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NEWS RELEASE

POET Technologies Achieves New Milestone and Reports Significant Progress

Toronto, ON, and Storrs, CT, March 4, 2014 – POET Technologies Inc. (TSX-V: PTK, OTCQX: POETF) (“the Company”) – announced today the achievement of continuous-wave (cw) operation of its thyristor laser within its proprietary planar optoelectronic technology (POET) platform for monolithic fabrication of integrated electronic and optical devices on a single semiconductor wafer. The Company is also reporting significant progress on several other initiatives on its technical roadmap.

POET Switching Laser

The Company has achieved the long-awaited milestone (MS-5) – the operation of its switching laser within the POET platform. This achievement has far-reaching implications for on-chip and optical communications applications. This single demonstration is a giant leap forward for an integrated circuit industry looking for ways to push complementary metal-oxide semiconductor (CMOS) processes past some challenging technical barriers.

Peter Copetti, Executive Chairman and interim CEO, noted “This is the most definitive step yet in our drive to enhance POET’s electronic and optical monolithic capability, beyond CMOS and silicon photonics.”

Copetti added, “While timeline variations are always to be expected for a company in development mode, our belief in Geoff Taylor and his team has never wavered. We would like to thank the entire technical team for its hard work and dedication.”

Specifically, excellent switching operation was achieved with a laser threshold of 1-mA, just above a thyristor holding current of 0.5-mA, for a 10-micron diameter laser device, exhibiting a suppression ratio of 50-dB. This enables optical short reach applications found in data-center, server farms and high performance computing, thereby lowering system solution cost when compared to silicon photonics.

Facility Upgrades

In accordance with its planned maintenance scheduled for the POET facility, the Company has completed its most recent wafer growth cycle.

In association with this, POET is upgrading its molecular beam epitaxy (MBE) system to make critical additions and replenish source materials. One critical addition is a high-volume indium (In) source to enable metamorphic growth on a gallium arsenide (GaAs) substrate of the POET epitaxy with a natural wavelength of 1550-nm. This is expected to enable the production of long-wavelength lasers combined with high In-content field-effect transistor (FET) channels for superior high-speed transistor performance.

Drive for Feature Size to 100-nm Range (MS-8)

The Company introduced a milestone associated with reducing feature size to the 100-nm range in scale, and has previously announced that it realized submicron device operation from an initial 800-nm down to 200-nm.

POET is moving steadily towards the goal of 100-nm feature sizes for the transistors within the POET platform, and has stabilized feature definition at the sub-200-nm level. Short channel considerations are being addressed with new innovations, and the critical step of isolating source-drain and gate contacts with oxygen implantation is nearing completion. The 100-nm goal is matched to the state-of-the-art commercial

III-V foundry capabilities and will demonstrate greater than 20x speed improvement together with lower power consumption by 4x to 10x, depending on the application, compared to silicon at smaller nodes.

Although timelines are always subject to review depending on partner needs, the technical team sees no significant technical roadblocks ahead. POET anticipates completion of the 100-nm milestone by the end of April 2014.

Technical Development Kits (TDK)

In addition to optimizing device parameters and yields, the Company is focusing on establishing POET's technology design kits (TDKs). The TDKs comprise a comprehensive design rules and device parameter library for POET, and will enable customers and partners to implement the POET process into preferred foundries. The TDKs will also help licensed designs in a POET device ecosystem to proliferate and help existing silicon library functions to migrate to POET technology-based circuitry in a minimum amount of time.

The Company is reporting that, with the help of select potential POET Development Alliance (PDA) partners, progress on this milestone is ahead of the schedule set by the former Special Strategic Committee. Copetti noted, "It is gratifying to see our excitement shared by others, and we hope that excitement will be infectious as we head into the Global Semiconductor Forum. We have a relentless focus on securing our intellectual property and in forging ties to industry, and this positions POET Technologies in its drive to extend Moore's Law to the next level."

By enabling increased speed, density, reliability, power efficiency, and much lower bill-of-materials and assembly costs, POET's disruptive technology will allow continued advances of semiconductor device performance and capabilities for many years, overcoming the current power and speed bottlenecks of silicon-based circuits, and will change the future development roadmaps of a broad range of semiconductor and other applications including mobile and wearable devices, computer servers, storage arrays, imaging equipment, and networking equipment.

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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 several issued and pending patents 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.

ON BEHALF OF THE BOARD OF DIRECTORS



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- *the implications of the Company's achievement for on-chip and optical communications applications;*
- *the anticipated production of products with superior high-speed transistor performance which the Company expects will disrupt the semiconductor industry and overcome the bottlenecks of silicon-based circuits; and*
- *the Company's expectations with respect to the success and timing of its 100-nm goal by the end of April 2014.*

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. 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.