



Unlocking success across the machine lifecycle

How OEMs can turn challenges
into competitive advantage



OEMs are under pressure like never before

If you're building machines and equipment today, you're doing it in one of the most demanding eras the industry has ever seen. Your customers want **systems that are faster, smarter, more efficient and more secure** — and they want them delivered yesterday. At the same time, costs continue to fluctuate, skilled labor is scarce, and sustainability requirements are tightening across every region.

AND THE TOUGHEST PART?

These challenges don't appear at one moment in the lifecycle; they follow you from the first sketch in the CAD system to the last service call in the field. For machine and equipment builders (OEMs), a small design delay can snowball into a build delay. Late-stage debugging eats up commissioning time. And a missed data point leads to unplanned downtime on site.

A photograph of a worker in a high-visibility yellow vest and dark shirt, seen from behind, looking over a yellow safety railing into a large, brightly lit industrial facility with various machines and equipment in the background.

**Every lifecycle phase
has its challenges. Every
decision ripples across
the organization.**

Overcoming challenges to drive your customers' continued success

We help you address these business pressures through machine lifecycle solutions and technology:



TIME-TO-MARKET

Accelerated time-to-market is pivotal to boosting competitiveness, profitability, and growth.



ENGINEERING BOTTLENECKS

Traditional workflows push controls testing to the end, causing avoidable rework and missed deadlines.



LABOR SHORTAGES

Fewer skilled technical people mean that wiring, assembly, and commissioning often take longer and cost more.



SUSTAINABILITY MANDATES

End Users want machines that consume less energy, reduce emissions, and are globally compliant.



DIGITAL MATURITY GAPS

Many OEMs still lack the connectivity and resulting equipment information needed for predictive maintenance and remote support.

OEMs must deliver integrated, secure, and digitally enabled solutions that fit seamlessly into End Users' existing plant environments.

Meanwhile, the world is moving ahead:

According to McKinsey & Company¹, organizations embracing digital transformation can:

Reduce inventory holding costs by	15-20%
Increase labor productivity by	15-30%
Use predictive maintenance to reduce downtime by	30-50%

Yet many OEMs remain stuck in terms of reacting to issues instead of helping prevent them. And the cost of inaction is huge:

Unplanned downtime costs manufacturers an average of \$260,000 per hour, adding up to nearly \$50 billion annually within the United States alone.²

1. McKinsey & Company. (2022) Capturing the True Value of Industry 4.0: Digital transformation in manufacturing

2. Gitnux. (2025) Manufacturing Downtime Statistics: Market Data Report.

Delivering value across the machine lifecycle

Every stage of the machine lifecycle—Design, Build, Commission, Maintain/Improve—is either a chance to get ahead or an opportunity missed. The OEMs winning today are the ones who:

Design smarter

with digital twins and early-stage controls validation.

Build faster

with connectorized intelligent devices and pre-tested code.

Commission confidently

using virtual testing and analytics.

Maintain proactively

with remote monitoring and automated configuration.

We will break down each phase and show how leading OEMs are turning everyday challenges into real, measurable competitive advantages.



From fixed to agile: Transforming how machine builders are designing machines

Design is the heartbeat of the project. It's where imagination meets engineering, but also where bottlenecks often begin. Long development cycles, fragmented systems, and a lack of early testing tools create downstream surprises that cost time and erode margins.

Machine and equipment builders are under pressure to improve design processes and outcomes. You must predict and fix flaws early to avoid costly delays, while accelerating the testing of new designs to keep pace with market demands.

Demonstrating innovative concepts to customers is essential for winning trust and driving adoption, yet reliability remains a non-negotiable priority. **Continuous improvement of equipment design is critical to meet performance expectations, and overcoming rigid, inflexible architectures is key to enabling agility.** Addressing these challenges requires advanced tools and strategies that streamline development and foster innovation without compromising quality.



Solutions and technology that enable future-ready equipment

Now imagine being able to design and test your machine—its logic, its behavior, its edge cases—before you've even placed an order for parts. That's the power of digital state-of-the-art design tools and digital twins.

Design tools powered by AI help accelerate time-to-market and minimize errors through collaborative development environments. **FactoryTalk® Design Studio™** and **FactoryTalk® Optix™** enable collaborative development and leverage modern coding techniques. AI-powered design tools not only streamline workflows but also enable developers to leverage modern coding techniques and best practices.

