

## Elmos and ID Quantique join forces to develop the world's smallest Quantum Random Number Generator (QRNG) solution

*Leverkusen, Germany / Geneva, Switzerland, January 8, 2025:* Opening 2025 as the “International Year of Quantum Science and Technology”, Elmos Semiconductor SE, a leading supplier of automotive mixed-signal semiconductors and ID Quantique, a global leader in quantum cybersecurity, have signed a Memorandum of Understanding (MoU) as a basis for their strategic collaboration to develop the world's smallest monolithically integrated Quantum Random Number Generator (QRNG) solution.

With cybersecurity threats increasing due to the rapid rise of AI and quantum computing, the need for safe and robust encryption is strongly growing. Random numbers, a cornerstone of secure cryptography, are increasingly vulnerable when generated by traditional methods such as Pseudo Random Number Generators (PRNGs) or True Random Number Generators (TRNGs). The innovative QRNG single chip solution developed by Elmos uses quantum principles based on in-chip photoemission to generate the highest quality randomness, ensuring unparalleled cryptographic security. This Elmos solution is inherently robust against any type of cyber attacks (i.e. variation of temperature, supply voltage, light, physical pressure or EMC).

The partnership between Elmos and ID Quantique combines Elmos' expertise in high-quality semiconductor development and production with ID Quantique's leadership in quantum technologies. Together, they are developing a 2 mm x 2 mm QRNG module, making it the smallest Quantum Random Number Generator in the world. Early prototypes confirm that the IC delivers an exceptional cost-performance ratio with ultra-low power consumption and extremely short start-up time. This QRNG technology allows scalable key rates and will be made available as a stand-alone IC or by Intellectual Property (IP) licensing to broaden its application across various industries and CMOS technologies. This collaboration underscores Elmos' and ID Quantique's commitment to innovation in the field of cybersecurity. With their solutions, both partners make an important contribution to building a secure digital infrastructure for automotive, communication and IoT industries, ensuring long-term security in the quantum-era.

Visit us and experience our QRNG demonstrator at our booth at CES, Las Vegas, USA located in the Renaissance Las Vegas Hotel, Suite #1530.

### **Acknowledgement:**

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### **About Elmos**

Elmos develops, produces and markets semiconductors, primarily for use in the automotive industry. Our components communicate, measure, regulate and control safety, comfort, powertrain and network functions. For 40 years, Elmos innovations have been bringing new functions to life and making mobility worldwide safer, more comfortable and more energy efficient. With our solutions we are already the worldwide #1 in applications with great future potential, such as ultrasonic distance measurement, ambient and rear light as well as intuitive HMI.

### **About ID Quantique**

Founded in 2001, ID Quantique is the world leader in quantum-safe crypto solutions, designed to protect data for the future. The company provides quantum-safe network encryption, secure quantum key generation and Quantum Key Distribution solutions and services to the financial industry, enterprises, and government organizations globally. IDQ's quantum random number generator has been validated according to global standards and independent agencies and is the reference in highly regulated and mission-critical industries such as security, encryption, critical infrastructure and IoT – where trust is paramount.

**Note**

This release contains forward-looking statements that are based on assumptions and estimates made by the Elmos management. Even though we assume the underlying expectations of the forward-looking statements to be realistic, we cannot guarantee the expectations will prove right. The assumptions may carry risks and uncertainties, and as a result actual events may differ materially from the forward-looking statements. Among the factors that could cause such differences are changes in general economic and business conditions, fluctuations of exchange rates and interest rates, the introduction of competing products, lack of acceptance of new products, and changes in business strategy. Elmos neither intends nor assumes any obligation to update its statements with respect to future events.