obligated to sell any of our ordinary shares under the SEPA, the actual total offering amount and proceeds to us, if any, are not determinable at this time. See "Plan of Distribution" elsewhere in this prospectus supplement for more information.

To the extent that we do elect to sell our ordinary shares to Yorkville pursuant to the SEPA, the amount of proceeds from this offering will depend upon the number of ordinary shares sold and the price at which they are sold. There can be no assurance that we will be able to sell any ordinary shares under or fully utilize the SEPA as a source of financing. We intend to use the net proceeds, if any, from this offering for general corporate purposes, which include financing our operations, capital expenditures and business development.

As of the date of this prospectus supplement, we cannot specify with certainty all of the particular uses for the net proceeds we will have upon completion of this offering. Accordingly, our management will have broad discretion in the application of net proceeds, if any.

This prospectus also relates to our ordinary shares that may be offered and sold from time to time by Yorkville. All of the ordinary shares offered by Yorkville pursuant to this prospectus supplement will be sold by Yorkville for its own account. We will not receive any of the proceeds from these sales.

Pending our use of the net proceeds from this offering, we may invest the net proceeds of this offering in a variety of capital preservation investments, including but not limited to short-term, investment grade, interest bearing instruments and U.S. government securities.

DIVIDEND POLICY

We have never declared or paid any cash dividends on our Ordinary Shares and do not anticipate paying any cash dividends in the foreseeable future. Payment of cash dividends, if any, in the future will be at the discretion of our board of directors and will depend on then-existing conditions, including our financial condition, operating results, contractual restrictions, capital requirements, business prospects and other factors our board of directors may deem relevant.

The Companies Law imposes further restrictions on our ability to declare and pay dividends.

CAPITALIZATION

The following table sets forth our cash and cash equivalents and our capitalization as of June 30, 2024:

- on an actual basis;
- on a pro forma basis to give effect to the issuance of 1,300,000 ordinary shares upon the exercise of warrants at an exercise price of \$0.408 resulting in gross proceeds to us of \$530,000, as if such exercise had occurred on June 30, 2024.
- on pro forma as adjusted basis to give further to give effect to (i) the issuance of 288,684 ordinary shares as the Commitment Shares and (ii) the issuance and sale of 37,037,037 ordinary shares as Advance Shares, at an assumed offering price of \$0.54 per ordinary share, which is the last reported sales price of our ordinary shares on the Nasdaq Capital Market on October 4, 2024 assuming the equity line will be utilized by us, after deducting the estimated offering expenses by us.

The information in this table should be read in conjunction with and is qualified by reference to the financial statements and notes thereto and other financial information incorporated by reference into this prospectus supplement.

U.S. dollars in thousands	Α	As of June 30, 2024		
	Actual	Pro Forma	Pro Forma As Adjusted	
Cash and cash equivalents	\$ 9,691	10,221	30,196	
Shareholders' equity: Additional paid in capital	100,182	100,712	120,687	
Accumulated deficit Total shareholders' equity	(90,286) 9,896	(90,286) 10,426	(90,286) 30,401	
Total capitalization	9,896	10,426	30,401	

The above table is based on 18,810,965 ordinary shares outstanding as of June 30, 2024, and does not include the following:

- 4,288,745 ordinary shares reserved for issuance under our Amended Share Option Plan, of which options to purchase 196,601 ordinary shares were outstanding as of such date at a weighted average exercise price of \$16.94, of which 118,283 were vested as of such date;
- the issuance of 2,881,000 ordinary shares underlying restricted share units, or RSUs, that are issuable upon the applicable vesting date under our Amended Share Option Plan that were issued after June 30, 2024;
- 12,739,843 ordinary shares issuable upon the exercise of warrants, at a weighted average exercise price of \$2.14;
- the issuance of 288,684 ordinary shares as the Commitment Shares pursuant to the SEPA; and
- up to \$20.0 million of ordinary shares that we may issue from time to time to Yorkville pursuant to the SEPA should we elect to sell such ordinary shares to Yorkville.

DILUTION

The net tangible book value of our ordinary shares on June 30, 2024, was \$9.9 million, or \$0.526 per ordinary share. Net tangible book value per ordinary share represents the amount of our total tangible assets less our total liabilities, divided by 18,810,965, the total number of ordinary shares outstanding at June 30, 2024. Dilution with respect to net tangible book value per share represents the difference between the amount per share paid by purchasers of our ordinary shares in this offering and the net tangible book value per ordinary share immediately after this offering.

After giving effect to the receipt of \$530,000 in net proceeds in connection with the exercise of warrants to purchase 1,300,000 ordinary shares, our pro forma net tangible book value as of June 30, 2024, would have been \$10.4 million, or \$0.518 per ordinary share.

After giving further effect to the issuance of 288,684 ordinary shares as the Commitment Shares and the assumed sale by us of 37,037,037 of our ordinary shares to Yorkville pursuant to the SEPA, based on the \$20,000,000 of our ordinary shares to which this prospectus supplement relates, at an assumed average sale price of \$0.54 per ordinary share, which was the last reported sale price of our ordinary shares on the Nasdaq on October 4, 2024, our as adjusted net tangible book value as of June 30, 2024, would have been \$30.4 million, or \$0.529 per ordinary share. This represents an immediate increase in net tangible book value per ordinary share of \$0.011 to our existing shareholders and an immediate dilution in net tangible book value of \$0.011 per share to Yorkville. The following table illustrates this per share dilution:

The following table illustrates this dilution on a per ordinary share basis:

Assumed public offering price per ordinary share		\$ 0.54
Net tangible book value per ordinary share as of June 30, 2024	\$ 0.526	
Increase in net tangible book value per ordinary share attributable to new investors	\$ 0.011	
Pro Forma net tangible book value per share as of June 30, 2024, after giving effect to the receipt of \$530,000 in net		
proceeds in connection with the exercise of warrants to purchase 1,300,000 ordinary shares		0.518
Pro forma as adjusted net tangible book value per share as of June 30, 2024 after giving effect to this offering		0.529
Dilution per Ordinary Share to investors purchasing Ordinary Shares in the offering		\$ 0.011

The above discussion and table are based on 18,810,965 ordinary shares outstanding as of June 30, 2024, and does not include the following:

- 4,288,745 ordinary shares reserved for issuance under our Amended Share Option Plan, of which options to purchase 196,601 ordinary shares were outstanding as of such date at a weighted average exercise price of \$16.94, of which 118,283 were vested as of such date;
- the issuance of 2,881,000 ordinary shares underlying restricted share units, or RSUs, that are issuable upon the applicable vesting date under our Amended Share Option Plan that were issued after June 30, 2024;
- 12,739,843 ordinary shares issuable upon the exercise of warrants, at a weighted average exercise price of \$2.14;
- the issuance of 288,684 ordinary shares as the Commitment Shares pursuant to the SEPA; and
- up to \$20.0 million of ordinary shares that we may issue from time to time to Yorkville pursuant to the SEPA should we elect to sell such ordinary shares to Yorkville.

To the extent that outstanding options or warrants are exercised or we issue additional ordinary shares under our equity incentive plans, you may experience further dilution. In addition, we may choose to raise additional capital due to market conditions or strategic considerations even if we believe that we have sufficient funds for our current and future operating plans. To the extent that additional capital is raised through the sale of equity or convertible debt securities, the issuance of those securities could result in further dilution to the holders of our ordinary shares.