Digital Twin & Simulation can accelerate commissioning and reduce costs by validating, testing, and optimizing control logic without physical hardware. With **FactoryTalk® Logix Echo**, OEMs can perform virtual logic testing early in the development cycle, saving time and budget while reducing the risk of late-stage surprises. **Emulate3D®** extends this capability by creating a dynamic simulation environment that validates fixes across multiple machines and enables seamless transitions between design and runtime without rework. By driving real machine data into digital twin models or simulations, OEMs create a system-level test bed that identifies and resolves issues early, reduces risk, and delivers faster, smarter commissioning.

This isn't just simulation, it's designing with confidence, avoiding hundreds of potential hours of rework, and giving your customers a near-final machine before you've built anything.

Beating the clock to deliver value

As machine builders transition into the build phase, the priority becomes delivering machines that reach customers faster, operate more reliably, and provide stronger long-term value. Yet bringing together mechanical assemblies, electrical wiring, and intelligent subsystems from multiple suppliers often introduces delays, adds cost, and relies heavily on specialized skills.

Certification requirements, wiring complexity, and fragmented technologies can slow launch timelines and limit flexibility in the face of supply-chain pressure. **By simplifying wiring and standardizing architectures, OEMs can accelerate delivery, reduce commissioning risk, and enable engineering teams to focus on the differentiated performance, scalability, and sustainability customers increasingly expect.**

Finally, the use of reusable code modules both reduces the time to write code but also makes the code more reliable and easier to troubleshoot. This helps bridge the skills gap, as the code is more familiar and easier to explain to new engineers.



Helping you build faster with smart solutions and a proven portfolio

The keys to reducing time and cost in the build stage are: reducing the panel size and complexity, developing/sourcing reusable code, and minimizing the number of intelligent subsystems.

To drastically reduce wiring time and complexity, **On-Machine™ products**, pre-certified motor control circuits, and **EtherNet/IP™ In-cabinet products** work well, while offering a cost advantage over conventional products. By moving industrial controls and hardware out of the cabinet and onto the machine, you can reduce wiring and system costs, allowing you to accelerate machine build time more effectively.

Modular programming encompasses code structuring, tag naming conventions, state model implementation, and HMI practices. This allows

you to develop reusable code so your customers can easily change production functionality. Tested and proven code blocks for many machine functions can be found in **Trusted Content libraries**, developed by Rockwell Automation engineers.

To reduce the number of programming platforms, use advanced motion and robotics libraries such as **Unified Robot Control (URC)**. This technology combines robot mechanics with Logix code and motion kinematics for an integrated programming experience, using powerful Kinetix® motion control.



The moment of truth: moving from assembly to real-world operation

Commissioning and operation is the time when an OEM's machine must prove itself, and it's often where the toughest challenges emerge. Code written earlier finally interacts with hardware, revealing issues that surface only under real-world conditions. Late-stage debugging, untested logic, and the need for on-site expertise can extend installation times and inflate costs.

Integrating multiple subsystems adds further complexity, especially when connectivity, diagnostics, and data flows aren't aligned, creating information islands and slowing line stabilization.

At the same time, **OEMs must deliver secure, connected operations, enable workers with the right insights, and minimize unplanned downtime, all while improving overall equipment effectiveness (OEE) and reducing environmental impact.** The pressure is high: performance must meet expectations, timelines must hold, and machines must deliver reliable, intelligent operation from day one.



Global support and smart solutions enable flawless commissioning

Reducing overall commissioning, which includes testing, installation, troubleshooting, and start-up time, is key. And once your equipment is installed and operating, having the right level of global service and support can help you reduce warranty costs and improve end customer satisfaction through lifecycle support.

By converting unorganized machine outputs into contextualized, standardized, and operate-ready insights, **DataReady™ solutions** provide a structured data foundation through a unified architecture and a consistent reporting model. This enables engineers to monitor machine performance quickly, accelerate root-cause analysis, and set the stage for scalable cross-machine analytics and future service-based business models.

Particularly during commissioning, OEMs can struggle with fragmented controls and inconsistent data that slows integration and troubleshooting. **Integrated Architecture® systems** solve this by unifying control, design, and data into one framework for faster, smoother startup.

