



Press release

## **VoxelSensors and OQmented collaborate on laser scanning-based 3D perception to blend the physical with digital worlds**

*Agreement focuses on combining VoxelSensors' sensor architecture with OQmented's laser scanning technology for bringing a novel 3D sensing technology to the growing AR/VR market*

**Brussels, Belgium, Itzehoe, Germany, December 20, 2022** - VoxelSensors, the inventor of Switching Pixels®, a revolutionary 3D perception technology, and OQmented, the technology leader in MEMS-based AR/VR display and 3D sensing solutions, have entered a strategic partnership. The collaboration focuses on the system integration and commercialization of a high-performance 3D perception system for AR/VR/MR and XR devices. Both companies will demonstrate this system and their technologies during CES 2023 in Las Vegas.

Switching Pixels® resolves major challenges in 3D perception for AR/VR/MR/XR devices. The solution is based on laser beam scanning (LBS) technology to deliver accurate and reliable 3D sensing without compromising on power consumption, data latency or size. VoxelSensors' key patented technologies ensure optimal operation under any lighting condition and with concurrent systems. Their new sensor architecture provides asynchronous tracking of an active light source or pattern. Instead of acquiring frames, each pixel within the sensor array only generates an event upon detecting active light signals, with a repetition rate of up to 100 MHz.

This system is enabled through OQmented's unique Lissajous scan pattern: In contrast to raster scanning which works line by line to complete a frame, the Lissajous trajectories scan much faster and are created very power efficiently. They can capture complete scenes and fast movements considerably quicker and require less data processing. That makes this particular technique essential for the low latency and the power efficiency of the combined perception system.

"The partnership with VoxelSensors is a great opportunity to unlock the potential of Lissajous laser beam scanning for 3D perception in lightweight Augmented Reality glasses," said Ulrich Hofmann, co-CEO/CTO and co-founder of OQmented. "We are proud to deliver the most efficient scanning solution worldwide which enables the amazing products of our partner, bringing us one step closer to our goal of allowing product developers to build powerful but also stylish AR glasses."

"At VoxelSensors, we wanted to revolutionize the perception industry. For too long, innovation in our space has focused on data processing, while there is so much efficiency to gain when working on the boundaries of photonics and physics. Combined with OQmented technology, we have the ability to transform the industry, enabling strong societal impact in multiple verticals, such as Augmented and Virtual Reality," explains Johannes Peeters, founder and CEO of VoxelSensors. "Blending the physical and virtual worlds will create astonishing experiences for consumers and productivity gains in the enterprise world."



This cooperation between two fabless deep tech semiconductor startups demonstrates Europe's innovation capabilities in the race to produce next-generation technologies for AR/XR/VR and many other applications. These are crucial to Europe's strategic objective of increasing its market share in semiconductors through key contributions of EU fabless companies as part of the European Chips Act.

### **About VoxelSensors**

*VoxelSensors is the creator of a novel category of efficient 3D perception solutions for blending the physical and the digitally augmented and virtual worlds. Its proprietary and patented Switching Pixels technology achieves unprecedentedly low power consumption, latency, and computational complexity. Switching Pixels is a game changer that unlocks the true potential of fully immersive experiences for consumer electronics and enterprise AR / VR / MR wearables and various other industries. For more information, see [www.voxelsensors.com](http://www.voxelsensors.com)*

### **About OQmented**

*OQmented is a deep tech company developing and selling ultra-compact LBS displays for Augmented Reality devices and best-in-class 3D sensing solutions for mobile and stationary applications. The unique Lissajous scan pattern in combination with the vacuum encapsulation technology and proprietary electronics and software enable new product categories in consumer and various other industries. With extensive MEMS production experience, OQmented effectively designs for high-volume production. Further information can be found at [www.oqmented.com](http://www.oqmented.com)*

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