PLAN OF DISTRIBUTION

On October 7, 2024, we entered into the SEPA with Yorkville. Pursuant to the SEPA, we shall have the right, but not the obligation, to sell to Yorkville up to \$20,000,000 of our ordinary shares upon our written request during the thirty-six month Commitment Period. At any time during the Commitment Period, we may require Yorkville to purchase our ordinary shares by delivering an Advance Notice that we desire to issue and sell to Yorkville a number of ordinary shares with an aggregate value of up to \$20,000,000. The shares would be purchased pursuant to the SEPA at 97.0% of the Market Price and would be subject to certain limitations, including that Yorkville could not purchase any shares that would result in it owning more than 4.99% of our ordinary shares.

Delivery of the shares against payment therefor in respect of each Advance Notice shall be settled promptly following each sale pursuant to the SEPA. In connection with any Advance Notice, if any portion of an advance would cause Yorkville's beneficial ownership of our then outstanding ordinary shares to exceed 4.99%, then such portion shall automatically be deemed to be withdrawn by us (with no further action required by us) and modified to reduce the amount of the advance requested by an amount equal to such withdrawn portion. We may terminate the SEPA upon five trading days of prior notice to Yorkville, provided that there are no Advance Notices outstanding, there are no outstanding Promissory Notes and we have paid to Yorkville all amounts then due.

In addition to the issuance of our ordinary shares to Yorkville pursuant to the SEPA, this prospectus supplement also covers the resale of those shares from time to time by Yorkville to the public. Though we have been advised by Yorkville, and Yorkville represents in the SEPA, that Yorkville is purchasing the shares for its own account, for investment purposes in which it takes investment risk (including, without limitation, the risk of loss), and without any view or intention to distribute such shares in violation of the Securities Act or any other applicable securities laws, the SEC may take the position that Yorkville may be deemed an "underwriter" within the meaning of Section 2(a)(11) of the Securities Act. We have agreed in the SEPA to provide customary indemnification to Yorkville. It is possible that our shares may be sold by Yorkville in one or more of the following manners:

- ordinary brokerage transactions and transactions in which the broker solicits purchasers;
- a block trade in which the broker or dealer so engaged will attempt to sell the shares as agent, but may position and resell a portion of the block as principal to facilitate the transaction;
- to a broker-dealer as principal and resale by the broker-dealer for its account; or
- a combination of any such methods of sale.

Yorkville has agreed that, during the term of the SEPA, neither Yorkville nor its affiliates will engage in any short sales or hedging transactions with respect to our ordinary shares, provided that upon receipt of an advance notice, Yorkville may sell shares that it is obligated to purchase under such advance notice prior to taking possession of such shares.

Yorkville will be subject to liability under the federal securities laws and must comply with the requirements of the Exchange Act, including without limitation, Rule 10b-5 and Regulation M under the Exchange Act. These rules and regulations may limit the timing of purchases and sales of our ordinary shares by Yorkville. Under these rules and regulations, Yorkville:

- may not engage in any stabilization activity in connection with our securities;
- must furnish each broker which offers our ordinary shares covered by the prospectus supplement and accompanying prospectus that are a part
 of our registration statement with the number of copies of such prospectus supplement and accompanying prospectus which are required by
 each broker; and
- may not bid for or purchase any of our securities or attempt to induce any person to purchase any of our securities other than as permitted under the Exchange Act.

These restrictions may affect the marketability of the shares by Yorkville.



LEGAL MATTERS

Certain matters of U.S. federal securities law relating to this offering will be passed upon for us by Greenberg Traurig, P.A., Tel Aviv, Israel. The validity of the securities offered hereby and certain matters of Israeli law will be passed upon for us by Shibolet & Co. Law Firm, Tel Aviv, Israel.

EXPERTS

The financial statements of Rail Vision Ltd. as of December 31, 2023 and 2022, and for each of the three years in the period ended December 31, 2023 incorporated in this prospectus supplement by reference from the Annual Report on Form 20-F for the year ended December 31, 2023, have been audited by Brightman Almagor Zohar & Co., a Firm in the Deloitte Global Network, an independent registered public accounting firm, as stated in their report thereon, incorporated herein. Such financial statements are incorporated in this prospectus supplement by reference in reliance upon such report given on the authority of said firm as experts in auditing and accounting.

INCORPORATION OF CERTAIN INFORMATION 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 those documents. The information incorporated by reference is considered to be part of this prospectus and information we file later with the SEC will automatically update and supersede this information. The documents we are incorporating by reference as of their respective dates of filing are:

- our Annual Report on Form 20-F for the year ended December 31, 2023, filed on March 28, 2024;
- our Reports of Foreign Private Issuer on Form 6-K filed on March 29, 2024, April 3, 2024, April 11, 2024, May 21, 2024, May 24, 2024, June 11, 2024, June 14, 2024, June 24, 2024, June 25, 2024, July 2, 2024, July 26, 2024, July 31, 2024, August 12, 2024, August 16, 2024, August 29, 2024, September 30, 2024 and October 7, 2024 (to the extent expressly incorporated by reference into our effective registration statements filed by us under the Securities Act); and
- the description our ordinary shares, which is contained in our registration statement on Form 8-A filed with the SEC pursuant to the Exchange Act on March 25, 2022 (File No. 001-41334), as amended by Exhibit 2.1 to our Annual Report on Form 20-F for the year ended December 31, 2023, and including any further amendment or report filed for the purpose of updating such description.

The information we incorporate by reference is an important part of this prospectus supplement, and later information that we file with the SEC will automatically update and supersede the information contained in this prospectus supplement.

We will provide you without charge, upon your written or oral request, a copy of any of the documents incorporated by reference in this prospectus supplement, other than exhibits to such documents which are not specifically incorporated by reference into such documents. Please direct your written or telephone requests to us at: Rail Vision Ltd., 15 Hatidhar St. Ra'anana, 4366517 Israel. Attention: Ofer Naveh, Chief Financial Officer, telephone number: + +972-9-957-7706.

WHERE YOU CAN FIND ADDITIONAL INFORMATION

This prospectus supplement and the accompanying prospectus are part of a registration statement on Form F-3 that we filed with the SEC relating to the securities offered by this prospectus supplement, which includes additional information. You should refer to the registration statement and its exhibits for additional information. Whenever we make reference in this prospectus supplement to any of our contracts, agreements or other documents, the references are not necessarily complete and you should refer to the exhibits attached to the registration statement for copies of the actual contract, agreements or other document.

We are subject to the informational requirements of the Exchange Act applicable to foreign private issuers. We, as a "foreign private issuer," are exempt from the rules under the Exchange Act prescribing certain disclosure and procedural requirements for proxy solicitations, and our officers, directors and principal shareholders are exempt from the reporting and "short-swing" profit recovery provisions contained in Section 16 of the Exchange Act, with respect to their purchases and sales of shares. In addition, we are not required to file annual, quarterly and current reports and financial statements with the SEC as frequently or as promptly as U.S. companies whose securities are registered under the Exchange Act.

You can review our SEC filings and the registration statement by accessing the SEC's internet site at http://www.sec.gov. We maintain a corporate website at https://railvision.io/. Information contained on, or that can be accessed through, our website does not constitute a part of this prospectus. We have included our website address in this prospectus solely as an inactive textual reference.



\$100,000,000

RAIL VISION LTD.