You may face commissioning delays from late design changes, security checks and limited on-site expertise. Commissioning and operating the machine often includes connecting to the enterprise, and **cybersecurity requirements demand compliant secure-by-design machines**. Rockwell Automation eases this with built-in security, compliance tools and guidance that speeds safe, standards-aligned startups and continuous monitoring of machine vulnerabilities. Our flexible services provide **global expert support**, standardized practices, and optimization to cut risk, speed startup, and better move single machines and full lines into operation.



Drive continuous growth and unlock ongoing value for your customers

Once machines are in operation, the priority shifts to keeping them running at peak performance. For OEMs, the maintain and improve stage is critical as issues often only appear when they cause downtime, on-site service drives up costs, and customers expect guaranteed uptime and a fast response.

Modern maintenance is shifting from reactive fixes to proactive performance management. **With secure remote access, remote monitoring, predictive analytics, and advanced diagnostics, OEMs can identify emerging issues early and address them before they impact production.**

Structured, contextualized data makes it easier to guide smarter decisions, while automated device configuration reduces setup errors and speeds component replacement. Unified Control strategies that manage both robotic and machine operations in a single environment help close skills gaps, simplify support, and reduce training effort by minimizing cross-platform complexity. Together, these capabilities reduce downtime, lower service costs, and increase the reliability your customers expect.



Streamlining the way to better machine performance with advanced technology

Rockwell Automation solutions help OEMs guarantee uptime, shorten downtime and deliver the responsive service customers expect, all while reducing complexity and cost.

Maximizing productivity starts with overcoming the challenge of limited visibility into machine performance and health. Scalable Control and Visualization solutions deliver unified control and advanced HMI systems for smarter, more connected operations. With **FactoryTalk® Optix™ software**, you can build web-enabled dashboards, access data anytime, anywhere, and personalize visual experiences to accelerate decision-making. These capabilities translate into actionable results that boost performance, reduce downtime, and extend machine life.

When robots and machines run on separate platforms, it can create unnecessary complexity for your operations or machine's performance. By unifying robot and machine control in a single Logix environment,

engineering teams eliminate redundant programming, simplify support, and close skills gaps, while gaining the agility to adapt, scale, or modify applications as requirements evolve. Advanced Motion and Robotics deliver this unified control architecture, enabling integration of robots and Independent Cart Technologies, improving long-term maintainability, and enhancing system flexibility.

OEMs often struggle to keep machines performing at their best, facing failures that appear without warning. Artificial Intelligence can turn this challenge into an advantage, anticipating issues before they surface and guiding continuous improvement. With **FactoryTalk® Analytics™ LogixAI®** predicting process behavior and **FactoryTalk® Analytics™ GuardianAI®** monitoring asset health, Rockwell Automation empowers you to deliver machines that learn, adapt, and elevate performance over time.



How Rockwell Automation helps

DOMAIN EXPERTISE AND TECHNOLOGY CONSULTANCY ACROSS APPLICATIONS AND INDUSTRIES

150+

OEM-focused technical consultants

4,000+

global launch projects

100+

countries

LEADING OEMS ARE ALREADY SEEING SIGNIFICANT RESULTS:

Hirata

30% reduction in engineering time

NKP

40% improvement in throughput

Tofflon

65% reduction in energy usage

We work closely with your engineering team at all lifecycle stages,
whether it's to enable compliance, simplify builds or strengthen digital maturity.

Design

- Concept whiteboarding
- Design optimization
- Drive sizing

Build

- Architecture design
- Program standards
- App library
- Code development support

Commission

- Factory Acceptance Test (FAT) support on OEM shop floor
- Ownership transition to End User
- Support developing data-ready machines

Maintain/Improve

- Help design AR/VR applications
- Connected services – application support
- AI/ML-based prescriptive diagnostics

