



Press release
Communiqué de presse
Comunicato stampa
新闻稿 / 新聞稿
プレスリリース
보도자료

T4354D

STMicroelectronics and OQmented to Jointly Develop, Manufacture, and Market Advanced MEMS Mirror-Based Laser-Beam Scanning Solutions

Agreement focuses on increasing development and capacity for ultra-compact, low-power laser-beam scanners to expand the market

Geneva, Switzerland; and Itzehoe, Germany, March 29, 2021 -- STMicroelectronics (NYSE: STM), a global semiconductor leader serving customers across the spectrum of electronics applications, and OQmented, a deep-tech startup focused on MEMS¹-mirror technology, have agreed to collaborate on the advancement of the technology for Augmented Reality and 3D-sensing markets. The joint effort aims to build on the expertise of both companies to advance the technology and products behind the leading MEMS-mirror-based laser-beam scanning (LBS) solutions in the market.

ST, a world leader in the design, manufacture, and sales of a broad portfolio of MEMS sensors, actuators, and related components including drivers, controllers, and laser-diode drivers, is contributing its vast MEMS design and manufacturing resources to the collaboration.

To this foundation, OQmented, is moving to further industrialize and mass produce its Bubble MEMS® technology, a patented 3D glass-encapsulation approach to hermetic vacuum sealing of the MEMS micro-mirrors. Sealing with these unique glass bubbles eliminates environmental contaminants and minimizes light-refraction effects. In fact, vacuum sealing is a key element for meeting automotive-grade requirements, while simultaneously reducing power consumption by an order of magnitude and enhancing performance for resonant, bi-axial scanners, where the MEMS mirrors move in both axes at their resonant frequency, creating an ultra-compact and extremely power-efficient scanning solution. These resonant mirrors are well suited for display and 3D-sensing applications in mobile devices.

“In teaming with ST, we’ve chosen a solid semiconductor partner that has demonstrated its leading position in design and manufacturing of MEMS products, particularly MEMS mirrors, over the past 20 years,” said Dr. Ulrich Hofmann, CEO/CTO and co-founder, OQmented. *“Combining ST’s expertise in developing, marketing, and manufacturing key components for laser-beam scanning solutions with OQmented’s knowledge and intellectual property will contribute greatly to our product offering, manufacturing capacity, and marketing channels, while also expanding the market in numerous application areas.”*

¹ Micro-Electro-Mechanical Systems (MEMS) leverage Silicon’s unique properties to combine tiny 3-dimensional mechanical structures and electrical circuits on a chip to sense and actuate activity.

“Our goal in working with OQmented is to leverage our shared expertise and deep understanding of LBS technologies with the mutual vision to continue the adoption and growth of LBS in key applications, such as Augmented Reality and 3D sensing,” said Anton Hofmeister, Vice President and General Manager MEMS Microactuator Division, STMicroelectronics. *“This collaboration further strengthens ST’s position as a world leader in LBS solutions and expands its market outreach to additional opportunities through the Company’s product portfolio of MEMS mirrors and associated components, including ST’s MEMS drivers, controllers, and Laser Diode Drivers.”*

From this joint effort, ST and OQmented plan to market a wide range of scanning solutions. These would include MEMS mirrors, MEMS drivers and controllers, and complete reference designs of laser-beam scanning engines for a range of applications. In addition, the companies intend to collaborate on an LBS roadmap and in the development of future technologies and products.

About STMicroelectronics

At ST, we are 46,000 creators and makers of semiconductor technologies mastering the semiconductor supply chain with state-of-the-art manufacturing facilities. An independent device manufacturer, we work with more than 100,000 customers and thousands of partners to design and build products, solutions, and ecosystems that address their challenges and opportunities, and the need to support a more sustainable world. Our technologies enable smarter mobility, more efficient power and energy management, and the wide-scale deployment of the Internet of Things and 5G technology. Further information can be found at www.st.com.

About OQmented

OQmented is a deep tech company developing and selling high performance MEMS mirrors for ultra-compact LBS displays and best in class 3D sensing solutions for mobile and stationary applications. The unique Lissajous scan pattern in combination with the patented vacuum packaging Bubble MEMS® technology and proprietary electronics and software enable new product categories in consumer and various other industries. Further information can be found at oqmented.com.

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