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

Form 6-K

Report of Foreign Private Issuer Pursuant to Rule 13a-16 or 15d-16 under the Securities Exchange Act of 1934

For the month of January 2024

Commission file number: 001-41334

RAIL VISION LTD.

(Translation of registrant's name into English)

15 Ha'Tidhar St Ra'anana, 4366517 Israel

(Address of principal executive offices)

Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-F or Form 40-F.

Form 20-F ⊠ Form 40-F □

CONTENTS

Attached hereto and incorporated herein is the Registrant's press release issued on January 30, 2024, titled "Rail Vision Reveals its Next Generation AI Computer for Railway Safety and Accident Prevention."

The first four paragraphs in the press release attached as Exhibit 99.1 are incorporated by reference into the Registrant's Registration Statements on Form F-3 (File Nos. 333-271068 and 333-272933) and Form S-8 (Registration No. 333-265968), filed with the Securities and Exchange Commission, to be a part thereof from the date on which this report is submitted, to the extent not superseded by documents or reports subsequently filed or furnished.

EXHIBIT INDEX

Exhibit No. 99.1 Press release issued by Rail Vision Ltd. on January 30, 2024, titled "Rail Vision Reveals its Next Generation AI Computer for Railway Safety and Accident Prevention."

SIGNATURES

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

Date: January 30, 2024

Rail Vision Ltd.

By: /s/ Ofer Naveh

Name: Ofer Naveh

Title: Chief Financial Officer

Rail Vision Reveals its Next Generation AI Computer for Railway Safety and Accident Prevention

The new development offers high performance and real time AI deep learning inferencing

Ra'anana, Israel, Jan. 30, 2024 (GLOBE NEWSWIRE) -- Rail Vision Ltd. (Nasdaq: RVSN) (the "Company"), a technology company at the forefront of revolutionizing railway safety and the data-related market, today announces its next generation AI- based computer to be incorporated in its Main Line and Switch Yard systems.

This advanced system represents a major evolution from the Company's existing AI-based solutions, featuring advanced real-time deep learning capabilities and compliance with stringent railway standards.

Rail Vision's system ensures exceptional performance in obstacle detection and identification, even under challenging weather and visibility conditions. Its real-time operational capacity in both software and firmware contributes to a new era of responsiveness and efficiency in railway safety management.

Furthermore, the system's design focuses on scalability, ensuring the system remains at the forefront of technological advancements. The integration of cloud connectivity opens new avenues for data analysis and predictive maintenance, enhancing the overall safety and operational efficiency of railway networks

"Rail Vision's next-generation AI computer system, is a significant milestone in railway safety technology. This innovation embodies our unwavering commitment to advancing railway security, marrying cutting-edge AI with real-time processing to prevent accidents and save lives. Our system, technology and cloud connectivity are transformative leap forward, marking a new chapter in intelligent railway operations", said Shahar Hania, Rail Vision's Chief Executive Officer.

About Rail Vision Ltd.

Rail Vision is a technology company that is seeking to revolutionize railway safety and the data-related market. The Company has developed cutting-edge, artificial intelligence based, industry-leading technology specifically designed for railways. The Company has developed its railway detection and systems to save lives, increase efficiency, and dramatically reduce expenses for the railway operators. Rail Vision believes that its 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, the company believes that its technology has the potential to advance the revolutionary concept of autonomous trains into a practical reality. For more information please visit https://www.railvision.io/

Forward-Looking Statements

This press release contains "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act and other securities laws. Words such as "expects," "anticipates," "intends," "plans," "believes," "seeks," "estimates" and similar expressions or variations of such words are intended to identify forward-looking statements. For example, the Company is using forward-looking statements when it discusses remaining at the forefront of technological advancements and the Company's commitment to advancing railway security, marrying cutting-edge AI with real-time processing to prevent accidents and save lives. Forward-looking statements are not historical facts, and are based upon management's current expectations, beliefs and projections, many of which, by their nature, are inherently uncertain. Such expectations, beliefs and projections are expressed in good faith. However, there can be no assurance that management's expectations, beliefs and projections will be achieved, and actual results may differ materially from what is expressed in or indicated by the forward-looking statements. Forward-looking statements are subject to risks and uncertainties that could cause actual performance or results to differ materially from those expressed in the forward-looking statements. For a more detailed description of the risks and uncertainties affecting the Company, reference is made to the Company's reports filed from time to time with the Securities and Exchange Commission ("SEC"), including, but not limited to, the risks detailed in the Company's annual report on Form 20-F filed with the SEC on March 23, 2023, Forwardlooking statements speak only as of the date the statements are made. The Company assumes no obligation to update forward-looking statements to reflect actual results, subsequent events or circumstances, changes in assumptions or changes in other factors affecting forward-looking information except to the extent required by applicable securities laws. If the Company does update one or more forward-looking statements, no inference should be drawn that the Company will make additional updates with respect thereto or with respect to other forward-looking statements. References and links to websites have been provided as a convenience, and the information contained on such websites is not incorporated by reference into this press release. Rail Vision is not responsible for the contents of third-party websites.

Investor Relations

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