



**PLEX**

# Unlock autonomous operations with a modern MES

A new approach to manufacturing execution systems that's flexible, resilient and easy to scale



► BEGIN

Manufacturers today  
face **unprecedented**  
**challenges.**



Supply chain disruptions



Inflation and slow economic growth



Labor shortages



Difficulty integrating new technology



Risk of cyberattacks



Inability to effectively capture and  
contextualize data



Balancing resiliency versus scalability

# In response, manufacturers are accelerating **digital adoption**.

Many manufacturers are looking to digital transformation and smart machines to create modern manufacturing environments. As a result, once-siloed processes are increasingly connected and coordinated. Data analytics is evolving from descriptive dashboards to predictive and prescriptive tools powered by artificial intelligence (AI) and machine learning (ML). Opportunities for automation continue to expand, with systems that are increasingly software-defined.

Together, these trends present a way to keep pace with the rate of change and move towards autonomous operations.

# 81% of manufacturers

say the obstacles they face – both within their organization and externally – are accelerating digital transformation<sup>1</sup>

1. [2025 State of Smart Manufacturing Report](#)




# The role of MES is evolving

Collectively, these trends are changing the role of manufacturing execution systems (MES). MES have evolved from providing siloed capabilities like enterprise resource planning (ERP), quality management, or equipment control and are now often playing the role of the central nervous system for production operations.

Today's MES must interface with a wide variety of systems, which differ in terms of protocol and data format. Furthermore, organizations can't just think about their present needs—their solution must scale across locations and be future-proofed to adapt to rapid innovation.

Legacy MES are no longer cutting it. And even among modern solutions, many MES are simply not fit to fulfill this enlarged role:

- **Point solutions** lack the breadth of functionality and flexibility to meet complex customer needs. Many are still essentially analytics solutions and don't provide the functionality needed for meaningful machine control, or production orchestration. Furthermore, these solutions may not be built to integrate easily with other systems like ERP, product lifecycle management (PLM) or supervisory control and data acquisition (SCADA).
- **Homegrown MES** or heavily customized vendor solutions carry a heavy maintenance burden. They often lack scalability, since adding new features or supporting multiple sites with diverse needs requires custom development. Additionally, each connection to other systems requires custom integrations that must be maintained over time.



**Manufacturing execution systems are now playing the role of the 'central nervous system'**

# A new approach for modern industrial demands

Today's industrial environments require a new approach to MES that offers capabilities beyond traditional MES functionality. Manufacturers need an MES that's elastic—enabling you to quickly deploy the capabilities needed today with broad options to seamlessly scale as your needs change.

## What sets an MES with elastic qualities apart?



### Scalable by design

Rapid expansion through unified cloud and software as a service (SaaS) platforms for real-time insights and agile responses to shifting market demands.



### Flexible deployment

Easily add only the tools that you need across IT and OT, closing data and process gaps without a full rip-and-replace.



### Operational resilience

On-premises reliability down to the machine level with resilient edge connection, delivering uptime and control.



### Built-in security

Robust, built-in security and compliance to help protect evolving autonomous environments.

“

*Legacy MES systems, while foundational, have become barriers to agility in an era defined by rapid change. **This future lies in modern, flexible and scalable MES platforms** that enable manufacturers to reconfigure processes on demand, integrate seamlessly across the digital thread and accelerate innovation. This evolution marks a critical step in moving the industry toward truly adaptive, future-ready operations.*

**— Lorenzo Veronesi**  
Associate Research Director, IDC

# Rockwell Automation offerings **exceed traditional MES capabilities**

The Rockwell Automation® MES portfolio is built to be elastic, with capabilities that expand beyond traditional MES functionality. Our MES offerings extend from business IT, OT and ET systems to the machine level and from edge to the cloud for a truly end-to-end solution that's purpose-built for industries.

## More capabilities, in a single integrated platform

For decades, we've invested in industry outcomes to offer out-of-the-box, modular, industry-specific capabilities in a single integrated platform. With a centrally managed platform, you can simplify operations and reduce total cost of ownership (TCO) by consolidating the number of solutions and vendors you need to manage. The platform also includes built-in attributes that strengthen business resilience, including system-grade cybersecurity and reliable edge-to-cloud connectivity.

