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STMicroelectronics introduces automotive image sensor to help scale affordable in-cabin sensing

- *Helps OEMs and Tier 1s bring driver and occupant monitoring to high-volume vehicle platforms with lower system cost*
- *Delivers 35% higher image sharpness and nearly 60% higher infrared sensitivity than the previous generation in a compact 1.1 MP automotive image sensor*

Geneva, Switzerland, September 14, 2026 – STMicroelectronics (NYSE: STM), a global semiconductor leader serving customers across the spectrum of electronics applications, introduces ST SafeSense [VD56GA](#), a new 1.1 MP automotive image sensor for infrared in-cabin sensing that helps OEMs and Tier 1 suppliers scale driver and occupant monitoring across vehicle lines while balancing performance, integration, and cost.

As driver and occupant monitoring moves into more vehicle platforms, automotive manufacturers and suppliers are looking for imaging solutions that support strong in-cabin performance without adding unnecessary system cost or design complexity. VD56GA meets that need with a compact sensor architecture, high infrared sensitivity, and embedded image-processing features that can help simplify camera design and integration. The sensor is designed to give camera developers the image quality needed for driver and occupant monitoring while preserving the size and cost advantages of a compact format. In many in-cabin use cases, this can help customers meet performance targets without moving to a larger, more expensive sensor.

*“In-cabin sensing is moving beyond premium platforms, and carmakers need cost-effective solutions they can deploy broadly,” said **Alexandre Balmeffre**, Executive Vice President and General Manager of the Imaging Sub-Group at STMicroelectronics. “With VD56GA, we focused on the system-level tradeoffs that matter most: image quality in infrared conditions, compact integration, and a cost structure that supports high-volume programs. Equally important, the sensor benefits from ST’s Integrated Device Manufacturer model, with front-end manufacturing in Crolles, France, giving customers greater supply-chain resilience, quality control, and long-term support for automotive programs.”*

“As driver and occupant monitoring systems move into a broader range of vehicle platforms, OEMs are increasingly focused on solutions that can be deployed at

scale, with volumes set to exceed 70 million units by 2031. Success in this market depends not only on imaging performance, but also on reducing system cost, simplifying integration, and enabling adoption across high-volume vehicle programs," (*) underlined **Anas Chalak, Market & Technology Analyst, Imaging at Yole Group.**

Helping carmakers scale driver and occupant monitoring

VD56GA is designed to help reduce the cost of the complete camera module. Its imaging performance enables the use of lower-cost optics, simplified infrared illumination, less demanding optical filtering, and no external image-processing. For OEMs and Tier 1s, that can translate into a more cost-effective path to deploying driver and occupant monitoring across a broader range of vehicle programs.

The sensor leverages a new backside-illuminated pixel architecture, called ST DeepNIR, optimized for infrared imaging. With 35% higher modulation transfer function (MTF) sharpness and nearly 60% higher quantum efficiency than the previous generation, VD56GA is currently the only sensor in its class to achieve this level of combined optical resolution and infrared sensitivity, helping in challenging conditions like under display camera.

By extracting more performance from a compact 1.1 MP architecture, VD56GA helps automotive designers achieve the image quality required for advanced sensing functions, while benefiting from the integration and cost advantages of a compact sensor architecture.

Compact integration with embedded image processing

Designed for modern automotive camera modules, VD56GA is housed in a compact 3.7 mm x 3.2 mm CSP package, making it suitable for space-constrained installations and next-generation in-cabin camera designs.

The device also integrates a range of embedded image-processing functions, including mirror, crop, dark calibration, auto exposure, and piecewise-linear processing. These features remove the need for external image-processing resources, simplify camera design and speed development.

Support for both RAW and YUV output formats give OEMs and Tier 1 suppliers flexibility across different electronic architectures and software environments, making it easier to adapt the device to a broad range of implementation strategies.

Building on ST's automotive imaging leadership

VD56GA builds on ST's established presence in automotive imaging and in-cabin sensing. Earlier this year, ST announced shipment of its 10 millionth automotive of SafeSense by ST image sensors, reflecting broad adoption across key automotive regions, including Europe, Asia, and the United States.

Customers benefit from ST's vertically integrated manufacturing model and secure supply chain, with front-end manufacturing of VD56GA takes place at ST's facility in Crolles, France and packaging in Asia; reinforcing the company's focus on industrial resilience, product quality, and supply continuity for automotive customers worldwide.

Availability

Samples are available now. Pricing information and sample requests are available from local ST sales offices.

Learn more: <https://www.st.com/en/imaging-and-photonics-solutions/vd56ga.html>

**Source: [Status of CMOS Image sensors industry 2026 report](#), Yole Group*

About STMicroelectronics

At ST, we are 49,000 creators and makers of semiconductor technologies mastering the semiconductor supply chain with state-of-the-art manufacturing facilities. An integrated device manufacturer, we work with more than 200,000 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 cloud-connected autonomous things. We are on track to be carbon neutral in all direct and indirect emissions (scopes 1 and 2), product transportation, business travel, and employee commuting emissions (our scope 3 focus), and to achieve our 100% renewable electricity sourcing goal by the end of 2027. Further information can be found at www.st.com.

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