Coherent and Quside Demonstrate Verifiable Entropy for Quantum-Safe Encryption

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SAXONBURG, Pa., Jan. 20, 2026 (GLOBE NEWSWIRE) -- Coherent Corp. (NYSE: COHR), a global leader in photonics, and Quside, a quantum technology company, have reached a major milestone in hardware-based security with the successful demonstration of a mass manufacturable quantum entropy source. This achievement shows that fast, verifiable quantum entropy – an essential foundation for secure digital systems – can be embedded at scale, supporting next-generation security architectures across a wide range of applications.

The solution relies on Coherent's vertical cavity surface emitting laser (VCSEL) manufactured at scale on 6" and Quside's quantum random number generation technology. For the first time, runtime entropy verification from a single VCSEL delivers high-quality, observable randomness suitable for cryptographic key generation, secure communications, and emerging quantum-safe and crypto-agile systems. Therefore, quantum-grade security primitives can now move beyond niche deployments into mainstream processors, secure elements, and hardware roots of trust.

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"VCSEL technology has already demonstrated its reliability and scalability across datacenters, sensing, and high-volume optical systems," said Dr. Giovanni Barbarossa, Chief Strategy Officer at Coherent Corp. "This collaboration shows how mature photonic manufacturing platforms can enable entirely new security functions while meeting the cost, reliability, and scale requirements needed for broad market adoption."

"Security systems are only as strong as the randomness they rely on," said Dr. Carlos Abellán, Chief Executive Officer and co-founder of Quside. "What makes this milestone unique is not only that the entropy is generated through quantum processes, but that it is fast, verifiable, and mass manufacturable by relying on volume proven 6" VCSEL production. This moves locally verified quantum entropy technology into practical, deployable infrastructure."

At Photonics West 2026 in San Francisco, Coherent and Quside will present a live demonstration of the technology alongside development kits. Attendees will have the opportunity to explore how the solution can be integrated into next-generation secure designs, from silicon to system level, to meet growing demand in entropy generation and verification.

With manufacturing-ready components and established production processes, Coherent and Quside are paving the way towards high-volume commercial deployment of quantum entropy solutions designed for real-world, large-scale secure infrastructure.

About Coherent

Coherent is the global photonics leader. We harness photons to drive innovation. Industry leaders in the datacenter, communications, and industrial markets rely on Coherent's world-leading technology to fuel their own innovation and growth.

Founded in 1971 and operating in more than 20 countries, Coherent brings the industry's broadest, deepest technology stack; unmatched supply chain resilience; and global scale to help its customers solve their toughest technology challenges. Visit us at coherent.com.

About Quside

Quside is a quantum technology company building digital trust infrastructure solutions. Quside designs and manufactures quantum random number generator (QRNG) chips and modules that deliver locally verified entropy at hardware level. Its technology secures cryptographic systems across data centers, space, critical infrastructure, and defense.

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A photo accompanying this announcement is available at: https://www.globenewswire.com/NewsRoom/AttachmentNg/6525457e-bb75-4e5a-a48b-0abfac5ebdd8