IDC MarketScape: Worldwide Manufacturing Execution Systems 2024–2025 Vendor Assessment
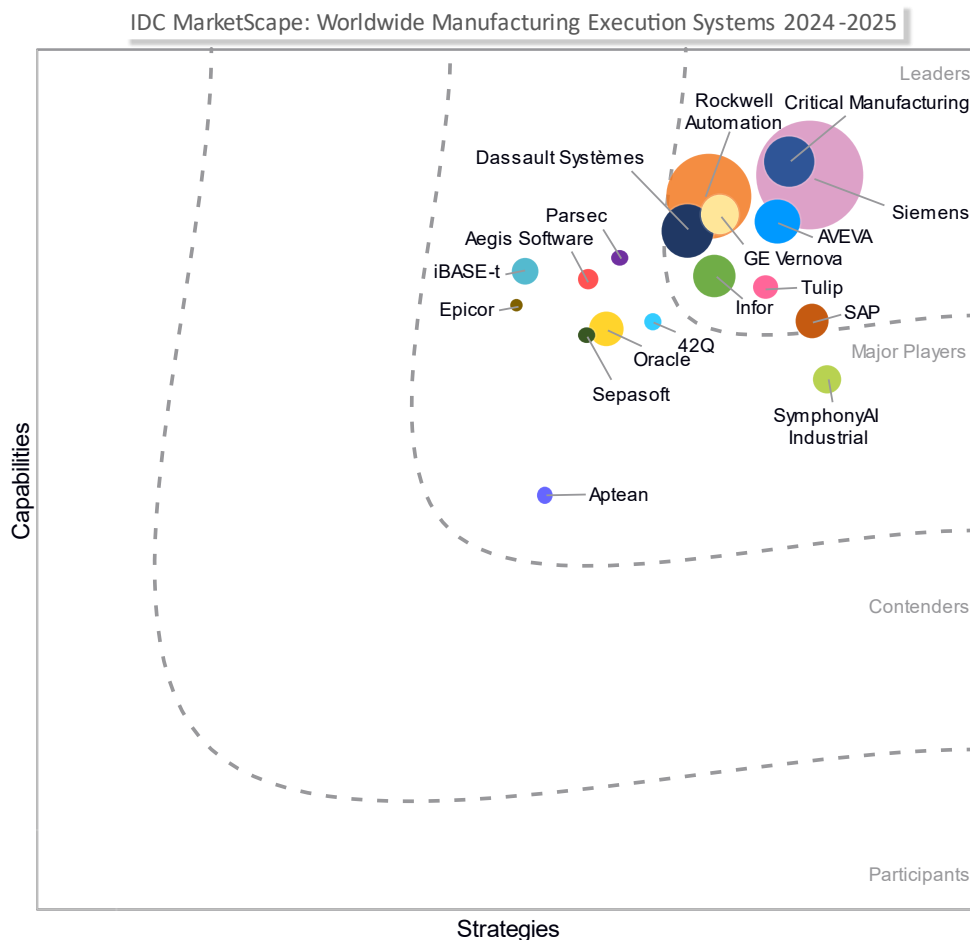
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THIS EXCERPT FEATURES ROCKWELL AUTOMATION AS A LEADER

IDC MARKETSCAPE FIGURE

FIGURE 1

IDC MarketScape: Worldwide Manufacturing Execution Systems 2024–2025

Source: IDC, 2024

Please see the Appendix for detailed methodology, market definition, and scoring criteria.

ABOUT THIS EXCERPT

The content for this excerpt was taken directly from IDC MarketScape: Worldwide Manufacturing Execution Systems 2024–2025 Vendor Assessment (Doc # US51813624).

IDC OPINION

The need for shop floor processes to coordinate with rapidly evolving value chains requires that manufacturing execution systems (MES) work seamlessly with other enterprise and manufacturing-focused applications to ensure visibility from the shop floor to the top floor. The rise of the 3rd Platform, along with innovation drivers such as cloud computing, edge analytics, the Industrial Internet of Things (IIoT), and artificial intelligence (AI), is significantly influencing the development of MES. Recently, there has been a notable increase in the adoption of cloud solutions to enhance or overcome the limitations of traditional on-premises MES, providing organizations with improved flexibility and scalability. Additionally, there is a growing emphasis on extensibility and user experience, with low code/no code and plug-and-play features becoming integral to vendor offerings. As companies increasingly prioritize sustainability, MES implementations are also being utilized to facilitate energy management and broader sustainability initiatives.

The MES landscape is rapidly transforming, and while it is crucial to invest in solutions that meet immediate business needs, it is equally important to select systems that can adapt to evolving requirements. As innovative concepts continue to surface, choosing a vendor committed to long-term innovation while fulfilling business demands is vital. With a wide array of solutions available, it is essential to select an MES that caters to the specific characteristics of production processes and industries, can be deployed swiftly for immediate benefits, and is designed to remain relevant in the future.

IDC MARKETSCAPE VENDOR INCLUSION CRITERIA

This vendor assessment includes software providers in the MES market serving the manufacturing industry.