Ordinary Shares Warrants Units

We may offer and sell from time to time in one or more offerings up to a total amount of \$100,000,000 of our ordinary shares, no par value, or the Ordinary Shares, warrants to purchase Ordinary Shares or units comprising a combination of Ordinary Shares and warrants. Each time we sell securities pursuant to this prospectus, we will provide in a supplement to this prospectus the price and any other material terms of any such offering. We may also authorize one or more free writing prospectuses to be provided to you in connection with each offering. Any prospectus supplement and related free writing prospectuses may also add, update or change information contained in the prospectus. You should read this prospectus, any applicable prospectus supplement and related free writing prospectuses, as well as the documents incorporated by reference or deemed incorporated by reference into this prospectus, carefully before you invest in the securities.

The Ordinary Shares are traded on the Nasdaq Capital Market under the symbol "RVSN."

Investing in the securities involves a high degree of risk, including that the trading price of Ordinary Shares has been subject to volatility and investors in this offering may not be able to sell their Ordinary Shares above the actual offering price or at all. Risks associated with an investment in the securities will be described in any applicable prospectus supplement and are and will be described in certain of our filings with the United States Securities and Exchange Commission, or SEC, as described in "Risk Factors" on page 3.

The securities may be sold directly by us to investors, through agents designated from time to time or to or through underwriters or dealers, or through a combination of such methods, on a continuous or delayed basis. For additional information on the methods of sale, you should refer to the section entitled "Plan of Distribution" in this prospectus. If any agents or underwriters are involved in the sale of the securities with respect to which this prospectus is being delivered, the names of such agents or underwriters and any applicable fees, commissions, discounts and over-allotment options will be set forth in a prospectus supplement. The price to the public of the securities and the net proceeds that we expect to receive from such sale will also be set forth in a prospectus supplement.

Neither the SEC nor any state or other 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

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement on Form F-3 that we filed with the U.S. Securities and Exchange Commission, or the SEC, utilizing a "shelf" registration process. Under this shelf registration process, we may offer from time to time up to an aggregate of \$100,000,000 of the Ordinary Shares, warrants or units comprising a combination of Ordinary Shares and warrants in one or more offerings. We sometimes refer to the Ordinary Shares, warrants and units as the "securities" throughout this prospectus.

Each time we sell securities, we will provide you with a prospectus supplement that will describe the specific amounts, prices and terms of such offering. We may also authorize one or more free writing prospectuses to be provided to you in connection with such offering. The prospectus supplement and any related free writing prospectuses may also add, update or change information contained in this prospectus. You should read carefully both this prospectus, the applicable prospectus supplement and any related free writing prospectus supplement and any related free writing prospectus together with additional information described below under "Incorporation of Certain Information by Reference" and "Where You Can Find Additional Information" before buying the securities being offered.

This prospectus does not contain all of the information provided in the registration statement that we filed with the SEC. For further information about us or the securities, you should refer to that registration statement, which you can obtain from the SEC as described below under "Incorporation of Certain Information by Reference" and "Where You Can Find Additional Information."

You should rely only on the information contained or incorporated by reference in this prospectus, a prospectus supplement and related free writing prospectuses. We have not authorized any other person to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. This prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any jurisdiction where the offer or sale is not permitted. You should not assume that the information contained in this prospectus and the accompanying prospectus supplement or related free writing prospectuses is accurate on any date subsequent to the date set forth on the front of the document or that any information that we have incorporated by reference is correct on any date subsequent to the date of the document incorporated by reference. Our business, financial condition, results of operations and prospects may have changed since those dates.

In this prospectus, "we," "us," "our," the "Company" and "Rail Vision" refer to Rail Vision Ltd., an Israeli corporation.

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OUR COMPANY

We are a development stage technology company that is seeking to revolutionize railway safety and the data-related market. We believe we have developed cutting edge, AI based, industry-leading detection technology specifically designed for railways, with investments from Knorr-Bremse, a world-class rail system manufacturer. We have developed our railway detection and systems to save lives, increase efficiency, and dramatically reduce expenses for the railway operator.

Following a long-term pilot with Israel Railways that was concluded in August 2022, in January 2023, we signed an agreement with Israel Railways for the purchase of 10 Rail Vision Main Line Systems, which installation started in February 2024. In addition, after a successful six-month long-term pilot with a US-based rail and leasing services company, in January 2024, we signed a supply contract with this customer valued at up to \$5,000,000 for the purchase our AI-based Switch Yard Systems. The first phase of the contract is valued at \$1,000,000. Follow-on orders for additional Switch Yard Systems, valued at up to \$4,000,000, are subject to customer approval. Also, in October 2023, we received a \$500,000 purchase order for a single Main Line System and related services from a leading Latin American mining company, which was delivered to the customer in December 2023. The customer is expected to start a long-term pilot soon after completing the installation.

In addition, our railway detection system is currently in a pilot phase with several industry leading railway operators as we seek to move to the next stage of receiving commercial orders. We believe that our technology will significantly increase railway safety around the world, while creating significant benefits and adding value to everyone who relies on the train ecosystem: from passengers using trains for transportation to companies that use railways to deliver goods and services. In addition, we believe that our technology has the potential to advance the revolutionary concept of autonomous trains into a practical reality.

The increasing electrification and automation of railways and trains are two key factors that are driving growth in the transportation market. Autonomous trains are integrated with advanced systems to provide improved control over the train for stopping, departing and movement between train stations – for example the operators are aiming to increase the density on a given track that's to say more trains per kilometer. From everyday passengers to train operators, there is a rising demand for safe, secure, and efficient transport systems. Additionally, various technological advancements, such as the integration of the Internet of Things, or IoT, and artificial intelligence, or AI, solutions into railway detection systems, are market categories expected to grow in the coming years. These technologies aid in improving the overall operational efficiency and maintaining freight operations and systems.

Autonomous trains, also known as driverless trains, are operated automatically without any human intervention, and are monitored from the control station when communication is available. In case of any obstacle incurred in the route, the obstacle detection system commands the train to stop and in parallel a message is sent to operational control center and to the attendant on the train if any, to further command the train. Owing to increase in traffic congestion on road network, the need for smart and frequent trains has boosted the growth of the global market. According to Allied Market Research, the autonomous train technology market was valued at \$5.88 billion in 2018, and is projected to reach \$15.57 billion by 2026, growing at a CAGR of 12.9% from 2019 to 2026.

Since our founding in April 2016, we have developed unique railway detection systems for railway safety, based on image processing and deep leaning technologies that provide early warnings to train driver of hazards on and around the railway track, including during severe weather and in all lighting conditions. Our unique system uses special high resolution cameras to identify objects up to 2,000 meters away, along with a computer unit that uses AI machine learning algorithms to analyze the images, identify objects on or near the tracks, and warn the train driver of the obstacle and potential danger. In 2017, we were recognized as the winner of Deutsche Banh's MINDBOX competition for our automated early warning systems to prevent railway accidents.

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Our railway detection system includes different types of cameras, including optics, visible light spectrum cameras (video) and thermal cameras that transmit data to a ruggedized on-board computer which is designed to be suitable for the rough environment of a train's locomotive. Our railway detection and classification system includes an image-processing and machine-learning algorithm that processes the data for identifying potential hazards on and around the track. These algorithms are designed to identify and classify objects such as people, animals, vehicles, signs, signals along the track, and anomalies. Our railway detection system actively classifies objects by severity to determine if an alarm should be signaled to the train driver. These data collection and classification capabilities can be extended to further use-cases such as predictive maintenance and big-data analyses.

