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 2025

Commission File Number: **000-55135**

POET TECHNOLOGIES INC.
(Translation of registrant's name into English)

120 Eglinton Avenue East, Ste 1107
Toronto, Ontario, M4P 1E2, Canada
(Address of principal executive office)

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 [X]   Form 40-F [   ]

On January 31, 2025, the Registrant issued a press release, a copy of which is attached hereto as Exhibit 99.1 and is incorporated herein by reference.

(c) Exhibit 99.1. Press release dated January 31, 2025

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.

POET TECHNOLOGIES INC.
(Registrant)

Date: January 31, 2025

/s/ THOMAS MIKA
Thomas Mika
Executive Vice President and Chief Financial Officer

EXHIBIT 99.1

POET Engaged by Global Financial Services Leader to Develop Custom Optical Engine

Demonstrates versatility of Optical Interposer Platform and adds new revenue stream

TORONTO, Jan. 31, 2025 (GLOBE NEWSWIRE) -- POET Technologies Inc. ("**POET**" or the "**Company**") (TSX Venture: PTK; NASDAQ: POET), a leader in the design and implementation of highly-integrated optical engines and light sources for Artificial Intelligence networks, announces that it has signed an agreement to develop a novel optical engine for use in a high-frequency securities trading operation for a global capital markets firm. High-frequency trading ("HFT") is a type of automated trading that uses powerful computers to execute a large number of trades in fractions of a second.

The multi-phase project is a pioneering effort to increase the speed and decrease the latency inherent in current transceiver solutions utilized by securities trading operations. The first phase of the project will begin immediately with POET designing prototypes of POET Optical Interposer–based transceiver engines built to meet the customer's specification. Subsequent phases include building additional prototypes and, if successful, production optical engines customized for this application.

"We are delighted to have embarked on this ambitious project with a global leader in HFT," commented Raju Kankipati, Chief Revenue Officer of POET. "This project generates revenue for POET this year and demonstrates the versatility of the POET Optical Interposer and the entry into a new, related market space by the Company."

About POET Technologies Inc.
POET is a design and development company offering high-speed optical modules, optical engines and light source products to the artificial intelligence systems market and to hyperscale data centers. POET's photonic integration solutions are based on the POET Optical Interposer™, a novel, patented platform that allows the seamless integration of electronic and photonic devices into a single chip using advanced wafer-level semiconductor manufacturing techniques. POET's Optical Interposer-based products are lower cost, consume less power than comparable products, are smaller in size and are readily scalable to high production volumes. In addition to providing high-speed (800G, 1.6T and above) optical engines and optical modules for AI clusters and hyperscale data centers, POET has designed and produced novel light source products for chip-to-chip data communication within and between AI servers, the next frontier for solving bandwidth and latency problems in AI systems. POET's Optical Interposer platform also solves device integration challenges in 5G networks, machine-to-machine communication, self-contained "Edge" computing applications and sensing applications, such as LIDAR systems for autonomous vehicles. POET is headquartered in Toronto, Canada, with operations in Allentown, PA, Shenzhen, China, and Singapore. More information about POET is available on our website at www.poet-technologies.com.

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Forward-Looking Statements
This news release contains "forward-looking information" (within the meaning of applicable Canadian securities laws) and "forward-looking statements" (within the meaning of the U.S. Private Securities Litigation Reform Act of 1995). Such statements or information are identified with words such as "anticipate", "believe", "expect", "plan", "intend", "potential", "estimate", "propose", "project", "outlook", "foresee" or similar words suggesting future outcomes or statements regarding any potential outcome. Such statements include the Company's expectations with respect to the success of the Company's product development efforts, the performance of its products, operations, meeting revenue targets, and the expectation of continued success in the financing efforts, the capability, functionality, performance and cost of the Company's technology as well as the market acceptance, inclusion and timing of the Company's technology in current and future products and expectations regarding its successful development of high-frequency trading solutions and its penetration of the Artificial Intelligence hardware markets.

Such forward-looking information or statements are based on a number of risks, uncertainties and assumptions which may cause actual results or other expectations to differ materially from those anticipated and which may prove to be incorrect. Assumptions have been made regarding, among other things, the completion of its development efforts with its securities trading partner, the ability to build working prototypes to the customer's specifications, and the size, future growth and needs of Artificial Intelligence network suppliers. Actual results could differ materially due to a number of factors, including, without limitation, the failure to produce working prototypes on time and within budget, the failure of Artificial Intelligence networks to continue to grow as expected, the failure of the Company's products to meet performance requirements for AI and datacom networks, operational risks in the completion of the Company's projects, the ability of the Company to generate sales for its products, and the ability of its customers to deploy systems that incorporate the Company's products. Although the Company believes that the expectations reflected in the forward-looking information or statements are reasonable, prospective investors in the Company's securities should not place undue reliance on forward-looking statements because the Company can provide no assurance that such expectations will prove to be correct. Forward-looking information and

statements contained in this news release are as of the date of this news release and the Company assumes no obligation to update or revise this forward-looking information and statements except as required by law.