For this IDC MarketScape, vendors should be active in at least two of the global regions of the Americas, Asia/Pacific, and Europe, the Middle East, and Africa (EMEA). Their MES applications should have a broad coverage of the entire range of plant floor–specific processes. Vendors active in this market should have a strategy in place to adopt a range of modern IT technologies — such as cloud and edge — and

game-changing plant floor technologies such as the Internet of Things (IoT), and AI as it applies to manufacturing execution systems.

ADVICE FOR TECHNOLOGY BUYERS

MES applications hold significant potential for generating valuable production data, enhancing workflow visibility, and contributing to informed decision-making.

- To fully harness this potential, organizations need to evaluate and optimize their internal production processes while selecting a vendor that aligns with their specific requirements. Although an MES is designed to tackle various aspects of performance, quality, and availability, companies must first pinpoint the key principles they wish to prioritize in order to identify the most suitable solution. Therefore, a comprehensive internal understanding of the process needs is essential.

- This understanding is crucial for gaining support within the organization and ensuring buy-in from all relevant stakeholders. Commitment from top management is vital to drive this initiative, but organizations should also recognize the importance of implementing training programs and knowledge-sharing platforms to assist technicians in effectively utilizing the solution on the shop floor.

- It is crucial for organizations to prepare their infrastructure adequately for the type of MES investment they need. It is important to invest in integrating their assets and production equipment, enabling data collection from all points in the factory to gain a holistic picture of the entire shop floor.

VENDOR SUMMARY PROFILE

This section briefly explains IDC's key observations resulting in a vendor's position in the IDC MarketScape. While every vendor is evaluated against each of the criteria outlined in the Appendix, the description here provides a summary of each vendor's strengths and opportunities.

Rockwell Automation

Rockwell Automation is positioned in the Leaders category in this 2024–2025 IDC MarketScape for worldwide manufacturing execution systems.

Rockwell Automation is a provider of smart manufacturing edge-to-cloud solutions and services, including MES and MOM software under the Plex and FactoryTalk MES brands. Rockwell's MES and MOM portfolio is purpose built to support demanding functional and non-functional requirements for latency, speed, and business continuity among the key industries it serves, including life sciences, automotive, tires, electric vehicles (EV), automotive OEM, food and beverage, and consumer packaged goods, among others.

Rockwell provides both an out-of-the-box, cloud SaaS MES offering called Plex and an on-premises MES solution called FactoryTalk MES. The latter incorporates a connectivity layer called EIHub that serves as an interface between the MES and automation, ERP, and other interconnected business and OT systems.

Rockwell Automation's MES portfolio is continuing to evolve as the company adopts cloud technology that allows central administration and distribution components between edge and cloud.

Plex is a multitenant SaaS solution that supports manufacturers' end-to-end operations with tightly integrated ERP, QMS, MES, supply chain planning, asset performance management, and production monitoring capabilities that are offered as part of a broader elastic MES suite or standalone.

To support edge-to-cloud connectivity and control, Plex offers MES Automation and Orchestration, as well as a robust library of APIs and connectors to support everything from shop floor equipment to electronic data interchange (EDI) transactions and third-party systems, as well as mobile and wearable devices. Plex's transparent pricing model, which includes options based on customer revenues, peak users, and modular add-ons, allows for flexibility and cost effectiveness and encourages broad adoption and scalability.

The company has built strong technology partnerships with Microsoft, NVIDIA, and Cisco, helping to expand its connectivity, security, and automation capabilities. In addition to technology partners, Rockwell Automation has a wide coverage of service partners including Accenture, Brock, and Capgemini.

Strengths

Due to its broad portfolio and large size, with a truly global delivery model, Rockwell Automation can act as a one-stop shop for smart manufacturing by offering an interoperable edge-to-cloud portfolio that is designed to meet customers where their needs are, with logical on-ramps to broader Industry 4.0 capabilities, along with the implementation, consulting, and field services required to help manufacturers digitally transform.

Plex provides full end-to-end machine monitoring and control with its IIoT application, its Asset Performance Management (APM) offering, and its Automation and Orchestration solution (formerly Kors Engineering Mach2). These hybrid offerings provide interoperable MOM capabilities that allow customers to visualize production data like OEE, scrap, and productivity with implementation in as little as a day.

The broader Rockwell Portfolio covers a broad scope of plant use cases with its Emulate3D for digital twin, Otto Motors for production logistics and autonomous mobile robots, FactoryTalk Historian, FactoryTalk View, PlantPAx DCS, PLCs,

FactoryTalk Maintenance Hub for advanced industrial automation, Fiix for AI-driven CMMS, and DataMosaix for industrial data operations.

Challenges

As it is going through a transformation phase, the biggest challenge for Rockwell Automation is to communicate its vision and value for the market. From a functionality standpoint, FactoryTalk MES is designed to serve the specific needs of the main industries that Rockwell Automation serves (e.g., automotive, EV, life sciences) and customers outside those verticals may struggle to find an adequate fit. Another point of consideration is that Rockwell's FactoryTalk MES solution is well suited to large, high-volume, highly automated production facilities that require high flexibility in process flows. This may make it less suitable for companies with insufficient scale and commitment.