We believe that our technology demonstrates capabilities and results that are better than existing solutions. Most of the currently available safety solutions for the railway industry focus on stationary systems in dedicated hazardous locations, such as at level track crossings and passenger train stations, among others. At these dedicated locations, different technologies are used for detecting obstacles that are on the vicinity of level crossing tracks, and usually include different cameras and radars. The problem with this type of solution is that the train is only monitored at specific points in the railroad junction, leaving the vast majority of the railway unprotected. In addition, even when detected something on the level crossing tracks, the message has to be transmitted in a way that the driver would be able to react on time. In recognition of the limitations of existing solutions, we integrate a collision avoidance system using long-range real-time AI and electro-optics technologies on trains that is designed to address this unmet need. as well as providing solutions to most of the challenges train operators face during transit such as collisions, derailments and other accidents caused by obstacles on tracks, or poor infrastructure.

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RISK FACTORS

Investing in our securities involves significant risks. Before making an investment decision, you should carefully consider the risks described under the summary above, under "Risk Factors" in the applicable prospectus supplement and under Item 3.D. - "Risk Factors" in our most recent Annual Report on Form 20-F, or any updates in our Reports on Form 6-K, together with all of the other information appearing in this prospectus or incorporated by reference into this prospectus and any applicable prospectus supplement, in light of your particular investment objectives and financial circumstances. The risks so described are not the only risks facing us. Additional risks not presently known to us or that we currently deem immaterial may also impair our business operations. Our business, financial condition and results of operations could be materially adversely affected by any of these risks. The trading price of our securities could decline due to any of these risks, and you may lose all or part of your investment. The discussion of risks includes or refers to forward-looking statements; you should read the explanation of the qualifications and limitations on such forward-looking statements discussed elsewhere in this prospectus.

NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains, and any accompanying prospectus supplement will contain, forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act, and the Private Securities Litigation Reform Act of 1995. Also, documents that we incorporate by reference into this prospectus, including documents that we subsequently file with the SEC, contain and will contain forward-looking statements. Forward-looking statements are those that predict or describe future events or trends and that do not relate solely to historical matters. You can generally identify forward-looking statements as statements containing the words "may," "will," "could," "should," "expect," "anticipate" "objective," "goal," "intend," "estimate," "believe," "project," "plan," "assume" or other similar expressions, or negatives of those expressions, although not all forward-looking statements contain these identifying words. All statements contained or incorporated by reference in this prospectus and any prospectus supplement regarding our future strategy, future operations, projected financial position, proposed products, anticipated collaborations, estimated future revenues, projected costs, future prospects, the future of our industry and results that might be obtained by pursuing management's current plans and objectives, are forward-looking statements.

You should not place undue reliance on our forward-looking statements because the matters they describe are subject to certain risks, uncertainties and assumptions, including in many cases decisions or actions by third parties, that are difficult to predict. Our forward-looking statements are based on the information currently available to us and speak only as of the date on the cover of this prospectus, the date of any prospectus supplement, or, in the case of forward-looking statements incorporated by reference, the date of the filing that includes the statement. Over time, our actual results, performance or achievements may differ from those expressed or implied by our forward-looking statements, and such difference might be significant and materially adverse to our security holders. We undertake no obligation to update publicly any forward-looking statements, whether as a result of new information, future events or otherwise.

We have identified some of the important factors that could cause future events to differ from our current expectations and they are described in this prospectus and supplements to this prospectus (if any) under the caption "Risk Factors," as well as in our most recent Annual Report on Form 20-F, including without limitation under the captions "Risk Factors" "Use of Proceeds," and elsewhere in this prospectus, and "Operating and Financial Review and Prospects," and in other documents that we may file with the SEC, all of which you should review carefully. Please consider our forward-looking statements in light of those risks as you read this prospectus, the documents incorporated by reference herein, and any prospectus supplement.

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OFFER STATISTICS AND EXPECTED TIMETABLE

We may sell from time to time pursuant to this prospectus (as may be detailed in prospectus supplements) an indeterminate number of securities as shall have a maximum aggregate offering price of \$100,000,000. The actual per share price of the securities that we will offer pursuant hereto will depend on a number of factors that may be relevant as of the time of offer (see "Plan of Distribution" below).

CAPITALIZATION

The following table sets forth our capitalization as of December 31, 2023. The information in this table is derived from our audited financial information as of December 31, 2023, and should be read in conjunction with and is qualified by reference to such financial information and other financial information incorporated by reference into this prospectus.

U.S. dollars in thousands	December	As of December 31, 2023		
Cash and cash equivalents	\$	3,066		
Shareholders' equity:				
Ordinary shares		68		
Additional paid in capital	6	68,681		
		(T. Q. (Q.)		
Accumulated deficit		5,962)		
Total shareholders' equity		2,787		
Total capitalization		2,787		

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USE OF PROCEEDS

Unless otherwise set forth in the related prospectus supplement or, if applicable, the pricing supplement, we intend to use the net proceeds from the sale of securities offered through this prospectus for general corporate purposes, which include financing our operations, capital expenditures and business development, and for pursuing strategic opportunities, including, but not limited to, strategic acquisitions. The specific purpose of any individual issuance of securities will be described in the related prospectus supplement.

TAXATION

The material Israeli and U.S. federal income tax consequences relating to the purchase, ownership and disposition of any of the securities offered by this prospectus may be set forth in the prospectus supplement offering those securities or incorporated by reference from our Annual Report on Form 20-F or other public filings we make with the SEC.

DESCRIPTION OF SHARE CAPITAL

The following description of our share capital is a summary of the material terms of our articles of association and Israeli corporate law regarding our ordinary shares and the holders thereof. This description contains all material information concerning our ordinary shares but does not purport to be complete.

Ordinary Shares

As of April 11, 2024, our authorized share capital consisted of 100,000,000 Ordinary Shares, no par value, of which 16,484,780 Ordinary Shares were issued and outstanding as of such date. Our Ordinary Shares are not redeemable and are not subject to any preemptive right.

In addition to Ordinary Shares, in the last three years, we have issued warrants to purchase an aggregate of 25,275,183 Ordinary Shares to investors, of which no warrants have expired, 10,244,727 warrants have been exercised and 15,030,456 are still outstanding. The exercise price of the warrants ranges from \$0.408 to \$33.04 per Ordinary Share. In addition, in the last three years we have issued options to directors, employees and consultants to purchase an aggregate of 210,490 Ordinary Shares, of which 60,011 options have expired, no options have been exercised and 150,479 options are still outstanding. The exercise price of the options ranges from \$14.80 to \$49.12 per Ordinary Share.

Registration Number of the Company

Our registration number with the Israeli Registrar of Companies is 515441541.

Purposes and Objects of the Company

Our purpose and objectives are set forth in Section 3 of our amended and restated articles of association.

The Powers of the Directors

Our board of directors shall direct our policy and shall supervise the performance of our chief executive officer and his actions. Our board of directors may exercise all powers that are not required under the Israeli Companies Law 5759-1999, or the Companies Law, or under our amended and restated articles of association to be exercised or taken by our shareholders.

