Xanadu and ASML Announce Collaboration to Advance Lithography for Photonic Quantum Hardware

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TORONTO, Sept. 09, 2026 (GLOBE NEWSWIRE) -- Xanadu Quantum Technologies Limited ("Xanadu"; NASDAQ/TSX: XNDU), a leading photonic quantum computing company, and ASML, a leading supplier to the semiconductor industry, today announced a collaboration to develop advanced lithography processes for Xanadu's photonic quantum hardware. This collaboration aims to enable both companies to gain deeper insight into how advanced lithography innovations can help reduce optical losses in quantum computing chips, accelerating the industry's path toward utility-scale quantum computing (USQC).

Quantum hardware needs to be fault-tolerant and error-corrected to address large-scale computational problems. For photonic quantum hardware, reducing optical loss is an important technical challenge on the path toward fault-tolerant operation and error correction. Optical loss in photonic quantum processors can be influenced by line edge roughness (LER), which is affected by lithography and related process conditions. Through this collaboration, Xanadu and ASML will explore lithography-enabled process approaches that may contribute to improved patterning control and lower-loss photonic structures.

"Fault tolerance and error correction are arguably the most important technical objectives for the quantum computing industry," said Dr. Christian Weedbrook, Founder and Chief Executive Officer of Xanadu. "Collaborating with ASML gives Xanadu the opportunity to explore advanced, industry-leading lithography processes that will support the continued development of our photonic quantum hardware."

"For ASML, this collaboration is an opportunity to explore advanced lithography processes with Xanadu and better understand how our technology and expertise can support next-generation photonics applications," said Stan Baron, Senior Vice President and Head of Customer Team EU-US at ASML. "We are pleased to contribute to this work, supporting the exploration of future manufacturing approaches for photonic quantum hardware as the technology matures."

This collaboration with ASML reflects Xanadu's continued focus on advancing photonic quantum hardware and further solidifies Xanadu's leading position within the semiconductor and quantum computing ecosystem. This work paves the way toward future manufacturing and commercialization and marks another significant step in the company's mission to build quantum computers that are useful and available to people everywhere.

About Xanadu

Founded in 2016, Xanadu is a Canadian photonic quantum computing company with the mission to build quantum computers that are useful and available to people everywhere. Xanadu is building fault-tolerant quantum computers using light, with systems designed to compute at room temperature. Xanadu develops both hardware and software, including PennyLane, its open-source quantum computing platform. Xanadu is the first pure-play photonic quantum computing company to list on public markets (Nasdaq/TSX: XNDU) and is recognized globally for its breakthroughs in scalable quantum technologies. Visit xanadu.ai or follow on X @XanaduAI.

Press Contact: press@xanadu.ai
Investor Relations: investors@xanadu.ai

Forward-Looking Statements

This communication includes "forward-looking statements" within the meaning of the U.S. federal securities laws and "forward-looking information" within the meaning of applicable Canadian securities laws (collectively, "forward-looking statements"). Forward-looking statements may be identified by the use of words such as "estimate," "plan," "project," "forecast," "intend," "will," "expect," "anticipate," "believe," "seek," "target," "continue," "could," "may," "might," "possible," "potential," "predict" or similar expressions that predict or indicate future events or trends or that are not statements of historical matters. We have based these forward-looking statements on current expectations and projections about future events. These statements include: statements regarding the ability to develop advanced lithography processes for Xanadu's photonic quantum hardware, the ability to overcome optical loss within quantum chips; the ability to build the highly efficient, scalable chips required for utility-scale quantum computing, including ultra-low line edge roughness chips; Xanadu's ability to achieve utility-scale quantum computing; Xanadu's ability to support continued technology development, expand manufacturing capabilities, and accelerate the commercialization of its photonic quantum computing platform; Xanadu's ability to bring its technology to market; Xanadu's ability to scale its technology platform and advance toward practical, real-world use cases; Xanadu's ability to accelerate its commercial roadmap and leadership in photonic quantum computing; Xanadu's ability to deliver long-term value to its shareholders; beliefs regarding the potential of light-based quantum systems to offer a path to scalable, fault-tolerant quantum computing; and Xanadu's mission to build quantum computers that are useful and available to people everywhere.

These forward-looking statements are provided for illustrative purposes only and are not intended to serve as, and must not be relied on as, a guarantee, an assurance, a prediction or a definitive statement of fact or probability. Actual events and circumstances are difficult or impossible to predict and will differ from assumptions, many of which are beyond the control of Xanadu. These forward-looking statements are subject to known and unknown risks, uncertainties and assumptions that may cause the actual results of the combined company following the transaction, levels of activity, performance or achievements to be materially different from any future results, levels of activity, performance or achievements expressed or implied by such statements. Such risks and uncertainties include: that Xanadu is pursuing an emerging technology, faces significant technical challenges and may not achieve commercialization or market acceptance; Xanadu's historical net losses and limited operating history; that there is substantial doubt about Xanadu's ability to continue as a going concern; Xanadu's expectations regarding future financial performance, capital requirements and unit economics; Xanadu's use and reporting of business and operational metrics; Xanadu's competitive landscape; Xanadu's dependence on members of its senior management and its ability to attract and retain qualified personnel; the potential need for additional future financing; Xanadu's ability to manage growth and expand its operations; potential future acquisitions or investments in companies, products, services or technologies; Xanadu's reliance on strategic partners and other third parties; Xanadu's concentration of revenue in contracts with government or state-funded entities; Xanadu's ability to maintain, protect and defend its intellectual property rights; risks associated with privacy, data protection or cybersecurity incidents and related regulations; the use, rate of adoption, and regulation of artificial intelligence and machine learning; uncertainty or changes with respect to laws and regulations; uncertainty or changes with respect to taxes, trade conditions and the macroeconomic environment; material weaknesses in Xanadu's internal control over financial reporting and the combined company's ability to maintain internal control over financial reporting and operate as a public company; the occurrence of any event, change or other circumstance that could give rise to the termination of the business combination agreement; the outcome of any legal proceedings or government investigations that may be commenced against Xanadu; failure to realize the anticipated benefits of the transaction; the ability of the combined company to issue equity or equity-linked securities in the future; and other factors described in Xanadu's filings with the SEC (www.sec.gov) and the Canadian Securities Administrators (www.sedarplus.com). These forward-looking statements are based on certain assumptions, including that none of the risks identified above materialize; that there are no unforeseen changes to economic and market conditions, and that no significant events occur outside the ordinary course of business. Additional information concerning these and other factors that may impact such forward-looking statements can be found in filings and potential filings by Xanadu with the SEC and the Canadian Securities Administrators, including under the heading "Risk Factors." If any of these risks materialize or assumptions prove incorrect, actual results could differ materially from the results implied by these forward-looking statements. In addition, these statements reflect the expectations, plans and forecasts of Xanadu's management as of the date of this communication; subsequent events and developments may cause their assessments to change. While Xanadu may elect to update these forward-looking statements at some point in the future, they specifically disclaim any obligation to do so, unless required by applicable securities laws. Accordingly, undue reliance should not be placed upon these statements.

In addition, statements that "we believe" and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based upon information available to us as of the date of this communication, and while we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete, and our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all potentially available relevant information. These statements are inherently uncertain and investors are cautioned not to unduly rely upon these statements.