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	SDG 13	SDG 14
Industry & Infrastructure	Climate Action	Life Below Water

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
• Maritime-safety pressure & incident reduction	• Autonomy-certification & liability uncertainty
• Crew shortages & rising manning costs	• Sensor reliability in adverse sea states
• Class-society guidance & coastal-state regulation	• Cyber-security & remote-control assurance
• Fuel savings & decarbonisation linkage	• Retrofit integration & legacy-bridge cost
• Sensor-fusion, computer-vision & edge-AI gains	• 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.

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.