Rights Attached to Shares

Our Ordinary Shares shall confer upon the holders thereof:

- equal right to attend and to vote at all of our general meetings, whether regular or special, with each Ordinary Share entitling the holder thereof, which attend the meeting and participate at the voting, either in person electronically or by a proxy or by a written ballot, to one vote;
- equal right to participate in distribution of dividends, if any, whether payable in cash or in bonus shares, in distribution of assets or in any other distribution, on a per share pro rata basis; and
- equal right to participate, upon our dissolution, in the distribution of our assets legally available for distribution, on a per share pro rata basis.

Election of Directors

Pursuant to our amended and restated articles of association, our directors are appointed by shareholders holding at least 10% of the issued share capital of the company and in such case the appointment will be for undefined period, subject to the provisions of the amended and restated articles, or elected at an annual general meeting of our shareholders and in such case they shall serve on the board of directors until the next annual general meeting (except for external directors) or until they resign or until they cease to act as board members pursuant to the provisions of our amended and restated articles of association or any applicable law, upon the earlier. In addition, our amended and restated articles of association allow our board of directors to appoint directors to fill vacancies and/or as an addition to the board of directors (subject to the maximum number of directors) to serve until the next annual general meeting or earlier if required by our amended and restated articles of association or applicable law, upon the removed from office pursuant to the terms of the Companies Law. See "Item 6.C— Management—Board Practices—External Directors" in our Annual Report on Form 20-F for the year ended December 31, 2023 incorporated by reference herein for additional information.

Annual and Special Meetings

Under the Companies Law, we are required to hold an annual general meeting of our shareholders once every calendar year, at such time and place which shall be determined by our board of directors, that must be no later than 15 months after the date of the previous annual general meeting. All meetings other than the annual general meeting of shareholders are referred to as special general meetings. Our board of directors may call special meetings whenever it sees fit and upon the written request of: (a) any two of our directors or such number of directors equal to one quarter of the members of our board of directors; and/or (b) one or more shareholders holding, in the aggregate, either (i) 5% or more of our outstanding voting power or (ii) 5% or more of our outstanding voting power or (ii) 5% or more of our outstanding voting power.

Resolutions regarding the following matters must be passed at a general meeting of our shareholders:

- amendments to our amended and restated articles of association;
- appointment or termination of our auditors;
- appointment of directors, including external directors;
- approval of acts and transactions requiring general meeting approval pursuant to the provisions of the Companies Law and any other applicable law;
- increases or reductions of our authorized share capital; and
- a merger (as such term is defined in the Companies Law).

Notices

The Companies Law requires that a notice of any annual or special shareholders meeting be provided at least 21 days prior to the meeting, and if the agenda of the meeting includes, among other matters, the appointment or removal of directors, the approval of transactions with office holders or interested or related parties, or an approval of a merger, notice must be provided at least 35 days prior to the meeting.

Quorum

As permitted under the Companies Law, under our amended and restated articles of association, the quorum required for our general meetings consists of at least two shareholders present in person, by proxy or written ballot, who hold or represent between them at least 25% of the total outstanding voting rights. If within half an hour of the time set forth for the general meeting a quorum is not present, the general meeting shall stand adjourned the same day of the following week, at the same hour and in the same place, or to such other date, time and place as prescribed in the notice to the shareholders and in such adjourned meeting, if no quorum is present within half an hour of the time arranged, any number of shareholders participating in the meeting, shall constitute a quorum.

Adoption of Resolutions

Our amended and restated articles of association provide that all resolutions of our shareholders require a simple majority vote, unless otherwise required under the Companies Law or our amended and restated articles of association. A shareholder may vote in a general meeting in person, by proxy or by a written ballot.

Changing Rights Attached to Shares

Unless otherwise provided by the terms of the shares and subject to any applicable law, in order to change the rights attached to any class of shares, such change must be adopted by the board of directors and at a general meeting of the affected class or by a written consent of all the shareholders of the affected class.

The enlargement of an existing class of shares or the issuance of additional shares thereof, shall not be deemed to modify the rights attached to the previously issued shares of such class or of any other class, unless otherwise provided by the terms of the shares.

Provisions Restricting Change in Control of Our Company

There are no specific provisions of our amended and restated articles of association that would have an effect of delaying, deferring or preventing a change in control of the Company or that would operate only with respect to a merger, acquisition or corporate restructuring involving us. However, as described below, certain provisions of the Companies Law may have such effect.

The Companies Law includes provisions that allow a merger transaction and requires that each company that is a party to the merger have the transaction approved by its board of directors and, unless certain requirements described under the Companies Law are met, a vote of the majority of shareholders, and, in the case of the target company, also a majority vote of each class of its shares. For purposes of the shareholder vote of each party, unless a court rules otherwise, the merger will not be deemed approved if shares representing a majority of the voting power present at the shareholders meeting and which are not held by the other party to the merger (or by any person or group of persons acting in concert who holds 25% or more of the directors of the other party) vote against the merger. If, however, the merger involves a merger with a company's own controlling shareholder or if the controlling shareholder has a personal interest in the merger, then the merger is instead subject to the same special majority requirement that governs all extraordinary transactions with controlling shareholders. Upon the request of a creditor of either party to the proposed merger, the court may delay or prevent the merger if it concludes that there exists a reasonable concern that as a result of the merger the surviving company will be unable to satisfy the obligations of any of the parties to the merger, and may further give instructions to secure the rights of creditors. In addition, a merger may not be completed unless at least (1) 50 days have passed from the time that the requisite proposals for approval of the merger were filed with the Israeli Registrar of Companies by each merging company and (2) 30 days have passed since the merger was approved by the shareholders of each merging company.

The Companies Law also provides that an acquisition of shares in an Israeli public company must be made by means of a "special" tender offer if as a result of the acquisition (1) the purchaser would become a holder of 25% or more of the voting rights in the company, unless there is already another holder of at least 25% or more of the voting rights in the company or (2) the purchaser would become a holder of more than 45% of the voting rights in the company, unless there is already a holder of more than 45% of the voting rights in the company. These requirements do not apply if, in general, the acquisition (1) was made in a private placement that received shareholders' approval, subject to certain conditions, (2) was from a holder of 25% or more of the voting rights in the company which resulted in the acquirer becoming a holder of 25% or more of the voting rights in the company, or (3) was from a holder of more than 45% of the voting rights in the company which resulted in the acquirer becoming a holder of more than 45% of the voting rights in the company. A "special" tender offer must be extended to all shareholders. In general, a "special" tender offer may be consummated only if (1) at least 5% of the voting power attached to the company's outstanding shares will be acquired by the offeror and (2) the offer is accepted by a majority of the offerees who notified the company or anyone on their behalf, or any person having a personal interest in the acceptance of the tender offer). If a special tender offer is accepted, then the purchaser or any person or entity controlling it or under common control with the purchaser or such controlling person or entity may not make a subsequent tender offer for the purchase of shares of the target company and may not enter into a merger with the target company for a period of one year from the date of the offer, unless the purchaser or such person or entity undertook to effect such an offer or merger in the initial special tender offer.

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If, as a result of an acquisition of shares, the acquirer will hold more than 90% of an Israeli company's outstanding shares, the acquisition must be made by means of a tender offer for all of the outstanding shares. In general, if less than 5% of the outstanding shares are not tendered in the tender offer and more than half of the offerees who have no personal interest in the offer tendered their shares, all the shares that the acquirer offered to purchase will be transferred to it by operation of law. However, a tender offer will also be accepted if the shareholders who do not accept the offer hold less than 2% of the issued and outstanding share capital of the company or of the applicable class of shares. Shareholders may request appraisal rights in connection with a full tender offer for a period of six months following the consummation of the tender offer, but the acquirer is entitled to stipulate, under certain conditions, that tendering shareholders will forfeit such appraisal rights.

