

# Sensor Chips

## ANMD-MRS7-065 · Advanced Semiconductor Applications

### 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

Sensor chips are the perception layer of the connected world — the CMOS image sensors, MEMS inertial sensors, environmental and gas sensors, optical/ToF sensors and magnetic/current sensors that let phones, vehicles, machines and wearables see, move and measure. This decision-grade study sizes the global market three ways — value, unit volume and sensors-per-device — across product type, application and modality, 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. Beyond the device, sensing enables resource monitoring, energy efficiency, emissions detection and safer mobility across the systems it instruments.

##### Mapped Sustainable Development Goals:

<b>SDG 9</b> Industry, Innovation & Infrastructure	<b>SDG 11</b> Sustainable Cities & Communities	<b>SDG 12</b> Responsible Consumption	<b>SDG 13</b> Climate Action
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##### Measurable sustainability outcomes assessed:

- Resource monitoring and energy-efficiency enablement
- Emissions detection and safer mobility
- Predictive-maintenance and resource-optimisation gains
- Fabrication carbon, sensing privacy and end-of-life as material risks

**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

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

#### REPORT COVERAGE

**Geographic scope:** North America, Europe, Asia Pacific, Latin America, Africa, Middle East and Rest of World — with named country intelligence. Asia Pacific leads imaging and volume; Europe leads MEMS and automotive sensing; North America drives analog and industrial sensing; other regions assessed on their own merits.

## MARKET OVERVIEW

### From discrete sensing to sensor fusion — where perception becomes the primary product differentiator.

Sensing is proliferating across every electronic product. Demand is driven by smartphone imaging, automotive perception, the IoT build-out and wearable health monitoring — with sensor fusion and on-sensor AI raising value per unit. The market is read three ways — value, unit volume and sensors-per-device — and forecast under four scenarios, each region reported separately.

- **Asia Pacific leads imaging and volume** — Japan, South Korea and China, on CMOS image sensors and a vast consumer-electronics base
- **Europe leads MEMS and automotive sensing** — Germany, Switzerland and Austria, on inertial, magnetic and ToF sensors
- **North America drives analog and industrial sensing** — United States, on automotive, industrial and IoT sensing
- **Sensor fusion is the differentiator** — combining modalities and on-sensor AI raises accuracy and value beyond discrete sensing

## 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 Markets & Drivers
Asia Pacific	Imaging leader	Japan, South Korea, China — CMOS imaging, consumer demand
Europe	MEMS & automotive	Germany, Switzerland, Austria — inertial, magnetic & ToF sensing
North America	Analog & industrial	United States — analog, IoT & automotive sensing
Latin America	Emerging	Brazil, Mexico — electronics assembly, automotive
Africa	Frontier	South Africa, Kenya — IoT, agritech sensing
Middle East	Frontier	UAE, Israel — smart-city sensing, defence optics

## KEY MARKET DRIVERS & RESTRAINTS

Drivers	Restraints
<ul style="list-style-type: none"> <li>• Automotive perception &amp; ADAS sensing</li> <li>• Smartphone imaging &amp; multi-camera growth</li> <li>• IoT &amp; smart-environment build-out</li> <li>• Wearables &amp; health-monitoring demand</li> <li>• Sensor fusion &amp; on-sensor AI</li> </ul>	<ul style="list-style-type: none"> <li>• Consumer-electronics cyclicality</li> <li>• Price erosion in commodity sensors</li> <li>• Calibration &amp; reliability across conditions</li> <li>• Privacy &amp; data-security scrutiny</li> <li>• Supply concentration in image sensors</li> </ul>

## SEGMENTATION SNAPSHOT

<b>By Product Type</b>	Image sensors (CMOS) · inertial (MEMS) · environmental & gas · optical & ToF · magnetic & current
<b>By Application</b>	Smartphones · automotive · IoT · industrial · wearables
<b>By Modality</b>	Imaging · motion · environmental · optical/depth · magnetic
<b>By End User</b>	Consumer-electronics OEMs · automotive OEMs · industrial OEMs · medical
<b>By Integration</b>	Discrete · system-in-package · sensor-fusion modules
<b>By Business Model</b>	Device sale · IP licensing · foundry · co-design

## TABLE OF CONTENTS — PARTS & CHAPTERS

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.

