

PRESS RELEASE

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POET Technologies Enters Artificial Intelligence Market with Technology Leader in Photonic Computing

TORONTO, Ontario, January 6, 2021 – POET Technologies Inc. (“**POET**” or the “**Company**”) (TSX Venture: PTK; OTCQX: POETF), the designer and developer of the POET Optical Interposer and Photonic Integrated Circuits (PICs) for the data center and tele-communication markets, today announced that it has entered into development and supply agreements with a technology leader in photonic neural network systems for Artificial Intelligence (AI) applications.

Artificial Intelligence, at the cusp of its own revolutionary impact to humanity, is driving an unprecedented demand for computation at the same time that the physics of digital semiconductors, driven by Moore’s law, is reaching its end. Transistor scaling is approaching its limits and AI accelerator companies are struggling to keep pace with demands, particularly in “edge” applications that require greater power and cost efficiency. Domain-specific architectures targeted to AI workloads can make up for some of the slowdown in transistor advances but that approach also has its limits.

The chipset market for AI applications is projected to grow from approximately \$18 billion in 2020 to over \$65 billion by 2025. POET’s new development and supply agreement for photonic AI computing represents an entry point into this new large and extremely high-growth market. POET’s customer for these applications is breaking the digital semiconductor mold by integrating photonics into accelerators for AI workloads, thereby enabling step-change advancements in AI computation. Harnessing light to perform data-parallel calculations is many orders-of-magnitude faster, more power efficient, and lower cost than in traditional semiconductors. Photonic computing changes the game in the field of Artificial Intelligence.

“Photonics has been readied for optical computing as a result of over a decade of advancements in photonics design and fabrication driven by telecommunications and data communication and promises to be the technology to usher in the next era of rapid growth for AI computing,” commented Suresh Venkatesan, the Company’s Chairman & CEO. “POET is now well positioned to participate meaningfully for a new class of high-volume, high-growth applications, expanding the addressable markets for our Optical Engines and Optical Interposer platform products. In addition to highlighting the tremendous adaptability of the POET Optical Interposer platform, this project is anticipated to result in revenue for POET this year in the form of NRE and potentially initial product sales.”

“Beyond The Press Release”

POET Technologies goes “Beyond The Press Release” to discuss today’s news. Shareholders and other interested parties are encouraged to check back on this link before market open on the morning of Thursday, January 7, 2021.

<https://agoracom.com/ir/POETTechnologies/forums/discussion/topics/752378-poet-technologies-goes-beyond-the-press-release/messages/2296149#message>

About POET Technologies Inc.

POET Technologies is a design and development company offering integration solutions based on the POET Optical Interposer™ a novel platform that allows the seamless integration of electronic and photonic devices into a single multi-chip module using advanced wafer-level semiconductor manufacturing techniques and packaging methods. POET’s Optical Interposer eliminates costly components and labor-intensive assembly, alignment, burn-in and testing methods employed in conventional photonics. The cost-efficient integration scheme and scalability of the POET Optical Interposer brings value to any device or system that integrates electronics and photonics, including some of the highest growth areas of computing, such as Artificial Intelligence (AI), the Internet of Things (IoT), autonomous vehicles and high-speed networking for cloud service providers and data centers. POET is headquartered in Toronto, with operations in Allentown, PA and Singapore. More information may be obtained at www.poet-technologies.com.

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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 the success and timing for completion of its development

efforts, financing activities, future growth, recruitment of personnel, opening of offices, the form and potential of its planned joint venture, plans for and completion of projects by the Company's third-party consultants, contractors and partners, 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, the failure of its products to meet performance requirements, operational risks in the completion of the Company's anticipated projects, a delay or abandonment of its planned joint venture, delays in recruitment for its newly opened operations or changes in plans with respect to the development of the Company's anticipated projects by third-parties, risks affecting the Company's ability to execute projects, the ability of the Company to generate sales for its products, the ability to attract key personnel, and the ability 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.

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