



MRS30-292 · Smart Manufacturing Technologies

Predictive Maintenance Systems

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

Predictive maintenance (PdM) systems turn machine data into foresight — spanning vibration and acoustic monitoring, thermal and oil analysis, AI predictive platforms, condition-monitoring sensors and integrated CBM that forecast equipment failure before it stops a line. This decision-grade study sizes the global market three ways — value, deployments and monitored assets — across system type, technique 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. Predictive maintenance cuts energy waste, unplanned scrap and premature asset replacement while improving worker safety, strengthening the resource-efficiency story.

Mapped Sustainable Development Goals:

SDG 9 Industry & Innovation	SDG 12 Responsible Consumption	SDG 8 Decent Work & Growth	SDG 7 Affordable & Clean Energy	SDG 13 Climate Action
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Measurable sustainability outcomes assessed:

- Energy-waste and unplanned-scrap reduction
- Asset-life extension and avoided premature replacement
- Improved worker safety from early fault detection
- Sensor e-waste, data governance and model opacity as material considerations

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



MARKET OVERVIEW

From reactive servicing to AI-driven foresight — where anomaly detection and remaining-useful-life prediction drive the savings.

The predictive maintenance (PdM) systems market is read three ways — value, volume and monitored assets — and forecast under four scenarios, each region reported separately. Demand is propelled by the drivers below, supported by maturing incentives across Europe, North America and Asia Pacific.

- Asia Pacific is profiled first — China, Japan, India, South Korea — manufacturing density, labour-cost push
- Europe automation leader — Germany, Sweden, Switzerland — Siemens, SKF, Schaeffler, Senseye
- Segmentation reads the value across the report’s structure, technology and application axes
- Resource-and-outcome economics is the differentiator — increasingly with service and data revenue

REGIONAL OUTLOOK

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

Region	Stage	Lead Markets & Drivers
Asia Pacific	Scale engine	China, Japan, India, South Korea — manufacturing density, labour-cost push
Europe	Automation leader	Germany, Sweden, Switzerland — Siemens, SKF, Schaeffler, Senseye
North America	Platform leader	United States, Canada — GE Vernova, Augury, Uptake, C3 AI, Nanoprecise
Latin America	Emerging	Brazil, Mexico — automotive & process-industry uptake
Africa	Frontier	South Africa, Egypt — mining & heavy-industry monitoring
Middle East	Frontier	Saudi Arabia, UAE — oil & gas, sovereign-industry reliability

KEY MARKET DRIVERS & RESTRAINTS

Drivers	Restrains
<ul style="list-style-type: none"> • Unplanned-downtime cost avoidance • Ageing equipment & asset-life extension • Labour scarcity & maintenance efficiency • AI / ML anomaly-detection maturity • Energy & spare-parts waste reduction 	<ul style="list-style-type: none"> • Data quality, history & labelling gaps • Sensor-retrofit cost on legacy assets • Integration with CMMS / ERP systems • Trust & change-management barriers • Skills gap in reliability analytics



SEGMENTATION SNAPSHOT

By System Type	Predictive platforms · condition-monitoring sensors · integrated CBM
By Technique	Vibration / acoustic · thermal / oil · AI anomaly detection
By Component	Sensors · software / analytics · services
By Application	Vibration / acoustic · thermal / oil · AI anomaly detection
By End User	Manufacturers · maintenance teams · service providers · operations
By Deployment	On-premise · cloud · edge / hybrid

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 — Predictive Maintenance 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
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- › Chapter 31. SDG Intelligence
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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 established automation majors, specialist condition-monitoring vendors, and AI-analytics platforms. Deal activity — partnerships, technology licensing and demonstration programmes — signals a market consolidating around bankable, repeatable solutions.

Representative players profiled in the full report:

Siemens AG · GE Vernova Inc. (GE Digital) · ABB Ltd · Honeywell International Inc. · Emerson Electric Co. · and 20+ further profiled players across hardware, software and integration.

Investment intelligence: venture, infrastructure, development, climate and blended finance, green bonds and sustainability-linked loans — culminating in a bankability assessment and a Go / No-Go / Conditional-Go investment verdict.



KEY QUESTIONS THIS REPORT ANSWERS

- ? How large is the global predictive maintenance (PdM) systems market, and how fast will it grow to 2032?
- ? Which regions, countries and segments offer the strongest risk-adjusted opportunity?
- ? How do resource-and-outcome economics change returns versus conventional methods?
- ? Who leads, and where is the competitive and patent white space?
- ? Is the investment case bankable — and under what conditions?
- ? How does the technology align with the SDGs and emerging 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 verdict in a single architecture.

- › **Triangulated sizing** — every market read three ways so value, volume and area 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 investment verdict.

WHO SHOULD BUY THIS REPORT

Investors, manufacturers, system integrators, OEMs, plant operators, policymakers, lenders, research institutions, strategic corporate planners, 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.