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 August 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 August 12, 2024, titled "Rail Vision Granted US Patent Approval on AI-Powered Railway Obstacle Detection System."

The first through third 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 (File Nos. 333-265968 and 333-281329), 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and Exchange Commission, to be a part thereof from the date on which this report is submitted, to the extent not superseded by documents or reports subsequently filed or furnished.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 August 12, 2024, titled "Rail Vision Granted US Patent Approval on AI-Powered Railway Obstacle Detection System."

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.

Rail Vision Ltd.

Date: August 12, 2024

By: /s/ Ofer Naveh

Name: Ofer Naveh Title: Chief Financial Officer

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Rail Vision Granted US Patent Approval on AI-Powered Railway Obstacle Detection System

Ra'anana, Israel, Aug. 12, 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 announced that it has been granted patent approval from the United States Patent and Trademark Office for its innovative AI-based railway obstacle detection system.

This patent outlines an advanced method for enhancing rail safety through the use of electro-optical imaging technologies combined with artificial intelligence. The system is designed to significantly reduce collisions on railroads by employing an artificial intelligence model that includes comprehensive scene analysis and image processing techniques.

Key Features of the Patent include:

- Advanced Electro-Optical Imaging: Utilizes single spectrum or multispectral imaging to capture comprehensive visuals of the train's pathway and its surroundings.
- AI-Driven Image Processing: Incorporates deep learning through convolutional neural networks to precisely determine the railway path and detect potential obstacles along and near the path.
- Enhanced Safety Measures: Aims to dramatically reduce collision risks, thereby increasing the safety of rail operations.

For additional information regarding the MainLine and ShuntingYard products, please contact: investors@railvision.io

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. The Company cannot assure that any patent will issue as a result of a pending patent application or, if issued, whether it will issue in a form that will be advantageous to the Company. 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 28, 2024. Forward-looking 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 Michal Efraty investors@railvision.io