## Data at your fingertips

Together, we can unleash the power of your data by unlocking new insights, applying AI, and creating processes that are coordinated and optimized in real-time. With more information at your fingertips, you can shift your decision-making from reactive to proactive and get ahead of trends and disruptions. We've built on this data foundation ourselves to deliver AI capabilities, enabling our customers to coalesce an unmatched quantity of information and convert it into deep contextual insights.

## An end-to-end solution ecosystem maximizes MES value

We're the only vendor that has you covered from business systems to the machine level and from the edge to the cloud. With software, hardware, and services, we enable a truly end-to-end solution spanning OT, IT and ET. Not only do we enable close integration within our portfolio, but our offerings are also built for interoperability with external systems and products from other vendors. The result is an MES on an open, extensible platform that is connected by design with the rest of the production system, making it easier to integrate your technology.



# A flexible MES delivers **differentiated value**

Rockwell Automation MES offerings stretch to meet your needs, enabling rapid deployment with modular architecture and a centrally managed platform. Capabilities that extend beyond a traditional MES solution allow you to unify data and unlock autonomous operations.



## **Gain control without compromise**

Accelerate time to value with a rapidly deployable, modular architecture, choosing the capabilities you need today and making changes flexibly as your needs evolve.



## **Simplify operations at scale**

Build on a platform that is scalable and centrally managed to simplify operations across locations, reducing costs and supporting business growth.



## **Unlock autonomous operations**

Connect and unify more capabilities within your MES platform, unlocking broad data visibility, laying the foundation for AI, and moving your organization toward 'lights out' production.



# Rockwell Automation MES offerings **enable you to do more**

Meet the needs of your business—from empowering people to managing quality—with our MES portfolio. The extensibility of Rockwell Automation MES offerings enables you to model and automate complex manufacturing workflows with simple no-code logic to create unique processes tailored to your business. Our flexible MES portfolio combines the scalability of cloud with localized edge control for always-on operations—even during network disruptions.



## **Connected Worker**

- Organize, track and optimize tasks on a centralized, easy-to-access system
- Empower teams to make data-driven decisions with real-time performance metrics
- Mitigate risks with digital work instructions in a single source of truth for training



## **Quality Management**

- Test definition, sampling processes control, and rule definition
- Built-in tools for corrective & preventative actions that streamline compliance
- Proactive alerting and statistical process control
- AI-powered smart vision inspection and root cause analysis for better anomaly detection



## **Inventory Management**

- Digitize materials with fully integrated barcode printing and scanning
- Accurately manage inventory by “lots” with common attributes
- Keep an automatic, real-time paper trail with precise track-and-trace



## **Comprehensive Yield and Batch Management**

- Granular insight into actual yields, with modeling of expected yield losses by component
- Optimize equipment utilization with parallel scheduling and batch execution
- Coordinate scheduling and execution of pre-process WIP operations

**...and much more**

# Rockwell Automation MES offerings are delivering real value across industries



**PACUR®**



**> 99%  
accuracy**  
achieved in one plant

Adopting a Rockwell Automation MES enhanced iconic Canadian food producer Maple Leaf Foods' production efficiency, streamlined operator training and solidified its position as an industry leader in sustainable food processing.

 [Read the full story](#)

Cut the invoicing process  
from 2 weeks to  
**1 day**

When Pacur, a leading custom sheet extruder of polyesters and resins, implemented a Rockwell Automation MES, they were able to improve access to data, automate invoicing and make critical decisions faster.

 [Read the full story](#)

Realized  
**\$152k**  
in yearly cost savings

With a Rockwell Automation MES, metal fabricator Jay Industries gained better visibility across the entire production process, including real-time production data, tighter inventory control and better customer demand forecasting.

 [Read the full story](#)

# Take the next step in your MES journey



[Visit our website](#) to learn more  
about our MES portfolio



[Request a demo](#) to see our MES  
offerings in action





**Rockwell  
Automation**

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