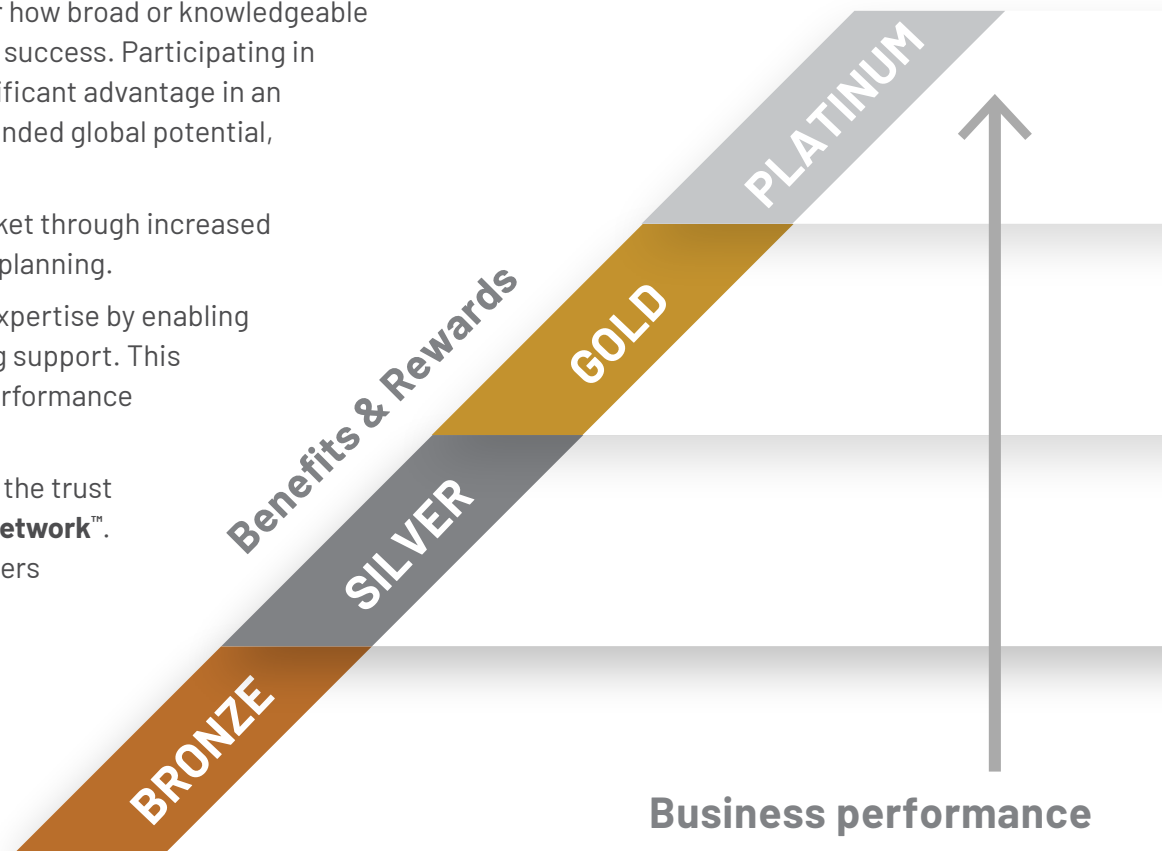
Collaborating for business success

In today's global marketplace, no individual organization – no matter how broad or knowledgeable – can command all the relevant technologies customers require for success. Participating in the **Rockwell Automation OEM Partner Program** can provide a significant advantage in an increasingly competitive marketplace by helping you to realize expanded global potential, grow your business and drive customer loyalty.

By joining the program, you can extend your reach in the global market through increased visibility, collaborative marketing initiatives, and coordinated sales planning.

The program also helps you grow your business through technical expertise by enabling access to specialized training, technical resources, and engineering support. This equips you with the functional excellence needed to deliver high-performance solutions that differentiate your offerings.

Finally, you can strengthen End User customer loyalty by leveraging the trust and reputation associated with the **Rockwell Automation PartnerNetwork™**. This connection enhances your brand's credibility and gives customers greater confidence in your solutions.



Rely on a global, trusted partner ecosystem to support your success

Managing the machine lifecycle brings challenges, but also major opportunities. With the right tools, architecture and partner, every phase becomes a moment to innovate and stand out.

Rockwell Automation empowers OEMs with globally available technical competence and a broad partner-program ecosystem, helping you deliver innovative machines that drive higher yield, greater throughput, smaller footprints, reduced waste, lower maintenance, and meaningful gains in energy and emissions performance.

If you're ready to build faster, innovate smarter, and deliver equipment that your customers trust, while unlocking sustainable value, explore our solutions and worldwide partner ecosystem.

**Visit our machine builder
page to learn more**





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Automation**

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expanding **human possibility**[®]

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