Lastly, Israeli tax law treats some acquisitions, such as stock-for-stock exchanges between an Israeli company and a foreign company, less favorably than U.S. tax laws. For example, Israeli tax law may, under certain circumstances, subject a shareholder who exchanges his Ordinary Shares for shares in another corporation to taxation prior to the sale of the shares received in such stock-for-stock swap.

Changes in Our Capital

Our amended and restated articles of association enable us to increase or reduce our share capital. Any such changes are subject to the provisions of the Companies Law and must be approved by a resolution duly passed by our shareholders at a general meeting by voting on such change in the capital.

DESCRIPTION OF WARRANTS

We may issue and offer warrants under the material terms and conditions described in this prospectus and any accompanying prospectus supplement. The accompanying prospectus supplement may add, update or change the terms and conditions of the warrants as described in this prospectus.

We may issue warrants to purchase our Ordinary Shares. Warrants may be issued independently or together with any securities and may be attached to or separate from those securities. The warrants may be issued under warrant or subscription agreements to be entered into between us and a bank or trust company, as warrant agent, all of which will be described in the prospectus supplement relating to the warrants we are offering. The warrant agent will act solely as our agent in connection with the warrants and will not have any obligation or relationship of agency or trust for or with any holders or beneficial owners of warrants.

The particular terms of the warrants, the warrant or subscription agreements relating to the warrants and the warrant certificates representing the warrants will be described in the applicable prospectus supplement, including some or all of the following:

- the title of such warrants;
- the aggregate number of such warrants;
- the price or prices at which such warrants will be issued and exercised;
- the currency or currencies in which the price of such warrants will be payable;
- the securities purchasable upon exercise of such warrants;
- the date on which the right to exercise such warrants shall commence and the date on which such right shall expire;
- if applicable, the minimum or maximum amount of such warrants which may be exercised at any one time;
- if applicable, the designation and terms of the securities with which such warrants are issued and the number of such warrants issued with each such security;
- if applicable, the date on and after which such warrants and the related securities will be separately transferable;
- if applicable, any provisions for cashless exercise of the warrants;
- if applicable; any exercise limitations with respect to the ownership limitations by the holder exercising the warrant;
- information with respect to book-entry procedures, if any;
- any material Israeli tax consequences and United States federal income tax consequences;
- the anti-dilution provisions of the warrants, if any; and
- any other terms of such warrants, including terms, procedures and limitations relating to the exchange and exercise of such warrants.

Holders of warrants will not be entitled, solely by virtue of being holders, to vote, to consent, to receive dividends, to receive notice as shareholders with respect to any meeting of shareholders for the election of directors or any other matters, or to exercise any rights whatsoever as a holder of the equity securities purchasable upon exercise of the warrants.

The description in the applicable prospectus supplement of any warrants we offer will not necessarily be complete and will be qualified in its entirety by reference to the applicable warrant agreement and warrant certificate, which will be filed with the SEC if we offer warrants. For more information on how you can obtain copies of the applicable warrant agreement if we offer warrants, see "Where You Can Find More Information" beginning on page 20 and "Incorporation of Information by Reference" beginning on page 19. We urge you to read any applicable prospectus supplement and the applicable warrant agreement and form of warrant certificate in their entirety.



DESCRIPTION OF UNITS

We may issue units comprised of one or more of the other securities described in this prospectus in any combination. Each unit will be issued so that the holder of the unit is also the holder of each security included in the unit. Thus, the holder of a unit will have the rights and obligations of a holder of each included security. The unit agreement under which a unit is issued may provide that the securities included in the unit may not be held or transferred separately, at any time or at any time before a specified date.

The applicable prospectus supplement will describe:

- the designation and terms of the units and of the securities comprising the units, including whether and under what circumstances those securities may be held or transferred separately;
- the material terms of a unit agreement under which the units will be issued;
- any provisions for the issuance, payment, settlement, transfer or exchange of the units or of the securities comprising the units; and
- whether the units will be issued in fully registered or global form.

The applicable prospectus supplement will describe the terms of any units. The preceding description and any description of units in the applicable prospectus supplement does not purport to be complete and is subject to and is qualified in its entirety by reference to the unit agreement and, if applicable, collateral arrangements and depositary arrangements relating to such units. For more information on how you can obtain copies of the applicable unit agreement if we offer units, see "Where You Can Find More Information" beginning on page 20 and "Incorporation by Reference" beginning on page 19. We urge you to read the applicable unit agreement and any applicable prospectus supplement in their entirety.

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PLAN OF DISTRIBUTION

The securities being offered by this prospectus may be sold:

- through agents;
- to or through one or more underwriters on a firm commitment or agency basis;
- through put or call option transactions relating to the securities;
- to or through dealers, who may act as agents or principals, including a block trade (which may involve crosses) in which a broker or dealer so engaged will attempt to sell as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- through privately negotiated transactions;
- purchases by a broker or dealer as principal and resale by such broker or dealer for its own account pursuant to this prospectus;
- directly to purchasers, including our affiliates, through a specific bidding or auction process, on a negotiated basis or otherwise; to or through one or more underwriters on a firm commitment or best efforts basis;
- exchange distributions and/or secondary distributions;
- ordinary brokerage transactions and transactions in which the broker solicits purchasers;
- in an "at the market offering", within the meaning of Rule 415(a)(4) of the Securities into an existing trading market, on an exchange or otherwise;
- transactions not involving market makers or established trading markets, including direct sales or privately negotiated transactions;
- transactions in options, swaps or other derivatives that may or may not be listed on an exchange;
- through any other method permitted pursuant to applicable law; or
- through a combination of any such methods of sale.

At any time a particular offer of the securities covered by this prospectus is made, a revised prospectus or prospectus supplement, if required, will be distributed which will set forth the aggregate amount of securities covered by this prospectus being offered and the terms of the offering, including the name or names of any underwriters, dealers, brokers or agents, any discounts, commissions, concessions and other items constituting compensation from us and any discounts, commissions or concessions allowed or re-allowed or paid to dealers. Such prospectus supplement, and, if necessary, a post-effective amendment to the registration statement of which this prospectus is a part, will be filed with the SEC to reflect the disclosure of additional information with respect to the distribution of the securities covered by this prospectus. In order to comply with the securities laws of certain states, if applicable, the securities sold under this prospectus may only be sold through registered or licensed broker-dealers. In addition, in some states the securities may not be sold unless they have been registered or qualified for sale in the applicable state or an exemption from registration or qualification requirements is available and is complied with.

The distribution of securities may be effected from time to time in one or more transactions, including block transactions and transactions on the Nasdaq Global Market or any other organized market where the securities may be traded. The securities may be sold at a fixed price or prices, which may be changed, or at market prices prevailing at the time of sale, at prices relating to the prevailing market prices or at negotiated prices. The consideration may be cash or another form negotiated by the parties. Agents, underwriters or broker-dealers may be paid compensation for offering and selling the securities. That compensation may be in the form of discounts, concessions or commissions to be received from us or from the purchasers of the securities. Any dealers and agents participating in the distribution of the securities may be deemed to be underwriters, and compensation received by them on resale of the securities may be deemed to be underwriters. If any such dealers or agents were deemed to be underwriters, they may be subject to statutory liabilities under the Securities Act.

