

PRESS RELEASE

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Dr. Ristic Predicts MEMS Mirrors Market Rise to Billion Units in Invited Talk at Laser Display and Lighting Conference LDC 2025

At the 2025 Laser Display and Lighting Conference (LDC) at Trinity College in Dublin, Ireland, the world leading manufacturer of MEMS-based optical beam-steering products and system solutions, Mirrorcle Technologies, presented an invited talk with an overview on the massive global market opportunities for MEMS mirrors to reach over a billion units shipped by 2035. The company's Chief of Business Development and Strategy, Dr. Lj Ristic, presented the latest growth predictions for the MEMS mirrors sector which is believed to follow in the footsteps of similar adoption that had been recorded for e.g. MEMS-based sensors, accelerometers, and microphones dating as far back as to the late 1990s, when MEMS pressure sensors had breached the 1 billion units sold milestone. Mirrorcle was invited to present at this conference due to its extensive involvement with automotive OEM and Tier-1 partners on next generation of programmable lighting, including programmable courtesy lights, dynamic laser headlights, and in-vehicle sensing and display applications.

Mirrorcle Technologies' Chief of Business Development, Dr. Lj Ristic, has extensive MEMS industry experience spanning over various roles and companies spanning multiple decades. After earning the distinguished title of PhD in Solid State Electronics from the University of Niš in 1988, he also obtained a Master of Business Administration – MBA at Thunderbird School of Global Management where he specialized in International Business. Prior to joining Mirrorcle Technologies, Dr. Ristic served as Vice President of Product Engineering at SensSpree after having held roles of General Manager of Business Unit and Vice President of Marketing at Crocus Technology. One of his earlier roles included Director of Engineering at Motorola from 1990 to 1999 where he was intimately involved in the development of groundbreaking surface micromachined technology and MEMS accelerometers, and saw through their mass-acceptance and adoption by automotive and other global markets.

The presentation, titled "*MEMS Technology as Enabler: From Accelerometer to LiDAR*", included overviews on the history and technologies of different 'success stories' of microelectromechanical system (MEMS) solutions, including accelerometers, pressure sensors, microphones, speakers, and silicon timing devices. Special attention was paid to the history and progress of MEMS-based mirror technologies, from inception before the turn of the century to today, when users benefit from fully matured design, production processes and economies of scale in volume assembly cases. Of note is that alongside core MEMS mirror technologies the supporting hardware and software have simultaneously reached maturity, leveling the way to mass adoption in a variety of use cases across many industries. Dr. Ristic sees automotive markets once again as an important part of the growth and adoption cycle.

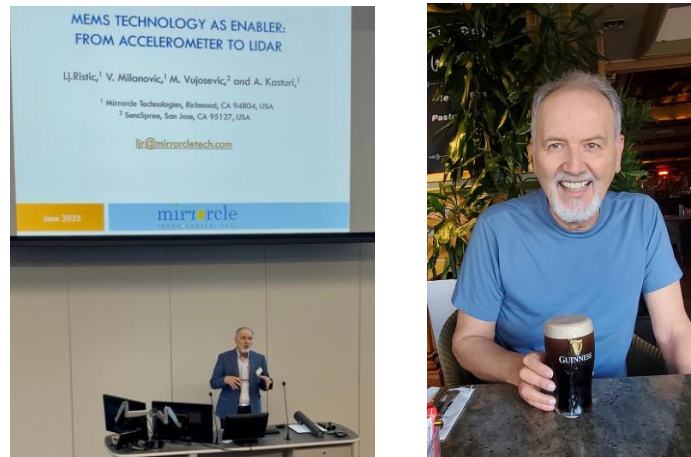


Figure 1. Mirrorcle's Chief of Business Development and Strategy Dr. Lj Ristic presents invited talk at LDC 2025 in Dublin, Ireland, and enjoys a famous locally brewed beverage after the conference.

During his well-attended presentation - despite the late starting time of 16:00 local time - Dr. Ristic outlined the features of the world-leading dual-axis MEMS-based scanning mirrors which benefit from a patented, gimbal-less design that allows for fast scanning along arbitrary trajectories, high-speed repetitive raster scans or quasi-static point-to-point beam-steering, allowing users full control over beam location from static pointing to reliable scanning.

Catering to a variety of industries, including biomedical, lidar, industrial manufacturing process control and (free space optical) communications, Mirrorcle offers solutions for a broad range of MEMS mirror designs and product customization opportunities allowing the supply of suitable devices and driver electronics and accessories to an ever-growing customer base. To assist new users transition from more traditional, bulky and high power-consuming galvanometer pairs to top-of-the line dual-axis compact MEMS scanners, development kits are available to ensure highest efficiency and cost-effective R&D to enable breakthrough technologies around the globe. Fully packaged and flex-connectorized MEMS Mirrors with miniature size and <0.5g mass are also available to the global market.



Figure 2. (left) Mirrorcle Technologies' popular 'Standard Development Kit' containing 3 dual-axis MEMS mirrors, a versatile USB-SL MZ Controller, mounting accessories and the Mirrorcle Software Suite. (right) ultra-compact and low-mass laser beam steering solutions enable breakthroughs in biomedical imaging and other segments. Here a <0.5g flex-connectorized 2mm diameter MEMS Mirror is shown.

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About Mirrorcle Technologies, Inc.

Mirrorcle Technologies, Inc., founded in 2005, is a private corporation that commercially provides products and laser systems based on its proprietary optical microelectromechanical system (MEMS) technology. Since its founding, and supported by its continuous investment in R&D, the company has been offering the world's fastest point-to-point (quasi-static) two-axis (2D) beam-steering MEMS Mirrors, as well as resonant-type (1D) micromirror devices with frequencies up to HD video rates. Mirrorcle is globally the only provider of tip-tilt MEMS actuators in combination with mirrors from submillimeter to several mm in diameter, offering customers a wide selection of specifications to optimize their paths to successful commercialization. Mirrorcle products can be found today in 3D metrology systems, biomedical imaging and therapy systems, solid-state LiDARs, AR/VR prototypes, laser projectors, and classrooms. Mirrorcle's system solutions include the world's most compact vector graphics laser projectors and 3D LiDARs.

Mirrorcle maintains multiple cleanroom assembly facilities at its Richmond, California headquarters, and year-round, 24-7 access to a wafer-based CMOS and MEMS fabrication facility. Beyond its own facilities, the company has established high-volume manufacturing with leading MEMS wafer foundries and qualified opto-mechanical assembly houses in the USA, Europe, and Asia.

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