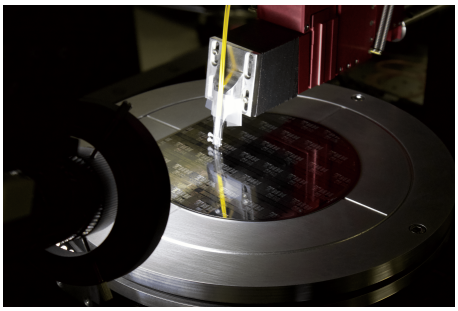
Xanadu and HyperLight Achieve Breakthrough of Nearly 3x Reduction in Optical Switch Loss, Accelerating Path to Commercial Photonic Quantum Systems

November 10, 2026

New performance benchmark of 7 mdB optical switch loss, down from 20 mdB, directly tackles one of the primary hardware scaling hurdles in photonic quantum computing

Xanadu wafer



One of Xanadu's ultra-low loss patterned TFLN wafers undergoing optical testing

TORONTO, Nov. 10, 2026 (GLOBE NEWSWIRE) -- Xanadu Quantum Technologies Limited ("Xanadu"; NASDAQ/TSX: XNDU), a leading photonic quantum computing company, in collaboration with HyperLight Corporation, a leading thin-film lithium niobate (TFLN) photonics company, today announced a significant hardware performance milestone using TFLN technology, reducing optical switch insertion loss to 7 millidecibels (mdB). This achievement represents a nearly threefold improvement over Xanadu and HyperLight's previous breakthrough of 20 mdB in 2025, drastically reducing qubit signal degradation, which is one of the most critical challenges in scaling quantum computers. This industry-leading achievement was demonstrated using a high-volume wafer manufacturing line on HyperLight's TFLN Chiplet™ platform and shows excellent yield and repeatability.

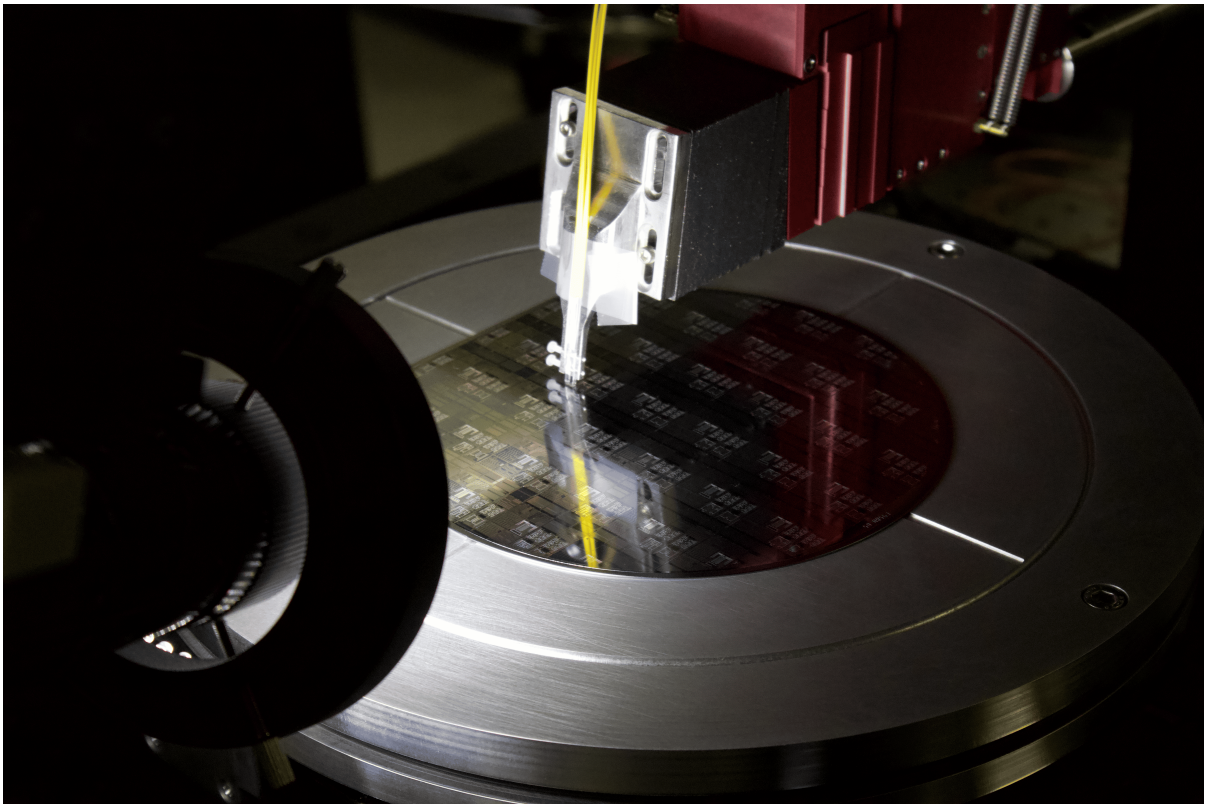
"This notable switch insertion loss milestone indicates that Xanadu's quantum-compatible switches are ready to ramp to production, bringing scalable quantum hardware and utility-scale quantum computing (USQC) one step closer to reality," said Dr. Christian Weedbrook, Founder and Chief Executive Officer of Xanadu. "For Xanadu, minimizing optical loss is one of the most critical factors in making fault-tolerant photonic quantum computing commercially viable, and innovative partners like HyperLight are key to our go-to-market strategy."