Agents may from time to time solicit offers to purchase the securities. If required, we will name in the applicable prospectus supplement any agent involved in the offer or sale of the securities and set forth any compensation payable to the agent. Unless otherwise indicated in the prospectus supplement, any agent will be acting on a best efforts basis for the period of its appointment. Any agent selling the securities covered by this prospectus may be deemed to be an underwriter, as that term is defined in the Securities Act, of the securities.

To the extent that we make sales to or through one or more underwriters or agents in at-the-market offerings, we will do so pursuant to the terms of a distribution agreement between us and the underwriters or agents. If we engage in at-the-market sales pursuant to a distribution agreement, we will sell any of our listed securities to or through one or more underwriters or agents, which may act on an agency basis or on a principal basis. During the term of any such agreement, we may sell any of our listed securities on a daily basis in exchange transactions or otherwise as we agree with the underwriters or agents. The distribution agreement will provide that any of our listed securities which are sold will be sold at prices related to the then prevailing market prices for our listed securities. Therefore, exact figures regarding proceeds that will be raised or commissions to be paid cannot be determined at this time and will be described in a prospectus supplement. Pursuant to the terms of the distribution agreement, we also may agree to sell, and the relevant underwriters or agents may agree to solicit offers to purchase, blocks of our listed securities. The terms of each such distribution agreement will be set forth in more detail in a prospectus supplement to this prospectus.

If underwriters are used in a sale, securities will be acquired by the underwriters for their own account and may be resold from time to time in one or more transactions, including negotiated transactions, at a fixed public offering price or at varying prices determined at the time of sale, or under delayed delivery contracts or other contractual commitments. Securities may be offered to the public either through underwriting syndicates represented by one or more managing underwriters or directly by one or more firms acting as underwriters. If an underwriter or underwriters, with respect to a particular underwritten offering of securities, and will set forth the terms of the transactions, including compensation of the underwriters and dealers and the public offering price, if applicable. The prospectus and prospectus supplement will be used by the underwriters to resell the securities.

If a dealer is used in the sale of the securities, we or an underwriter will sell the securities to the dealer, as principal. The dealer may then resell the securities to the public at varying prices to be determined by the dealer at the time of resale. To the extent required, we will set forth in the prospectus supplement the name of the dealer and the terms of the transactions.

We may directly solicit offers to purchase the securities and may make sales of securities directly to institutional investors or others. These persons may be deemed to be underwriters within the meaning of the Securities Act with respect to any resale of the securities. To the extent required, the prospectus supplement will describe the terms of any such sales, including the terms of any bidding or auction process, if used.

Agents, underwriters and dealers may be entitled under agreements which may be entered into with us to indemnification by us against specified liabilities, including liabilities incurred under the Securities Act, or to contribution by us to payments they may be required to make in respect of such liabilities. If required, the prospectus supplement will describe the terms and conditions of the indemnification or contribution. Some of the agents, underwriters or dealers, or their affiliates may be customers of, engage in transactions with or perform services for us or our subsidiaries.

Any person participating in the distribution of securities registered under the registration statement that includes this prospectus will be subject to applicable provisions of the Securities Exchange Act of 1934, as amended, or the Exchange Act, and the applicable SEC rules and regulations, including, among others, Regulation M, which may limit the timing of purchases and sales of any of our securities by that person. Furthermore, Regulation M may restrict the ability of any person engaged in the distribution of our securities to engage in market-making activities with respect to our securities. These restrictions may affect the marketability of our securities and the ability of any person or entity to engage in market-making activities with respect to our securities.

Certain persons participating in an offering may engage in over-allotment, stabilizing transactions, short-covering transactions, penalty bids and other transactions that stabilize, maintain or otherwise affect the price of the offered securities. These activities may maintain the price of the offered securities at levels above those that might otherwise prevail in the open market, including by entering stabilizing bids, effecting syndicate covering transactions or imposing penalty bids, each of which is described below:

- a stabilizing bid means the placing of any bid, or the effecting of any purchase, for the purpose of pegging, fixing or maintaining the price of a security.
- a syndicate covering transaction means the placing of any bid on behalf of the underwriting syndicate or the effecting of any purchase to reduce a short position created in connection with the offering.
- a penalty bid means an arrangement that permits the managing underwriter to reclaim a selling concession from a syndicate member in connection with the offering when offered securities originally sold by the syndicate member are purchased in syndicate covering transactions.

These transactions may be effected on an exchange or automated quotation system, if the securities are listed on that exchange or admitted for trading on that automated quotation system, or in the over-the-counter market or otherwise.

If so indicated in the applicable prospectus supplement, we will authorize agents, underwriters or dealers to solicit offers from certain types of institutions to purchase offered securities from us at the public offering price set forth in such prospectus supplement pursuant to delayed delivery contracts providing for payment and delivery on a specified date in the future. Such contracts will be subject only to those conditions set forth in the prospectus supplement and the prospectus supplement will set forth the commission payable for solicitation of such contracts.

In addition, ordinary shares or warrants may be issued upon conversion of or in exchange for other securities.

Any underwriters to whom offered securities are sold for public offering and sale may make a market in such offered securities, but such underwriters will not be obligated to do so and may discontinue any market making at any time without notice. The offered securities may or may not be listed on a national securities exchange. No assurance can be given that there will be a market for the offered securities.

Any securities that qualify for sale pursuant to Rule 144 or Regulation S under the Securities Act may be sold under Rule 144 or Regulation S rather than pursuant to this prospectus.

In connection with offerings made through underwriters or agents, we may enter into agreements with such underwriters or agents pursuant to which we receive our outstanding securities in consideration for the securities being offered to the public for cash. In connection with these arrangements, the underwriters or agents may also sell securities covered by this prospectus to hedge their positions in these outstanding securities, including in short sale transactions. If so, the underwriters or agents may use the securities received from us under these arrangements to close out any related open borrowings of securities.

We may enter into derivative transactions with third parties or sell securities not covered by this prospectus to third parties in privately negotiated transactions. If the applicable prospectus supplement indicates, in connection with those derivatives, such third parties (or affiliates of such third parties) may sell securities covered by this prospectus and the applicable prospectus supplement, including in short sale transactions. If so, such third parties (or affiliates of such third parties) may use securities pledged by us or borrowed from us or others to settle those sales or to close out any related open borrowings of shares, and may use securities received from us in settlement of those derivatives to close out any related open borrowings of shares. The third parties (or affiliates of such third parties) in such sale transactions will be underwriters and will be identified in the applicable prospectus supplement (or a post-effective amendment).

We may loan or pledge securities to a financial institution or other third party that in turn may sell the securities using this prospectus. Such financial institution or third party may transfer its short position to investors in our securities or in connection with a simultaneous offering of other securities offered by this prospectus or in connection with a simultaneous offering of other securities offered by this prospectus.



LEGAL MATTERS

Certain legal matters concerning this offering will be passed upon for us by Greenberg Traurig, P.A., Tel Aviv, Israel. Certain legal matters with respect to the legality of the issuance of the securities offered by this prospectus will be passed upon for us by Shibolet & Co. Law Firm, Tel Aviv, Israel.

EXPERTS

The financial statements of Rail Vision Ltd. as of December 31, 2023 and 2022, and for each of the three years in the period ended December 31, 2023 incorporated in this Prospectus by reference from the Annual Report on Form 20-F for the year ended December 31, 2023, have been audited by Brightman Almagor Zohar & Co., a Firm in the Deloitte Global Network, an independent registered public accounting firm, as stated in their report thereon, incorporated herein. Such financial statements are incorporated in this Prospectus by reference in reliance upon such report given on the authority of said firm as experts in auditing and accounting.