Alternatives for such scenarios include the Plex SaaS MES offering from Rockwell Automation. However, because Plex is configurable and extensible, customization opportunities are limited, and potential customers would need to assess whether the out-of-the-box capabilities are sufficient for their needs.

Consider Rockwell Automation When

Customers in the food and beverage, consumer-packaged goods, automotive, life sciences, and other adjacent industries that require end-to-end support from their MES vendors in a variety of interoperable applications, from automation to consulting and innovation, should consider Rockwell Automation. Organizations can enjoy Plex MES as a way to jump start their operational digital journey without a big up-front investment.

APPENDIX

Reading an IDC MarketScape Graph

For the purposes of this analysis, IDC divided potential key measures for success into two primary categories: capabilities and strategies.

Positioning on the y-axis reflects the vendor's current capabilities and menu of services and how well aligned the vendor is to customer needs. The capabilities category focuses on the capabilities of the company and product today, here and now. Under this category, IDC analysts will look at how well a vendor is building/delivering capabilities that enable it to execute its chosen strategy in the market.

Positioning on the x-axis or strategies axis indicates how well the vendor's future strategy aligns with what customers will require in three to five years. The strategies category focuses on high-level decisions and underlying assumptions about

offerings, customer segments, and business and go-to-market plans for the next three to five years.

The size of the individual vendor markers in the IDC MarketScape represent the market share of each individual vendor within the specific market segment being assessed.

IDC MarketScape Methodology

IDC MarketScape criteria selection, weightings, and vendor scores represent well-researched IDC judgment about the market and specific vendors. IDC analysts tailor the range of standard characteristics by which vendors are measured through structured discussions, surveys, and interviews with market leaders, participants and end users. Market weightings are based on user interviews, buyer surveys and the input of IDC experts in each market. IDC analysts base individual vendor scores, and ultimately vendor positions on the IDC MarketScape, on detailed surveys and interviews with the vendors, publicly available information and end-user experiences in an effort to provide an accurate and consistent assessment of each vendor's characteristics, behavior and capability.

Market Definition

Manufacturing execution system is the software platform that covers all operational processes across a network of factories. Making a reference to the MESA Model (mesa.org/en/modelstrategicinitiatives/MESAModel.asp), the MES platform comprises the following MESA functions: product tracking and genealogy, resource allocation and status, performance analysis, process management, data collection acquisition, dispatching production units, quality management, labor management, warehouse management (logistics focus: transportation management system [TMS], warehouse management system [WMS]), maintenance management (asset reliability focus: enterprise asset management [EAM], computerized maintenance management system [CMMS], and operations and detailed scheduling. The MES platform is a common platform for multiple plants worldwide, and as such enables the standardization of operational processes and KPIs across the network of factories. The MES platform also includes enterprise manufacturing intelligence (EMI) functionalities to measure and analyze the performance of the network of factories. The MES platform must include standard integration procedures with plant floor controls (ISA-95 level 2 and below) and critical IT business applications, particularly ERP and PLM.

LEARN MORE

Related Research

- *IDC MarketScape: Worldwide High-Tech and Electronics Manufacturing Execution Systems 2023 Vendor Assessment* (IDC #US49435722, April 2023)

- *IDC MarketScape: Worldwide Engineering-Intensive Manufacturing Execution Systems 2023 Vendor Assessment* (IDC #US49435622, April 2023)
- *IDC MarketScape: Worldwide Discrete Manufacturing Execution Systems 2023 Vendor Assessment* (IDC #US49435422, April 2023)
- *IDC MarketScape: Worldwide Process Manufacturing Execution Systems 2023 Vendor Assessment* (IDC #EUR150526323, April 2023)

Synopsis

This vendor assessment includes software providers in the MES market serving the manufacturing industry.

The MES landscape is rapidly transforming, and while it is crucial to invest in solutions that meet immediate business needs, it is equally important to select systems that can adapt to evolving requirements. Choosing the right vendor can be a minefield, but the focus should be on selecting one that has a long-term commitment to driving innovation and addressing evolving business needs.

"As innovative concepts continue to surface, choosing a vendor committed to long-term innovation while fulfilling business demands is vital. With a wide array of solutions available, it is essential to select an MES that caters to the specific characteristics of production processes and industries, can be deployed swiftly for immediate benefits, and is designed to remain relevant in the future." — Lorenzo Veronesi, Associate Research Director, Manufacturing Insights, IDC

ABOUT IDC

International Data Corporation (IDC) is the premier global provider of market intelligence, advisory services, and events for the information technology, telecommunications, and consumer technology markets. With more than 1,300 analysts worldwide, IDC offers global, regional, and local expertise on technology, IT benchmarking and sourcing, and industry opportunities and trends in over 110 countries. IDC's analysis and insight helps IT professionals, business executives, and the investment community to make fact-based technology decisions and to achieve their key business objectives. Founded in 1964, IDC is a wholly owned subsidiary of International Data Group (IDG, Inc.).

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