

The Path to Autonomous Operations

A new era of automation is upon us: industrial autonomy. Moving beyond automation, industrial autonomy adds layers of smart sensing and machine cognition to anticipate and adapt to unforeseen circumstances, removing the need for human intervention. Yokogawa Electric Corporation, a leading provider of Industrial Automation and Test and Measurement solutions, is championing the ongoing transition from industrial automation to industrial autonomy (IA2IA). Learn how your company can embark on the journey toward a fully autonomous future.

Benefits of Autonomous Operations



Improves Productivity & Efficiency



Ensures Worker Safety



Improves Product Quality



Reduces Facility Operating Costs

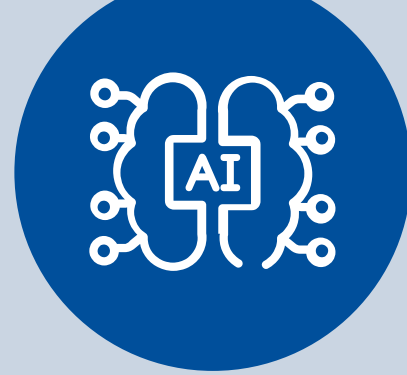


Allows for Remote Operations

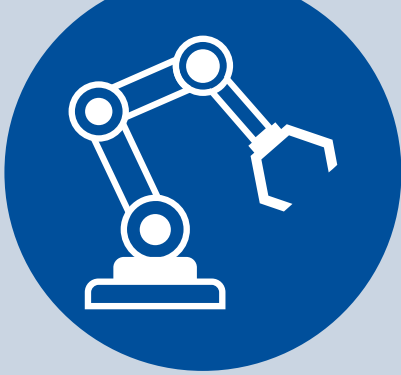
Journey to Autonomous Operations

Needs	IA2IA Stages	Benefits
Optimizing multiple ecosystems across the industry	Symbiotic autonomy	Enablement of plant-to-planet business (no barriers)
Integrating ecosystems across multiple companies	Autonomous operations	Optimization of the value chain
Integrating different domains and functions	Autonomous orchestration	Capturing of new business opportunities
Breaking down silos to share information and increase profitability	Semi-autonomous	Improved collaboration and optimized production
Leveraging data for real-time decisions to improve efficiency	Automated	Increased productivity and safety
Improving safety, efficiency, and availability	Semi-automated	Achievement of safer and more efficient operations

Core Technologies That Enable Autonomous Operations



Artificial Intelligence



Robotics



Cloud Computing



Data Analytics
(Real-time & Predictive)



Remote Monitoring & Control



5G Smart Sensors



Cyber Security



Reliability Solutions

How to Get Started

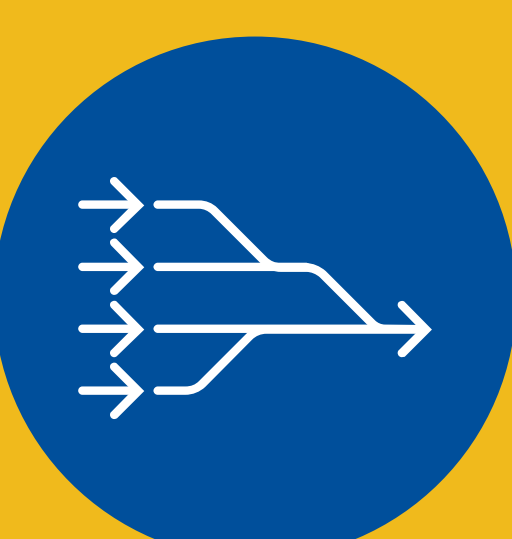
FOR EXISTING FACILITIES AND OPERATIONS



Identify the specific tasks or functions that could benefit most from industrial autonomy.



Implement “autonomous components” that accomplish the specific task or individual function identified in the first step.



Combine and coordinate multiple autonomous components to achieve higher levels of autonomy.

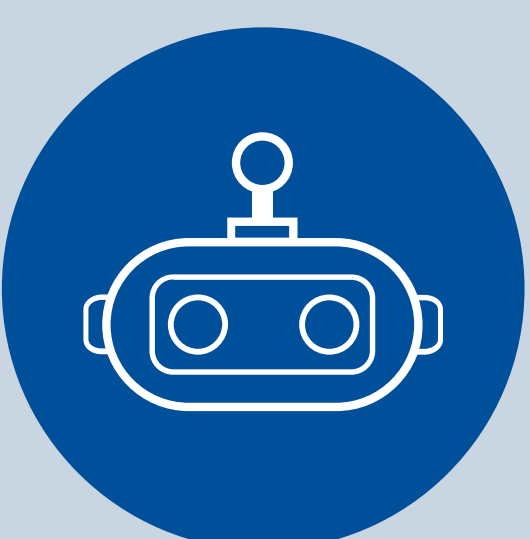


Encourage employees to work alongside autonomous components and systems.

FOR NEW FACILITIES AND OPERATIONS



Optimize process and equipment reliability.



Design tasks and access for robots.



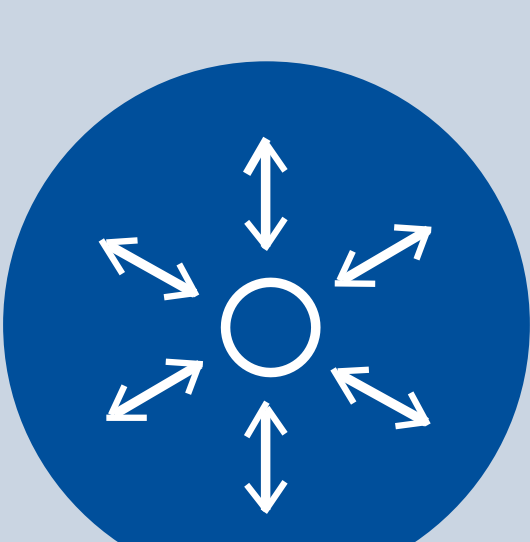
Design tasks for drones that need clear flight paths.



Simplify processes by streamlining designs, reducing process steps, and eliminating complexity.



Design for higher reliability and condition monitoring by eliminating overly complex processes and equipment prone to failure.



Design remote integrated operation centers with greater collaboration capability and situation awareness (AOG).

To Learn More, or Get Started