

Autonomous Vehicle Sensors

ANMD-MRS16-152 · E-Mobility & Autonomous Transport Technologies

A Global Sustainability Due Diligence & Market Research Study

History 2020–2024 · Base Year 2025 · Forecast 2025–2032 · Outlooks 2035 / 2040 / 2050 · Currency US\$

WHY THIS REPORT

Autonomous vehicle sensors are the perception layer of advanced driver assistance and self-driving systems — cameras, radar, LiDAR and ultrasonic units fused to build a real-time model of the vehicle's surroundings. As ADAS spreads across the fleet and higher autonomy levels mature, the sensor suite per vehicle is growing in count and capability. This decision-grade study sizes the global market three ways — value, units and sensors per vehicle — across sensor type, autonomy level and application, across seven regions and four scenarios to 2032, with outlooks to 2050.

SUSTAINABILITY & SDG IMPACT — THE ANMD LENS

Sustainability is this report's backbone, not an afterthought. AV sensors can dramatically reduce road casualties, while raising data-privacy and equity-of-access questions.

Mapped Sustainable Development Goals:

SDG 7 Affordable & Clean Energy	SDG 9 Industry, Innovation & Infrastructure	SDG 11 Sustainable Cities & Communities	SDG 12 Responsible Consumption & Production	SDG 13 Climate Action
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Measurable sustainability outcomes assessed:

- Road-safety improvement through advanced perception
- Regulatory-driven ADAS adoption across the fleet
- Functional safety and validation as a material risk
- Data privacy and electronic-waste assessed

Framework alignment: Double materiality mapped to GRI, SASB, ISSB, TCFD, TNFD, CSRD and the EU Taxonomy, with greenwashing and SDG-washing screens applied throughout.

WHAT'S INSIDE AT A GLANCE

53 Chapters	9 Report Parts	7 Regions Covered	40+ Country Markets
2025–32 Forecast Horizon	4 Forward Scenarios	25+ Companies Profiled	5 SDGs Mapped

REPORT COVERAGE

Geographic scope: North America, Europe, Asia Pacific, Latin America, Africa, Middle East and Rest of World — with named country intelligence. Europe leads ADAS regulation; North America scales on autonomy; Asia Pacific grows fastest; other regions assessed on their own merits.

- The perception layer of ADAS and self-driving systems
- Camera, radar, LiDAR and ultrasonic fusion
- Rising sensor count and capability per vehicle
- Functional safety, data privacy and e-waste as material risks

MARKET OVERVIEW

From single camera to fused perception suite — where sensor fusion, not any one modality, determines autonomy capability.

The AV sensor suite is growing in count and capability. Demand is driven by ADAS safety mandates, autonomy and robotaxi development, and sensor-fusion advances across Europe, North America and Asia Pacific. The market is read three ways — value, units and sensors per vehicle — and forecast under four scenarios, each region reported separately.

- **Europe leads ADAS regulation** — Germany and the EU, where GSR rules mandating safety systems drive radar and camera volume across Robert Bosch GmbH, Continental AG and Valeo SA
- **North America scales on autonomy** — the United States, supported by robotaxi and ADAS deployment and a strong Tier-1 and tech-company base including Mobileye Global Inc.
- **Sensor fusion is the differentiator** — integrating complementary sensors — not any single modality — determines perception robustness and autonomy capability
- **Sensor type segments the value** — camera, radar, LiDAR and ultrasonic designs, each with distinct cost and capability economics

REGIONAL OUTLOOK

Across seven reporting regions, the report separates leading markets from high-growth and emerging ones — each profiled in full rather than aggregated into Rest of World.

Region	Stage	Lead Country Markets & Drivers
Europe	ADAS-regulation leader	Germany, France, UK — EU GSR/NCAP mandates, OEM & Tier-1 base
North America	Autonomy-led	United States, Canada — robotaxi, ADAS, tech base
Asia Pacific	Fastest growth	China, Japan, South Korea — vehicle production, autonomy
Middle East	Strategy-led	UAE, Saudi Arabia — smart-mobility, autonomous pilots
Latin America	Emerging	Brazil, Mexico — ADAS adoption, vehicle assembly
Africa	Frontier	South Africa — ADAS in premium vehicles, fleet safety

