



## TECHNOLOGY, MEDIA & TELECOM INTELLIGENCE SERVICE

# Automotive Sensors

Comprehensive coverage of sensor technology used in the automotive industry including analysis of the current and future market opportunities

Real time access to a continuous flow of research across geographies, topics and application areas:

### Market Insights

Frequent analyst commentary on product launches, market news and analysis.

### Market Trackers

Historic and forecasted, delivered in Excel accompanied by written analysis.

### Reports

Annual topical report addressing key focus areas with in-depth analysis on market and technology trends.

### Analyst Access

For prompt responses to urgent and unique questions.

## FEATURED TOPICS

- Mergers and acquisitions among sensor vendors
- Trends affecting the market (safety mandates, emissions regulations, NCAP, ISO26262 functional safety provisions)
- Component price developments: 1st level package, final module (exhaust sensors)
- Technology competitive landscape
- Supply chain analysis and annual performance review of top sensor suppliers

## Clients of this Intelligence Service will receive:

**Automotive MEMS Market Tracker** – shipment, ASP and revenue forecasts, in addition to market share information for the key tier-2 suppliers of 14 MEMS device categories across 40 automotive application fields; updated semi-annually with annual written analysis

**Magnetic Sensors for Automotive Report** – shipment, ASP and revenue forecasts for 7 measurement types and 4 technologies used in 75+ applications; includes market share of the key automotive tier 2 suppliers for key applications; updated semi-annually with annual written analysis

**ADAS Sensor Database** – shipment, ASP and revenue forecasts, in addition to market share information for the suppliers of 13 types of ADAS sensor chips; updated semi-annually

**Powertrain Sensor Report** – shipment and revenue forecast information for 24 types of engine and exhaust sensor modules for 200+ OEMs; updated annually with written analysis. Data granularity reaches model level for a total of more than 26,000 engine combinations

**Exhaust Sensor Report** – shipments, revenues, ASP for 6 major exhaust applications. Annual report with database of shipment, ASP (sensor and module level) and revenues, along with written analysis

**Automotive LIDAR Technology & Market Report** – provides detailed analysis of the LIDAR market including suppliers and technology by segment, supply chain and cost breakdown as well as market outlook

**Cabin Gas Sensor Report** – provides detailed analysis of outdoor air quality sensors that measure CO and NO<sub>x</sub> and new types of sensors that measure indoor air quality such as CO<sub>2</sub> and volatile organic compounds (VOCs), along with particulate measurement devices. Report includes shipments, ASP and revenues, supply chain and technology information.

## Research Coverage

MEMS Sensors	Magnetic Sensors	ADAS Sensors	Exhaust Sensors
<b>Device categories</b> Pressure (by pressure range) Accelerometers (by # of axis) Gyroscopes Combo inertial sensors Flow sensors Microbolometers Gas-Chemical sensors Thermopiles Crash sensing (Sound sensors) Valves Scanning mirrors DLP Timing devices	<b>Technologies</b> Hall effect AMR GMR Other (MI, TMR)  <b>Measurements</b> 3D Hall (Linear position) Angular position Current Field Linear position Position Speed Switch Torque  <b>Feature</b> Technology roadmap to 2030	<b>Image sensors</b> CMOS vs. CDD VGA vs. HD  <b>Infrared sensors</b> Far infrared vs. near infrared  <b>LIDAR and Laser sensors</b> Transmitter vs. emitter  <b>Radar sensors</b> Breakout by range and by frequency  <b>Ultrasonic sensors</b>	<b>6 sensor types</b> Pressure Temperature NOx O2 Air fuel Particulate matter  <b>Powertrain Sensors</b>  <b>24 sensor modules</b> Speed Position Pressure Temperature NOx O2 Particulate matter

### Applications (>100)

**Exhaust** – air-fuel ratio (WB oxygen), oxygen sensor, exhaust gas temperature, exhaust gas pressure, NOx sensor, particulate matter (soot) sensor

**Powertrain** - air-fuel ratio (WB oxygen), air intake temperature, crankshaft sensor, camshaft sensor, cylinder pressure, EGR position, EGR pressure, engine coolant temperature, exhaust gas temperature, exhaust gas pressure, fuel level, fuel injection pressure, knock sensor, lambda sensor, mass air flow, manifold absolute pressure, NOx sensor, oil pressure switch, PM (Soot) sensor, SCR tank level, SCR tank temperature, throttle position, turbo speed sensor

**MEMS** – active suspension, air intake, airbag, automatic transmission, barometric air pressure, built-in navigation, cabin air quality, cabin HVAC, cabin temperature, anti-fog, continuous variable transmission, crash sensing, diesel common fuel rail, diesel particle filter, dual clutch transmission, E-call, accident sensor, electronic parking brake, ESC, exhaust gas recirculation, fuel pressure (low P side), fuel tank vapor, gasoline direct injection, head up display (aftermarket), head up display (original mount), HVAC / windscreen management, in-cylinder pressure, manifold absolute pressure, mass air flow, night vision, oil pressure, passenger occupation detection, pedestrian protection, roll detection, tire pressure monitor, vacuum brake booster, vehicle alarm, hands-free interface, noise cancellation array

**Magnetic** – ABS (wheel speed), acceleration pedal, air control valve, air intake flap motor, automatic, AMT, DCT transmission, auxiliary water pump motor, battery monitoring applications, boot (trunk) lock, brake by wire motor, brake fluid level, brake light switch, camshaft, chassis height, clutch position, compass, coolant level, crankshaft, diesel common fuel rail motor, door lock, dual clutch and AMT motor, front window motor, power steering motor, rear window motor, roof (open/close), roof motor, sunroof motor, electrohydraulic power steering motor, throttle motor, throttle valve, engine cooling fan, EV, PEHV, HEV engine cooling pump motor/ HVAC compressor motor/ propulsion motor, exhaust control valve, exhaust gas recirculation valve motor, exhaust gas recirculation valve position, fuel tank level, head rest motor, head rest position, HEV/EV battery monitor, HEV/EV DC-DC subsystem inverter, HEV/EV motor inverter, HVAC valve position, neutral position (manual), oil level, seat belt presence detection, seat motor, seat track position, selector lever position, steer by wire motor, steering wheel angle, steering wheel torque, turbocharger motor, turbocharger position, vacuum brake booster pump, variable lift control actuator, various switch applications, water loop actuator (thermal), windscreen wiper, wiper motor

Measures	Related Research
Revenue Unit shipment	ASP Market shares  <b>Automotive Semiconductor MEMS &amp; Sensors</b>

For more information [ihsmarkit.com/technology](https://ihsmarkit.com/technology)

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