### Part I — Report Foundation, Discovery and Strategic Intelligence

- > Chapter 1. Scope, Methodology and Report Architecture
- > Chapter 2. Industry Discovery Summary — Sensor Chips
- > Chapter 3. Executive Intelligence and Decision Dashboard
- > Chapter 4. Strategic Findings, Materiality and Investment Verdict Preview

### Part II — Market Intelligence, Sizing, Forecasting and Segmentation

- > Chapter 5. Industry Overview and Market Evolution
- > Chapter 6. Market Dynamics
- > Chapter 7. Global Market Size and Forecast, 2020–2032
- > Chapter 8. Market Segmentation Analysis
- > Chapter 9. End-User and Demand-Side Intelligence
- > Chapter 10. Pricing, Cost and Commercial Model Intelligence

### Part III — Regional and Country Intelligence

- > Chapter 11. Global Regional Intelligence Framework
- > Chapter 12. North America Market Intelligence
- > Chapter 13. Europe Market Intelligence
- > Chapter 14. Asia Pacific Market Intelligence
- > Chapter 15. Latin America Market Intelligence
- > Chapter 16. Africa Market Intelligence
- > Chapter 17. Middle East Market Intelligence
- > Chapter 18. Rest of World Market Intelligence

### Part IV — Technology, Innovation and Category-Specific Intelligence

- > Chapter 19. Technology Landscape and Architecture
- > Chapter 20. Emerging and Next-Generation Technology Intelligence
- > Chapter 21. Category-Specific Intelligence Module
- > Chapter 22. Research, Innovation and Funding Landscape

## Part V — Company, Competition, Patent and Project Intelligence

- › Chapter 23. Competitive Landscape
- › Chapter 24. Company Profiles
- › Chapter 25. Mergers, Acquisitions, Partnerships and Ecosystem Intelligence
- › Chapter 26. Patent Landscape and Intellectual Property Intelligence
- › Chapter 27. Project, Deployment and Case-Study Intelligence

## Part VI — Sustainability, ESG, SDG, Climate and Natural-Capital Intelligence

- › Chapter 28. Sustainability Intelligence Suite
- › Chapter 29. ESG Intelligence and Double Materiality
- › Chapter 30. ESG and Sustainability Framework Alignment
- › Chapter 31. SDG Intelligence
- › Chapter 32. Carbon, Net-Zero and Climate-Mitigation Intelligence
- › Chapter 33. Water, Biodiversity and Natural-Capital Intelligence
- › Chapter 34. Circular Economy and Resource-Security Intelligence
- › Chapter 35. Social Impact, Human Capital and Community Intelligence
- › Chapter 36. Climate Risk, Adaptation and Resilience Intelligence

## Part VII — Supply Chain, Policy, Legal, Economics and Finance

- › Chapter 37. Value Chain, Supply Chain and Geopolitical Intelligence
- › Chapter 38. Policy, Regulation and Incentive Intelligence
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- › Chapter 40. Unit Economics, CAPEX, OPEX and Return Analysis
- › Chapter 41. Investment, Sustainable Finance and Bankability Intelligence

## Part VIII — Scenario, Future Intelligence and Final Due Diligence Verdict

- › Chapter 42. Scenario Analysis and Future Intelligence
- › Chapter 43. Sustainability Due Diligence Framework and Data-Room Index
- › Chapter 44. Risk Register, RAG Rating and Anti-Greenwashing Screen
- › Chapter 45. Bottom-Line Verdict and Strategic Recommendations
- › Chapter 46. Implementation Roadmap and Stakeholder Playbooks

## Part IX — Annexes, Directories and Reference Material

- › Chapter 47. Methodology Annex
- › Chapter 48. Corporate Directory and Company Intelligence Annex
- › Chapter 49. Patent Directory and Patent Intelligence Annex
- › Chapter 50. Project Intelligence Annex
- › Chapter 51. Forecast Annex
- › Chapter 52. Sustainability KPI Annex
- › Chapter 53. Reference Annexes

## COMPETITIVE & INVESTMENT SNAPSHOT

The competitive field spans imaging leaders, MEMS specialists and analog/industrial-sensing houses. Deal activity — automotive design wins, sensor-fusion partnerships and imaging-capacity investment — signals a market rewarding integration, fusion and application-specific differentiation.

### Representative players profiled in the full report:

Sony Group Corporation · STMicroelectronics N.V. · Bosch Sensortec GmbH · Infineon Technologies AG · ON Semiconductor Corporation · Texas Instruments Incorporated · OmniVision Technologies, Inc. · and 18+ 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

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- How large is the global sensor chips market, and how fast will it grow to 2032?
- Which regions, countries and segments offer the strongest risk-adjusted opportunity?
- How does sensor fusion change value versus discrete sensing?
- 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, resource monitoring and disclosure regulation?

## WHY ANMD — THE DIFFERENCE

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*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, water 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

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Investors, OEMs, system designers, foundries, medical and industrial buyers, lenders 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](http://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](http://www.anewmarketdynamics.com). The full detailed table of contents will be sent directly to your registered company email address.