



## POET TECHNOLOGIES INC.

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## NEWS RELEASE

### POET Technologies Announces Integrated Optoelectronic Infrared Device Fabrication and Industrial Foundry Validation

**Toronto, ON, and Storrs, CT, February 24, 2014** – POET Technologies Inc. (TSX-V: PTK, OTCQX: POETF) (“the Company”) – announced today the fabrication of infrared (IR) detectors, using its proprietary planar optoelectronic technology (POET) platform for monolithic fabrication of integrated electronic and optical devices on a single semiconductor wafer.

The achievement of these devices marks a significant milestone in development, realizing with a commercial foundry the integration of both electronic devices (n-channel transistors) with optical devices (IR detector) in a monolithic process.

The accomplishment is made more significant because the POET wafers used for the IR devices were fabricated with an independent foundry, BAE Systems’ Microelectronics Center in Nashua, New Hampshire. BAE Systems has produced compound semiconductor devices based on gallium arsenide for more than 20 years for use in its defense, radar, and communications systems. This milestone, therefore, represents the integration by a third party of the optoelectronic process previously demonstrated in POET laboratories.

“Having IR detection for the first time is a major milestone for the POET technology,” said Dr. Pane Chao, technical director at BAE Systems’ Microelectronics Center. “BAE Systems’ relationship with POET Technologies is mutually beneficial in that we are able to supply foundry services while being exposed to this rapidly evolving capability.”

Dr. Geoff Taylor, member of the Board of Directors of POET and Chief Scientist, said, “Our successful fabrication of a functioning integrated optoelectronic device, using the POET platform, should be considered a major breakthrough for POET and the industry.” Dr. Taylor went on to state, “This is a story about teamwork and shared vision, and the entire team deserves recognition for the work leading to this landmark achievement. POET will be the future platform for integrated IR and many other device systems.”

The POET IR device addresses the need of military and industrial clients for uncooled mid-wave infrared (MWIR) and long-wave infrared (LWIR) sensors and cameras – for perimeter security, thermography, medical imaging, automotive forward sensors, and smartphone input applications. It has potential advantages over competitive devices in three aspects:

- **MWIR and LWIR detection in the same pixel.** MWIR detection (2-8 $\mu$ m) occurs in self-assembled quantum dots with normal incidence light and no diffraction gratings, and uses only the n-type hetero-interface within POET. The p-type interface results in LWIR detection (8-12 $\mu$ m). By combining both interfaces within POET, MWIR and LWIR detection will be obtained simultaneously in the same pixel.
- **Lower device cooling requirements.** Near-room-term temperature operation is another advantage of the POET IR detector, possible because of the lower device dark current.
- **Integrated optoelectronic advantages.** The devices provides for the practical integration, for the first time, of the optical detector with the electronic transistor readout and signal-processing circuits. Thus, high-density, single-chip focal-plane arrays are possible using front-side imaging, without resorting to wafer thinning.

Beyond the fully-integrated monolithic IR detector, the Company remains on track to deliver to industry, and specifically to its development partners, other fully-integrated monolithic optoelectronic devices based on the Company’s POET platform.

**About POET Technologies Inc.**

POET Technologies is the developer of the POET platform for monolithic fabrication of integrated circuit devices containing both electronic and optical elements on a single semiconductor wafer. With head office in Toronto, Ontario, Canada, and operations in Storrs, CT, the Company, through ODIS Inc., a U.S. company, designs III-V semiconductor devices for military, industrial and commercial applications, including infrared sensor arrays and ultra-low-power random access memory. The Company has 30 patents issued and 9 patents pending for the POET process, with potential high speed and power-efficient applications in devices such as servers, tablet computers and smartphones. The Company's common shares trade on the TSX Venture Exchange under the symbol "PTK" and on the OTCQX under the symbol "POETF". For more information please visit our websites at [www.poet-technologies.com](http://www.poet-technologies.com).

**Dated: February 24, 2014**

ON BEHALF OF THE BOARD OF DIRECTORS



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- *"POET will be the future platform for integrated IR and many other device systems";*
- *"It has potential advantages over competitive devices in three aspects"; and*
- *"Beyond the fully-integrated monolithic IR detector, the Company remains on track to deliver to industry, and specifically to its development partners, other fully-integrated monolithic optoelectronic devices based on the Company's POET platform".*

*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, management's expectations regarding future growth, plans for and completion of projects by the Company's third party relationships, availability of capital, and the necessity to incur capital and other expenditures. Actual results could differ materially due to a number of factors, including, without limitation, operational risks in the completion of the Company's anticipated projects, delays or changes in plans with respect to the development of the Company's anticipated projects by the Company's third party relationships, risks affecting the Company's ability to execute projects, the ability to attract key personnel, and the inability to raise additional capital.*

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