

AI Navigation Systems

ANMD-MRS22-211 · Marine AI Solutions

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

AI navigation systems bring machine perception, sensor fusion and autonomous decision-making to the bridge, turning collision avoidance and route-keeping into data-driven, software-defined capabilities. Purpose-built stacks — computer-vision and radar fusion, situational-awareness engines, decision-support and remote-assisted control, and highly autonomous navigation — are engineered so that vessels operate more safely, more efficiently and with reduced crew burden. This decision-grade study sizes the global market three ways — value, installed systems and vessels equipped — across segmentation, seven regions and four scenarios to 2032, with outlooks to 2050.

SUSTAINABILITY & SDG IMPACT — THE ANMD LENS

The sustainability case is the report's backbone. Beyond safer operations, AI navigation delivers measurable fuel and emissions savings, fewer incident-driven spills, and reduced crew-risk exposure, while optimised routing strengthens the decarbonisation story. The analysis applies double materiality, maps outcomes to GRI, SASB, ISSB, TCFD, TNFD, CSRD and the EU Taxonomy, and Cyber-security, autonomy-assurance, e-waste in sensor hardware and seafarer displacement are treated as material risks — with greenwashing and SDG-washing screens applied throughout.

Mapped Sustainable Development Goals:

SDG 9 Industry & Infrastructure	SDG 13 Climate Action	SDG 14 Life Below Water
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Measurable sustainability outcomes assessed:

- Safer navigation and reduced collision risk
- Lower fuel use and emissions from optimised manoeuvring
- Reduced crew workload and human error
- Sensor reliability and cyber integrity 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

53 Chapters	9 Report Parts	7 Regions Covered	40+ Country Markets
2025–32 Forecast Horizon	4 Forward Scenarios	25+ Companies Profiled	3 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 (Nordics) leads autonomous-navigation R&D; Asia Pacific (Korea, Japan) drives shipbuilding integration; North America scales defence and commercial adoption; other regions on their own merits.

MARKET OVERVIEW

From manual watchkeeping to AI-assisted, collision-aware navigation.

AI navigation is moving from assisted bridges to supervised autonomy. Demand is driven by the convergence of maritime safety pressure, crew shortages and decarbonisation, supported by maturing class-society guidance and coastal-state regulation across Europe, Asia Pacific and North America. The market is read three ways — value, installed systems and vessels equipped — and forecast under four scenarios (conservative, base, accelerated and disruption), each region reported separately.

- **Europe leads early commercialisation** — anchored by Norway, Finland, the United Kingdom and the Netherlands, where autonomous-vessel trials, class guidance and short-sea ferry pilots are most advanced.
- **Asia Pacific is the scale engine** — with China, Japan, South Korea, Singapore and Australia combining large shipbuilding bases with strong port-efficiency and safety drivers.
- **North America is accelerating** — supported by US Coast Guard programmes, defence autonomy investment, inland-waterway pilots and a growing workboat-automation base.
- **Capability and autonomy level segment the value** — across collision-avoidance, situational-awareness and autonomous-navigation systems, and across decision-support, remote-assisted and highly autonomous tiers, each with distinct economics.

REGIONAL OUTLOOK

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

Region	Stage	Lead Markets & Drivers
Europe	Commercial leader	Norway, UK, Finland, Netherlands — class guidance, autonomy trials, smart-port & decarbonisation drivers
Asia Pacific	Scale engine	China, Japan, South Korea, Singapore, Australia — shipbuilding base, port efficiency, fleet scale
North America	Accelerating	United States, Canada — coast-guard & defence programmes, port modernisation, maritime-AI ventures
Latin America	Emerging	Brazil, Chile — ports, fisheries and offshore-energy adoption
Africa	Frontier	South Africa, Kenya, Morocco — port development, fisheries protection, blended finance
Middle East	Frontier	Saudi Arabia, UAE, Israel — port investment, maritime security, sovereign capital

KEY MARKET DRIVERS & RESTRAINTS

Drivers	Restraints
<ul style="list-style-type: none"> • Maritime-safety pressure & incident reduction • Crew shortages & rising manning costs • Class-society guidance & coastal-state regulation • Fuel savings & decarbonisation linkage • Sensor-fusion, computer-vision & edge-AI gains 	<ul style="list-style-type: none"> • Autonomy-certification & liability uncertainty • Sensor reliability in adverse sea states • Cyber-security & remote-control assurance • Retrofit integration & legacy-bridge cost • Seafarer acceptance & change-management barriers

SEGMENTATION SNAPSHOT

By Capability	Collision avoidance · autonomous navigation · situational awareness
By Autonomy Level	Decision-support · remote-assisted · highly autonomous
By Application	Deep-sea · short-sea / ferries · inland waterways · workboats & naval
By End User	Shipping lines · ferries · workboats · naval operators
By Business Model	Hardware sale · software licence · SaaS · outcome-based
By Scale	Pilot · fleet rollout · fully autonomous

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 — AI Navigation Systems
- › 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
- › Chapter 39. Legal, Contracting and Risk-Allocation Intelligence
- › 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 maritime-autonomy specialists, established bridge-equipment manufacturers, and software-first innovators.

Representative players profiled in the full report:

Kongsberg Maritime AS · Wärtsilä Oyj Abp (Wärtsilä Voyage) · Orca AI Ltd · Avikus Co., Ltd. (HD Hyundai Co., Ltd.) · Sea Machines Robotics, Inc. · and 20+ further profiled players across autonomous-navigation and bridge-systems innovators.

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

KEY QUESTIONS THIS REPORT ANSWERS

- ? How large is the global ai navigation systems market, and how fast will it grow to 2032?
- ? Which regions, countries and segments offer the strongest risk-adjusted opportunity?
- ? How does AI situational awareness change navigation value versus conventional bridge systems?
- ? 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, circular-economy and resource-security 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, water and natural-capital intelligence and a decision-ready bankability verdict in a single architecture.

- **Triangulated sizing** — every market read three ways (value, installed systems and vessels equipped) so value-led and volume-led 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, decision-ready investment verdict.

WHO SHOULD BUY THIS REPORT

Investors and maritime-tech / PE funds, shipowners and operators, shipyards and OEMs, classification societies and regulators, ports and lenders, 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.