Optical switches are vital components in photonic quantum computers, responsible for routing light particles (photons) that carry quantum information. Because quantum signals cannot be conventionally amplified without destroying fragile quantum states, ultra-low insertion loss is paramount. Lowering switch loss preserves quantum state fidelity, prevents lost qubits, and allows photonic networks to scale efficiently without requiring exponential increases in laser power or physical hardware redundancy.

"Achieving 7 mdB switch loss, nearly 3x lower than our previous benchmark set just over a year ago and 10x lower than our closest competitor's most recent published result , is a major hardware milestone that enhances performance and reduces overhead for utility-scale systems," continued Weedbrook. "We expect that this advancement will translate into improved manufacturing economics, a reduced footprint, and direct progress along our commercial roadmap. Beyond quantum computing, we believe our ultra-low-loss photonic quantum technology could offer value across the broader data center ecosystem as data centers become faster and more energy intensive."

"Our longstanding partnership with Xanadu continues to demonstrate the power and versatility of HyperLight's TFLN Chiplet™ platform," stated Mian Zhang, CEO of HyperLight. "The same platform that powers high-volume AI data centers and telecom networks has now delivered a record-setting 7 mdB switch loss for quantum computing with Xanadu, a testament to our platform's ability to meet the most exacting demands."

With this latest breakthrough, Xanadu continues to systematically and efficiently solve core physical scaling challenges in photonic quantum computing and aims to bring USQC closer to reality.



One of Xanadu's ultra-low loss patterned TFLN wafers undergoing optical testing

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 was 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.

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About HyperLight

HyperLight delivers high-performance integrated photonics solutions based on thin-film lithium niobate technology. The company combines the electro-optic advantages of TFLN with scalable manufacturing, test, and integration to enable next-generation optical engines for AI data centers, telecom and metro networks, and emerging photonics markets. Visit hyperlightcorp.com or follow HyperLight on LinkedIn.

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”, “protect”, “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 that are not statements of historical matters. Xanadu has based these forward-looking statements on current expectations and projections about future events. These statements include: statements regarding the readiness of Xanadu’s quantum-compatible switches to ramp to commercial or high-volume production; expectations regarding the timeline, feasibility and realization of utility-scale quantum computing (USQC) and fault-tolerant photonic quantum systems; projections concerning the commercial viability, footprint reduction and manufacturing economics of Xanadu’s hardware architecture; anticipated progress, milestones, and deliverables along Xanadu’s commercial and product development roadmaps; expectations regarding performance enhancements, loss reduction and the minimization of physical hardware or laser power overhead in scaled photonic networks; the continued collaboration and strategic partnership with HyperLight Corporation, including the ongoing integration, repeatability and yield of HyperLight’s TFLN Chiplet™ platform; the potential applicability, adoption and

value proposition of Xanadu's ultra-low-loss photonic quantum technology across broader data center and AI infrastructure ecosystems.

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 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 Xanadu, 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: risks and uncertainties related to Xanadu's ability to successfully scale optical switch technology from demonstration benchmarks to high-volume commercial production; the risk that the 7mdB insertion loss milestone achieved in testing may not yield expected system-level efficiences, fault tolerance or manufacturing cost reductions; challenges in maintaining chiplet yield, consistency and repeatability across larger-scale manufacturing runs; reliance on third-party partners and suppliers, including HyperLight Corporation and its fabrication processes; risks that photonic quantum hardware may not scale as anticipated or achieve commercial viability over competing quantum computing architectures; uncertainties regarding the adoption and performance of photonic technologies within external data center or non-quantum applications; 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; 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 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 taxes, trade conditions and the macroeconomic environment; material weaknesses in Xanadu's internal control over financial reporting and its ability to maintain internal control over financial reporting and operate as a public company; the outcome of any legal proceedings or government investigations that may be commenced against Xanadu; Xanadu's ability 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 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 on these statements.

In addition, statements that "we believe" and similar statements reflect Xanadu's beliefs and opinions on the relevant subject. These statements are based on information available to Xanadu as of the date of this communication, and while Xanadu believes such information forms a reasonable basis for such statements, such information may be limited or incomplete, and Xanadu's statements should not be read to indicate that Xanadu has 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.

A photo accompanying this announcement is available at https://www.globenewswire.com/NewsRoom/AttachmentNg/cd374489-1ec3-4302-a2ca-32a4ac22d6cd