How Digital Workflows Can Help You Unlock Operational Excellence in Your Factory

With the rise of the Industrial Internet of Things (IIoT) and Cloud technology, information technology (IT) and operations technology (OT) are converging—a trend that has the potential to revolutionize manufacturing. Already, many field-level devices have the capacity to collect process data on the factory floor, leading to new insights about equipment health and productivity levels. But despite the abundance of new information, you still need a way to efficiently manage, interpret and trigger automation around incoming data—not just from IIoT-enabled devices, but from traditional hardwire-based systems as well.

One emerging technology, which we can think of as the “connective tissue” for factory automation, is digital workflows. These tools provide the necessary visibility into increasingly complex manufacturing operations, allowing you to optimize your OT processes, mitigate risk and improve overall equipment effectiveness (OEE). They also enable a single system of action, allowing you to drive outcomes and improve experiences across your enterprise.

An Overview of the Benefits

In this age of digital transformation, it makes sense to replace pen-and-paper processes with digital workflows. Regardless of use case, applying automation and real-time data visibility to OT environments delivers real-world benefits. By digitizing workflows and integrating them with your systems of record, these tools extend IT capabilities to the world of operations:

• **Optimize plant and equipment maintenance.** By connecting IT and operations, digital workflows provide stakeholders with all the information they need to support factory operations. These tools also notify suppliers and vendors in real time if potential issues are identified, enabling these stakeholders to take proactive steps to prevent downtime.

• **Facilitate maintenance, repair and operations (MRO).** Remember: prevention is cheaper than repairs. By automating various equipment lifecycle management processes, digital workflows minimize repetitive and manual tasks. They also create an efficient, intelligent approach to preventative maintenance by shedding light on the patterns under which a machine fails.

• **Manage vendors, distributors and other stakeholders.** Coordinating requests and issues between vendors and across your organization can be difficult. With digital workflows, you can create a centralized system for vendors to submit issues and questions.

• **Receive a comprehensive view of your supply chain.** These tools also provide a comprehensive view of your supply chain, allowing you to find and resolve problems before they happen. For example, you can create a workflow that automatically reorders parts if they run low in inventory.

• **Improve your customer service capabilities.** With the pendulum swinging toward servitization, customer service has become more important than ever. Digital workflows allow you to streamline and automate field service to support customers, and also quickly respond to environmental and safety-related issues.

Digital workflows break down the walls between formerly siloed departments, enabling you to finally build enterprise-level processes that prioritize plant issues and OT management.
The benefits of digital workflows aren’t a pipe dream; they’re attainable right now. For example, a manufacturer recently anticipated losing 40 percent of its workforce within two years due to retirement. The solution, which would optimize the way the manufacturer manages its IT assets, combined our Now Platform® App Engine and Customer Service Management (CSM) and Field Service Management (FSM) products. This solution also enabled the manufacturer to capture valuable field-based information and then integrate disparate IT management tools into one system.

Thanks to this strategy, the manufacturer now anticipates the following outcomes despite the imminent workforce decline:

- Improved control of asset health
- Greater equipment availability
- Improved yield and throughput
- A reduction in unplanned events

How Digital Workflows Can Help You Boost OEE

One of the major benefits of deploying digital workflows on the shop floor is OEE improvement—a metric of success in the manufacturing world. To that end, ServiceNow and partner company 4Industry have developed an application suite that enables manufacturers to define, digitize and optimize their work processes using workflows on the Now Platform. Consisting of several apps that support 20 different shop floor processes, this platform lets operators and managers access and leverage data from various systems of record.

The four phases of Digital Transformation maturity. Velocity moves from unstructured work, to the automation of routine tasks, to workflows, to machine-managed processes. Intelligence evolves from manual reporting to self-learning machine intelligence. Experience matures from emails and other unstructured tools, to platforms that proactively execute work based on individual actions and needs.

The ServiceNow FSM helps companies efficiently manage location-based work tasks.

Based on lean manufacturing and other best practice methodologies, these workflows support improved asset performance, as well as access to all critical work items that can improve OEE. Using the mobile interface, operators and managers can register any deviations and solve them quickly by using predefined countermeasures or easy-to-use checklists based on existing manuals, procedures or machine learning.
Built on the Now Platform, the 4Industry manufacturing suite consists of many features like the Smart Daily Control Dashboard (top) and 5Why approach to root causes analysis (bottom), which allows local teams and remote engineers to plan countermeasures and request maintenance — all from a single board.

**Getting Started With the Right Partner**

Applying digital workflows to OT assets lets you finally ditch the silos and manual pen-and-paper processes, providing a big-picture look at what’s happening across your enterprise. To get started, it’s important to select and work with a partner that truly understands your business needs and can tailor their solutions to your requirements. The right partner will also work with you to integrate, rather than tear down, your disparate technologies. The ServiceNow IntegrationHub, for example, enables anyone — IT developers and generalists alike — to extend flows in Flow Designer to any third-party service, easily creating end-to-end digital workflows without writing any code.

By providing much-needed visibility into increasingly complex manufacturing operations and connecting complex, dispersed equipment and personnel, digital workflows can help you achieve operational excellence, all while getting your products to market quickly.

To learn more, please visit https://www.servicenow.com/solutions/industry.html.