

# Manage autonomous operations

## 4 considerations for achieving system orchestration in manufacturing

Managing systems from your industrial facility to deployments at the edge of your network can be particularly challenging due to the complex interplay of various factors, including emerging technology, operational concerns, and the human element. As manufacturing companies seek to address these challenges, their strategy is increasingly based on achieving system orchestration by integrating IT practices into operational technology (OT) spaces. The following are 4 key considerations for organizations embarking on this journey.

### 1 Identify your required business capabilities

Start by identifying your business goals and mapping them to the technology infrastructure capabilities required to achieve them. Examples of potential goals include:

- ▶ **Maintain compliance.** Establish auditable policies and enforcement guidelines through technology to ensure all systems comply with industry cyber security standards, and regulatory requirements.
- ▶ **Reduce costs.** Automate provisioning, maintenance, and upgrades to increase efficiency and reduce human error.
- ▶ **Simplify integration.** Facilitate the integration of new systems with common interfaces, like application programming interfaces (APIs), to provide the operational agility needed to introduce and manage new systems on the shop floor.
- ▶ **Streamline partnerships.** Collaboration between operations technology leaders, technology providers, and traditional automation providers is essential for innovation. Ecosystem partnerships can support advancements in technology and processes.
- ▶ **Innovate where needed.** Adopt a modular architecture that allows for scalability and flexibility to facilitate the addition of new technologies without disrupting existing systems.

### 2 Consider a platform approach

Adopting a platform approach with Red Hat® Ansible® Automation Platform provides a robust foundation for fulfilling the technology capabilities needed to meet your business goals. This approach allows OT leaders to take advantage of:

- ▶ **Modular architecture.** Ansible Automation Platform supports the creation of reusable workflows, simplifying management and scaling of automation efforts across diverse environments and use cases.
- ▶ **Centralized management.** Ansible Automation Platform's centralized management control plane streamlines operations and enhances efficiency with asset management, scheduling, execution, and versions of management workflows.
- ▶ **A focus on security and compliance.** Authorized users of Ansible Automation Platform can manage the execution and lifecycle of workflows and introduce new assets with precise access controls. The platform provides logging and audit trails of automation activities, which aids compliance with regulatory requirements and internal policies.
- ▶ **Integration and extensibility.** With Ansible Automation Platform, you can use APIs to integrate with external systems and tools, supporting customization and integration with existing OT ecosystems. By supporting common integration standards, users can more quickly adopt and experiment with new technologies, promoting continuous improvement.

### 3 Use open standards to reduce complexity

Open source software enhances the implementation of open standards in industrial settings by providing cost-effective, interoperable, and customizable solutions. Red Hat offers hardened open source solutions for enterprise use that can help OT leaders manage their shop floor by:

- ▶ **Lowering the barrier to entry.** OT leaders can use open source tools and frameworks for adopting technologies that adhere to open standards without hefty licensing fees.
- ▶ **Facilitating interoperability.** Open source software prioritizes adherence to open standards, providing compatibility across different systems and devices.
- ▶ **Improving transparency.** Community-driven security practices and audits use open standards to mitigate vulnerabilities and enhance transparency into industrial software.
- ▶ **Collaborating with peers and industry groups.** Open source software benefits from community-driven development and partnership with key organizations to accelerate the evolution of open standards and foster best practices.

### 4 Improve your ecosystem

For OT leaders, building partnerships with technology providers aligned to open platform standards is essential. Red Hat partners with startups, system integrators, and industrial automation suppliers to enhance operational efficiencies at the industrial edge, providing:

- ▶ **Flexibility in solution design.** Providers and integrators that offer open platform solutions provide long-term flexibility, streamline the integration of advanced technologies, and can more readily adapt to diverse environments.
- ▶ **Reduced vendor lock-in.** Adopting solutions based on open platform standards mitigates the risk of vendor lock-in. OT leaders can choose from a variety of automation providers and integrators, which creates competitive pricing and spurs innovation.
- ▶ **Cost efficiency.** Investments in solutions aligned with open standards are less prone to obsolescence and can be extended or upgraded as needed, leading to increased return on investment over the long term.
- ▶ **Connection with a rich ecosystem.** Ansible Automation Platform integrates with a wide range of technologies, suppliers, and services through its library of modules and community content.

#### Learn more

Discover how [Red Hat can power innovation](#) at the industrial edge.

#### Get started

[Contact](#) a Red Hat account executive to see a demo of Red Hat’s industrial edge capabilities.



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