KEY MARKET DRIVERS & RESTRAINTS

Drivers	Restraints
<ul style="list-style-type: none"> • ADAS safety mandates (EU GSR, NCAP) • Autonomy & robotaxi development • Sensor-fusion & perception advances • Rising sensor count per vehicle • Falling radar & camera costs 	<ul style="list-style-type: none"> • LiDAR cost & automotive-grade scaling • Sensor-fusion & compute complexity • Validation & safety-certification burden • Adverse-weather perception limits • Supply-chain & semiconductor risk

SEGMENTATION SNAPSHOT

By Sensor Type	Camera · radar · LiDAR · ultrasonic · sensor-fusion modules
By Autonomy Level	L1-L2 ADAS · L2+ / L3 · L4 autonomy
By Application	Passenger · commercial · two-wheeler / micro-mobility
By End User	OEMs · fleet operators · charge-point operators · consumers
By Business Model	Hardware sales · software / subscription · services
By Scale	Consumer · fleet · OEM / industrial-scale

TECHNOLOGY & APPLICATION FINDINGS

Where the category is differentiating fastest — the technology and application fronts that separate leaders from followers:

- **Passenger** — camera and radar suites drive mass-market ADAS; LiDAR enters premium and L3 vehicles
- **Commercial** — robust sensor suites enable fleet ADAS, platooning and highway autonomy
- **Two-wheeler / micro-mobility** — compact sensing supports safety and assisted features in urban vehicles

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The full report is organised into nine parts across 53 chapters, listed below. Detailed sub-headings, country tables and directories are provided in the full report.

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COMPETITIVE & INVESTMENT SNAPSHOT

The competitive field spans automotive Tier-1 majors, perception-chip and software players, and dedicated LiDAR and radar specialists. Deal activity — ADAS design wins, LiDAR cost-down partnerships and fusion-chip launches — signals a market consolidating around safety-validated perception.

Representative players profiled in the full report:

Robert Bosch GmbH · Continental AG · Valeo SA · Mobileye Global Inc. · DENSO Corporation · and 20+ further profiled players.

Investment intelligence: venture, infrastructure, development, climate and blended finance, green bonds and sustainability-linked loans — culminating in a bankability assessment and a conditional investment view.

KEY QUESTIONS THIS REPORT ANSWERS

- How large is the global autonomous vehicle sensor market, and how fast will it grow to 2032?
- Which regions, countries and segments offer the strongest risk-adjusted opportunity?
- Which technologies and architectures reshape the addressable market and the cost curve?
- Who leads, and where is the competitive and patent white space?
- Is the investment case bankable — and under what conditions?
- How does the category align with the SDGs and disclosure regulation?

WHY ANMD — THE DIFFERENCE

Most market studies stop at units and revenue. This report is built as a sustainability due diligence instrument — fusing market sizing with ESG, SDG, climate and natural-capital intelligence and a decision-ready bankability view in a single architecture.

- **Triangulated sizing** — every market read three ways so value, volume and the physical-unit views reconcile rather than conflict.
- **Region-honest forecasting** — Latin America, Africa and the Middle East reported in full, never hidden inside Rest of World, every forecast resolved to the 2025 base year.
- **Integrated evidence base** — company, patent and project databases linked to the analysis, with published-filing patents and FTO treated as an indicator, not a legal conclusion.
- **No-fabrication discipline** — every estimate carries a data-confidence rating and disclosed sources; gaps are flagged for further diligence, never filled with invented numbers.
- **Anti-greenwashing rigour** — SDG-washing and greenwashing screens plus claim-substantiation checks built into the ESG and project analysis.
- **Decision-first structure** — 9 Parts and 53 Chapters culminating in stakeholder playbooks and a clear, conditional investment view.

WHO SHOULD BUY THIS REPORT

OEMs, Tier-1 suppliers, fleet operators, autonomy developers, investors and policymakers, and strategic corporate planners and decision-makers.

Access the Full Report

The complete report delivers all 53 chapters in full, with every sub-heading, country table, company and patent directory, forecast model and due diligence checklist.

Purchase at www.anewmarketdynamics.com · Standard & Premium licences · Single-Site (SSL) and Global-Site (GSL) options at checkout.

Want the Complete Detailed Table of Contents?

This prospectus lists the nine parts and 53 chapters. The complete detailed table of contents — every sub-heading, country table, exhibit, company and patent directory and annex — is available on request to registered users. To receive it, register with your official company email at www.anewmarketdynamics.com. The full detailed table of contents will be sent directly to your registered company email address.