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NEWS RELEASE

POET Technologies Announces Completion and Availability of POET Technology Design Kit Documentation (POET/TDK)

Toronto, ON, and Storrs, CT, April 7, 2014 – POET Technologies Inc. (TSX-V: PTK; OTCQX: POETF) (“the Company”) – developer of the planar opto-electronic technology (POET) platform for monolithic fabrication of integrated circuit devices containing both electronic and optical elements on a single semiconductor wafer – today announced the availability of the POET Technology Design Kit (POET/TDK) documentation to the industry.

POET/TDK

POET/TDK provides complete documentation for the entire catalog of active electronic and electro-optical devices currently supported by the POET process. It comprises a comprehensive device parameter library, and enables potential customers and partners – including semiconductor foundries and device and library developers – to implement the POET process.

As usage grows, POET/TDK is also expected to help licensed designs in a POET device ecosystem to proliferate, and help existing complementary metal-oxide semiconductor (CMOS) silicon library functions optimize migration time to POET designs.

Mr. Peter Copetti, Executive Chairman and interim CEO, noted, “Completion of the POET/TDK marks a critical step towards commercialization and monetization of the Company’s intellectual property. We’re extremely excited to be able to showcase our game-changing technology to potential customers and partners in a context specific to their own manufacturing framework.”

While POET devices have already been successfully manufactured and validated at a third-party foundry without using POET/TDK, its availability now makes such technology migration much easier in the future. POET/TDK and associated information is shared only under non-disclosure agreements (NDA) with current and potential partners and customers for the express purpose of evaluation of and migration to the POET platform.

TCAD Simulation of Processes and Devices

Based on the TDK, Company staff and its tool partner are currently using technology computer-aided design (TCAD) simulation to develop and optimize specific semiconductor processing technologies and devices of interest to other potential partners.

Mr. Copetti added, “It’s remarkable that the completion of the TDK and the TCAD work with our tools partner was achieved by our team – Dr. Geoff Taylor, Lee Shepherd and the POET team at the University of Connecticut – in parallel with significant strides in our 100-nm milestone, and research on the possibility of POET-based quantum computing devices. We’ve set challenging milestones for ourselves, and expect to continue to meet these challenges in our drive towards our ‘Powered by POET’ vision.”

The TCAD effort is geared towards developing the models necessary to enable POET’s technology into an industry-standard design tool-flow. This design tool-flow is required to evaluate and ultimately transfer POET’s technology into manufacturers’ design-and-fabrication environments.

PET Advances

Specific TCAD efforts are focused on complementary hetero-structure field-effect transistors (HFETs) and bipolar transistors (HBTs), which form the basis for the first TDK release focused on the planar electronic technology (PET), the electrical subset of the POET process. It can support complementary HFET (CHFET),

bi-CHFET, bipolar and thyristor device fabrication. PET offers lower cost and simpler process fab options for applications that do not require the full optical feature set offered by POET.

All of the electronic devices of the PET platform represent a breakthrough in performance and power efficiency over existing silicon CMOS technologies that exist today and on the industry roadmap. The PET/TDK models are anticipated to be available to third parties around the end of the third quarter 2014.

By enabling increased speed, density, reliability, power efficiency, and much lower bill-of-materials and assembly costs, the POET semiconductor platform is expected to provide disruptive performance with an industry-compatible transition framework, and positions the Company as a leader in the new generation of companies defining the growth paradigm in the post-Moore's Law world.

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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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.