

ANMD-MRS30-299 · Smart Manufacturing Technologies

# Energy Management for Manufacturing (EM4M) Software

*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

Energy management for manufacturing (EM4M) software turns plant energy from a fixed cost into a managed asset — spanning energy-monitoring platforms, ISO 50001 EnMS software, carbon / emissions accounting, and demand & load optimisation that meter, analyse, optimise and report industrial energy and carbon. It is the software backbone of the decarbonising factory. This report is a comprehensive, decision-grade study of the EM4M-software market across software type, function, component, application, end user and deployment model, spanning history 2020–2024, a 2025 base year, a 2025–2032 forecast and long-term outlooks to 2035, 2040 and 2050.

## SUSTAINABILITY & SDG IMPACT — THE ANMD LENS

The sustainability case is the report's backbone. EM4M software directly drives energy efficiency, emissions reduction and credible carbon disclosure in manufacturing.

**Mapped Sustainable Development Goals:**

|                                   |                                          |                                 |
|-----------------------------------|------------------------------------------|---------------------------------|
| <b>SDG 7</b><br>Affordable Energy | <b>SDG 12</b><br>Responsible Consumption | <b>SDG 13</b><br>Climate Action |
|-----------------------------------|------------------------------------------|---------------------------------|

**Measurable sustainability outcomes assessed:**

- Energy intensity and kWh savings from optimisation and recovery
- Scope 1/2 emissions reduction and verifiable carbon disclosure
- Audit-ready ISO 50001 EnMS performance and MRV integrity
- Software lifecycle and data-governance 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

|                                    |                               |                                  |                               |
|------------------------------------|-------------------------------|----------------------------------|-------------------------------|
| <b>53</b><br>Chapters              | <b>9</b><br>Report Parts      | <b>7</b><br>Regions Covered      | <b>40+</b><br>Country Markets |
| <b>2025–32</b><br>Forecast Horizon | <b>4</b><br>Forward Scenarios | <b>25+</b><br>Companies Profiled | <b>3</b><br>SDGs Mapped       |

## REPORT COVERAGE

Geographic scope: North America, Europe, Asia Pacific, Latin America, Africa, Middle East and Rest of World — with named country intelligence. Across the seven reporting regions, the report separates regulation-led leaders from platform leaders and fast-scaling adopters, profiling named country sub-markets, decarbonisation programmes and supply pipelines in each. Europe anchors regulation; North America scales platforms; Asia Pacific accelerates on industrial decarbonisation; while Latin America, Africa and the Middle East are assessed on their own merits rather than aggregated away.

## MARKET OVERVIEW

### From metered cost to managed asset — where one platform turns plant energy into measurable savings and credible carbon disclosure.

EM4M software sits at the intersection of cost and compliance. Demand is driven by energy prices, decarbonisation targets, CSRD and carbon-reporting mandates, and ISO 50001 adoption. The market is read three ways — value, subscriptions and monitored sites — and forecast under conservative, base, accelerated and disruption scenarios, with every projection resolved to the 2025 base year and each region reported separately rather than folded into Rest of World.

- Europe leads on regulation, anchored by Germany, France, Spain and Ireland, where Schneider, Siemens, Dexma and Wattics advance under CSRD and energy-cost pressure.
- North America scales platforms, with Honeywell, Rockwell, GE Vernova, EnergyCAP, Verdigris and Watershed driving energy and carbon software.
- Asia Pacific accelerates adoption, as China, Japan and India combine industrial decarbonisation goals with players like Smart Joules, Zenatix and Ecolibrium.
- Software type and function segment the value, across monitoring, optimisation/control and carbon accounting, and metering, analytics and reporting functions.

## 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 — Smart Joules Private Limited, Zenatix Solutions Private Limited, Ecolibrium Energy Private Limited, decarbonisation       |
| Europe        | Automation leader | Germany, France, Spain, Ireland — Schneider Electric SE, Siemens AG, Dexma Sensors, S.L., Wattics Ltd, CSRD                                     |
| North America | Platform leader   | United States, Canada — Honeywell International Inc., GE Vernova Inc., EnergyCAP, LLC, Verdigris Technologies, Inc., Watershed Technology, Inc. |
| Latin America | Emerging          | Brazil, Mexico — industrial energy-cost & efficiency drives                                                                                     |
| Africa        | Frontier          | South Africa, Egypt — energy-security & efficiency programmes                                                                                   |
| Middle East   | Frontier          | Saudi Arabia, UAE — industrial-decarbonisation & efficiency mandates                                                                            |

## KEY MARKET DRIVERS & RESTRAINTS

| Drivers                                                                                                                                                                                                                                                                                                            | Restraints                                                                                                                                                                                                                                                                                                                    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• Energy-cost &amp; price-volatility pressure</li> <li>• Decarbonisation &amp; net-zero targets</li> <li>• CSRD, carbon-reporting &amp; ISO 50001 mandates</li> <li>• Demand-response &amp; load-flexibility value</li> <li>• Energy-data availability from IIoT</li> </ul> | <ul style="list-style-type: none"> <li>• Data integration across heterogeneous meters</li> <li>• Verification &amp; data-quality for disclosure</li> <li>• Capex for sub-metering &amp; instrumentation</li> <li>• Crowded vendor field &amp; differentiation</li> <li>• Skills gap in industrial energy analytics</li> </ul> |

## SEGMENTATION SNAPSHOT

|                  |                                                                           |
|------------------|---------------------------------------------------------------------------|
| By Software Type | Energy monitoring · optimisation / control · carbon accounting            |
| By Function      | Metering / monitoring · analytics / optimisation · reporting / disclosure |
| By Component     | Software platform · metering integration · services                       |
| By Application   | Heavy / process industries · discrete manufacturing · automotive          |
| By End User      | Energy managers · sustainability teams · plant operators · finance        |
| By Deployment    | On-premise · cloud / SaaS · 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 — Energy Management for Manufacturing (EM4M) Software
- › 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 automation primes, energy-software specialists and carbon-accounting vendors.

### Representative players profiled in the full report:

Schneider Electric SE · Siemens AG · ABB Ltd · Honeywell International Inc. · Rockwell Automation, Inc. · SAP SE · GE Vernova Inc. · and further profiled players across the value chain.

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

## KEY QUESTIONS THIS REPORT ANSWERS

- ? How large is the global Energy Management for Manufacturing (EM4M) Software market, and how fast will it grow to 2032?
- ? Which regions, countries and segments offer the strongest risk-adjusted opportunity?
- ? How do the category economics change returns versus incumbent approaches?
- ? 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, water and natural-capital intelligence and a decision-ready bankability verdict in a single architecture.*

- › **Triangulated sizing** — every market read multiple ways so value, volume and 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, structured investment recommendation.

## WHO SHOULD BUY THIS REPORT

Investors and infrastructure / PE funds, manufacturers and OEMs, system integrators, plant operators, energy and sustainability teams, policymakers, lenders, and corporate strategy and ESG teams.

### 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.