

Smart Eye Partners with ams OSRAM to Deliver 3D Interior-Sensing for Enhanced Driver Monitoring

ICARUS proof-of-concept, equipped with Smart Eye Interior Sensing, provides high-performance 3D sensing to support advanced DMS and OMS Features

GOTHENBURG, Sweden and BOSTON, Mass. — September 13, 2022 — [Smart Eye](#), the global leader in Human Insight AI, announced today a collaboration with [ams OSRAM](#) (AO), a global leader in optical solutions, to deliver a new technology that will allow driver monitoring systems (DMS) and occupant monitoring systems (OMS) to detect the driver and passenger status and position more accurately than ever before. The ICARUS: Structured Light Evaluation Kit is a proof-of-concept that leverages existing architecture inside a vehicle to efficiently and cost-effectively provide high-performance 3D sensing capabilities for driver monitoring (DMS) and Occupant Monitoring (OMS).

Driver monitoring continues in importance as it is a key factor in helping to create a safer road environment. Through monitoring the driver's actions, technology in the vehicle could be able to determine if the driver is tired or distracted and send a warning. In addition, it can provide more driving comfort, which in turn often leads to less distraction.

ICARUS combines Smart Eye interior sensing software with AO's dot illumination technology to generate a more accurate depth map of the driver using a structured light method. AO's dot illuminator installs on top of conventional flood illumination mechanisms, and when integrated with Smart Eye's Human Insight AI-driven software, the DMS can support valuable new features with high precision including augmented reality heads-up display (AR-HuD), secure driver authentication, and advanced body position to further enhance road safety by delivering inputs to airbag deployment decisions and pre-crash safety measures.

ICARUS is simple, easy to install, and serves as a low-cost upgrade for existing near infrared-based DMS hardware. It only requires the addition of an AO dot illuminator to function. By building the evaluation kit to be compatible with existing 2D architecture, Smart Eye and AO provide automotive OEMs and Tier One suppliers with the maximum amount of value without overhauling an entire system.

“We’re excited to collaborate with ams OSRAM on this innovative proof-of-concept. Driver monitoring is an essential function in new and existing vehicles on the road today,” says Henrik Lind, Chief Research Officer at Smart Eye, “This technology is critical to progressing interior sensing technology during a time when demand from automakers for intelligent DMS is rapidly accelerating. Smart Eye’s human-centric approach, combined with AO’s technology, allows us to explore the boundaries of AI-based automotive technologies and inspire a future of innovative mobility advancements.”

Firat Sarialtun, Global Segment Manager for In-Cabin Sensing at ams OSRAM, commented, “Structured light sensing technology is proven in the consumer market, where it is used for instance for secure face authentication in mobile phones. Previously in the automotive world, however, 3D sensing has only been implemented with dedicated indirect time-of-flight (iToF) cameras. By combining our accurate depth maps generated by the ams OSRAM platform with Smart Eye’s robust, reliable and road-tested DMS, ICARUS can support the most advanced DMS features to improve the driving experience with the addition of just a single laser component.”

Smart Eye will demonstrate the ICARUS evaluation kit at its booth during the InCabin Event in Brussels, Belgium on September 15, 2022.

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About Smart Eye

Smart Eye is the global leader in Human Insight AI, technology that understands, supports and predicts human behavior in complex environments. We are bridging the gap between humans and machines for a safe and sustainable future. Our multimodal software and hardware solutions provide unprecedented human insight in automotive and behavioral research—supported also by Affectiva and iMotions, companies we acquired in 2021.

Smart Eye offers road-ready Driver Monitoring Systems and next-level Interior Sensing solutions built on two decades of automotive experience. Smart Eye’s technology is embedded in next-generation vehicles as OEM or Tier 1 solutions and has been selected by 14 of the world’s leading car manufacturers for 94 car models, including BMW and Geely. Smart Eye also provides complete hardware and software solutions for fleet and small-volume OEMs, powering vehicles on the road today. As the preferred partner to the automotive industry, Smart Eye is leading the way towards safer, more sustainable transportation and mobility experiences enhancing wellness, comfort, and entertainment.

In behavioral research our advanced eye tracking systems provide unparalleled performance in complex situations, offering deep insights into human behavior and human-machine interaction in automotive, aviation, assistive technology, behavioral science and many more fields. Today, our technology is used by NASA, Airbus, Boeing, Daimler, Audi, GM, Harvard University and hundreds of research organizations and universities around the world.

Smart Eye was founded in 1999, is publicly traded and headquartered in Sweden with offices in the US, UK, Germany, Denmark, Egypt, Singapore, China and Japan. Learn more at: www.smarteye.ai.

For further information:**Smart Eye Media Contact**

Hailey Melamut

Vice President of PR, Walker Sands

Email: hailey.melamut@walkersands.com

Gabi Zijderveld

Chief Marketing Officer, Smart Eye

Email: gabi.zijderveld@smarteye.ai