EXPENSES

The following are the estimated expenses related to the filing of the registration statement of which this prospectus forms a part, all of which will be paid by us. In addition, we may incur additional expenses in the future in connection with an offering of our securities pursuant to this prospectus. If required, any such additional expenses will be disclosed in a prospectus supplement.

SEC registration fee	\$ 14,760
Legal fees and expenses	*
Accounting fees and expenses	*
Miscellaneous	*
Total	\$ *

* To be provided by a prospectus supplement or as an exhibit to a Report on Form 6-K that is incorporated by reference into this prospectus.

INCORPORATION OF CERTAIN INFORMATION 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 those documents. The information incorporated by reference is considered to be part of this prospectus and information we file later with the SEC will automatically update and supersede this information. The documents we are incorporating by reference as of their respective dates of filing are:

- Annual Report on Form 20-F for the year ended December 31, 2023, filed on March 28, 2024;
- our Reports of Foreign Private Issuer on Form 6-K filed on <u>March 29, 2024</u>, <u>April 3, 2024</u> and <u>April 11, 2024</u> (to the extent expressly incorporated by reference into our effective registration statements filed by us under the Securities Act); and
- The description our Ordinary Shares, which is contained in our registration statement on <u>Form 8-A</u> filed with the SEC pursuant to the Exchange Act on March 25, 2022 (File No. 001-41334), as amended by <u>Exhibit 2.1</u> to our Annual Report on <u>Form 20-F</u> for the year ended December 31, 2023, and including any further amendment or report filed for the purpose of updating such description.

All subsequent annual reports filed by us pursuant to the Exchange Act on Form 20-F prior to the termination of an offering shall be deemed to be incorporated by reference to this prospectus and to be a part hereof from the date of filing of such documents. We may also incorporate part or all of any Form 6-K subsequently submitted by us to the SEC prior to the termination of an offering by identifying in such Forms 6-K that they, or certain parts of their contents, are being incorporated by reference herein, and any Forms 6-K so identified shall be deemed to be incorporated by reference in this prospectus and to be a part hereof from the date of submission of such documents. Any statement contained in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained herein or in any other subsequently filed document which also is incorporated or deemed to be incorporated by reference herein modifies or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus.

The information we incorporate by reference is an important part of this prospectus, and later information that we file with the SEC will automatically update and supersede the information contained in this prospectus.

We will provide you without charge, upon your written or oral request, a copy of any of the documents incorporated by reference in this prospectus, other than exhibits to such documents which are not specifically incorporated by reference into such documents. Please direct your written or telephone requests to us at: Rail Vision Ltd., 15 Ha'Tidhar St. Ra'anana, 4366517 Israel. Attention: Ofer Naveh, Chief Financial Officer, telephone number: ++972-9-957-7706.

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WHERE YOU CAN FIND ADDITIONAL INFORMATION

This prospectus is part of a registration statement on Form F-3 that we filed with the SEC relating to the securities offered by this prospectus, which includes additional information. You should refer to the registration statement and its exhibits for additional information. Whenever we make reference in this prospectus to any of our contracts, agreements or other documents, the references are not necessarily complete and you should refer to the exhibits attached to the registration statement for copies of the actual contract, agreements or other document.

We are subject to the informational requirements of the Exchange Act applicable to foreign private issuers. We, as a "foreign private issuer," are exempt from the rules under the Exchange Act prescribing certain disclosure and procedural requirements for proxy solicitations, and our officers, directors and principal shareholders are exempt from the reporting and "short-swing" profit recovery provisions contained in Section 16 of the Exchange Act, with respect to their purchases and sales of shares. In addition, we are not required to file annual, quarterly and current reports and financial statements with the SEC as frequently or as promptly as U.S. companies whose securities are registered under the Exchange Act.

You can review our SEC filings and the registration statement by accessing the SEC's internet site at http://www.sec.gov. We maintain a corporate website at https://railvision.io/. Information contained on, or that can be accessed through, our website does not constitute a part of this prospectus. We have included our website address in this prospectus solely as an inactive textual reference.

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ENFORCEABILITY OF CIVIL LIABILITIES

We are incorporated under the laws of the State of Israel. Service of process upon us and upon our directors and officers and the Israeli experts named in the registration statement of which this prospectus forms a part, all or a substantial majority of whom reside outside of the United States, may be difficult to obtain within the United States. Furthermore, because substantially all of our assets and a substantial of our directors and officers are located outside of the United States, any judgment obtained in the United States against us or any of our directors and officers may not be collectible within the United States.

We have been informed by our legal counsel in Israel, Shibolet & Co., that it may be difficult to assert U.S. securities law claims in original actions instituted in Israel. Israeli courts may refuse to hear a claim based on a violation of U.S. securities laws because Israel is not the most appropriate forum to bring such a claim. In addition, even if an Israeli court agrees to hear a claim, it may determine that Israeli law and not U.S. law is applicable to the claim. If U.S. law is found to be applicable, the content of applicable U.S. law must be proved as a fact which can be a time-consuming and costly process. Certain matters of procedure will also be governed by Israeli law.

Subject to specified time limitations and legal procedures, Israeli courts may enforce a United States judgment in a civil matter which, subject to certain exceptions, is non-appealable, including judgments based upon the civil liability provisions of the Securities Act and the Exchange Act and including a monetary or compensatory judgment in a non-civil matter, provided that among other things:

- the judgment is obtained after due process before a court of competent jurisdiction, according to the laws of the state in which the judgment is given and the rules of private international law currently prevailing in Israel;
- the judgment is final and is not subject to any right of appeal;
- the prevailing law of the foreign state in which the judgment was rendered allows for the enforcement of judgments of Israeli courts;
- adequate service of process has been effected and the defendant has had a reasonable opportunity to be heard and to present his or her evidence;
- the liabilities under the judgment are enforceable according to the laws of the State of Israel and the judgment and the enforcement of the civil liabilities set forth in the judgment is not contrary to the law or public policy in Israel nor likely to impair the security or sovereignty of Israel;
- the judgment was not obtained by fraud and does not conflict with any other valid judgments in the same matter between the same parties;
- an action between the same parties in the same matter is not pending in any Israeli court at the time the lawsuit is instituted in the foreign court; and
- the judgment is enforceable according to the law of the foreign state in which the relief was granted.

If a foreign judgment is enforced by an Israeli court, it generally will be payable in Israeli currency, which can then be converted into non-Israeli currency and transferred out of Israel. The usual practice in an action before an Israeli court to recover an amount in a non-Israeli currency is for the Israeli court to issue a judgment for the equivalent amount in Israeli currency at the rate of exchange in force on the date of the judgment, but the judgment debtor may make payment in foreign currency. Pending collection, the amount of the judgment of an Israeli court stated in Israeli currency ordinarily will be linked to the Israeli Consumer Price Index plus interest at the annual statutory rate set by Israeli regulations prevailing at the time. Judgment creditors must bear the risk of unfavorable exchange rates.

Up to \$20,000,000 of Ordinary Shares and 288,684 Ordinary Shares as Commitment Shares



Rail Vision Ltd.

PROSPECTUS SUPPLEMENT

October 7, 2024