In-Cabin Sensing and Exterior Safety solutions

Premium Partner

pmdtechnologies enables sensing use cases in tomorrow's car

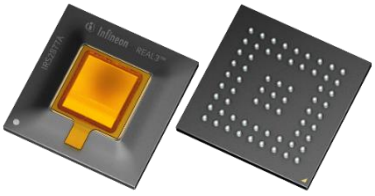


pmdtechnologies provides advanced 3D sensing solutions specifically designed for automotive in-cabin applications and exterior safety. Leveraging Infineon's high-precise REAL™ 3D image sensor based on Time-of-Flight, pmd's precise depth-sensing technology enables accurate real-time monitoring and analysis of driver and passenger behaviors, enhancing vehicle safety, comfort, and convenience.

In-cabin sensing: Combining comfort and safety use cases

- Real-time gesture recognition for intuitive human-machine interface interactions
- Detected search lights or other functions based on body posture and movement
- Passenger detection and seat allocation
- Real-time occupant tracking for improved safety, including seatbelt reminders and optimized airbag deployment
- Smart airbag: adapt pressure or switch-off depending on situation
- Head position to airbag (e.g. changing seat positions such as lean back position during autonomous driving mode)
- Detecting Rear-facing baby seat
- Object on seat or carried by passenger
- Advanced driver-assistance systems (ADAS) support through precise monitoring of driver behavior based on driver monitoring: out of position, distraction, hands on steering wheel detection
- Rear seat detection: "Forgotten child and/or pet"- alert

Enabled by



REAL3™ ToF 3D image sensors for automotive
IRS2877A/IRS2877AS are high-performance, automotive-grade Time-of-Flight (ToF) 3D image sensors from Infineon's REAL3 family. Designed to deliver accurate and reliable 3D imaging capabilities for a wide range of automotive applications.

Sunlight-independent amplitude picture
VGA system resolution (640x480 pxl)
Withstanding wide temperature range: 40°C to 105°C
AEC-Q100 qualification
ISO26262 ASIL-B compliant

pmd IMAGINE YOU CAN

INTERNAL

Exterior Safety

- Keyless entry functionality: Car unlocks via reliable Face ID recognition
- Robust 3D data of the environment in high resolution, in the range of up to 10 m
- Enhanced vehicle security and convenience
- Support for enhanced parking assistance in autonomous parking scenario
- Secure navigation system covers close range blind spots, adding advanced awareness to the vehicle

pmdtechnologies' robust and compact in-cabin sensor solutions deliver reliable performance under varying lighting conditions and are optimized for seamless integration into automotive interiors. Their 3D sensing technology significantly contributes to improved automotive safety, occupant comfort, and intelligent vehicle interaction, aligning with the industry's progression toward smarter, safer mobility.

Target applications



Discover more

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