THE POWER AND UTILITY of workflow automation

WHITEPAPER
The need for multilateral progress

The role of digital technology has evolved rapidly over the last decade. Advances in technology have turned what were once small gains in business efficiency into potentially massive leaps in innovation and disruption. This is especially relevant for the power and utilities industry—a prime example of an industry that both badly needs the opportunities presented by digital technology and has the capacity to receive the most resounding and almost immediate impact.

The power and utility industry faces some of the biggest challenges related to a digital revolution. Yet there is simultaneously enormous potential to take advantage of the opportunities that come with this digital change. In fact, the future of the power and utility industry lies in a fully digital infrastructure and operating system.

To put this into context, it’s important to highlight the size of most power and utility companies. They are often giant multinationals made up of globally distributed firms and subsidiaries. Because of these dispersed branches, issues can arise with company-wide consistency in culture, ethos, and practice. There are many potential areas for information silos, miscommunication, and other barriers to optimal productivity. The right technology choices can massively improve internal working processes and make significant cost savings in such distributed organizations.

It is for this reason that a precise digital strategy has so much potential in the industry. And central to this digital strategy is workflow automation.

In this whitepaper, we will examine the opportunities that digital technology and workflow automation presents for the power and utility industry to improve overall efficiency and lower costs. We will acknowledge the problems and issues faced by companies and explore in detail how workflow technology can be used to streamline processes, leverage data and analytics, the Internet of Things as preventative maintenance, as well as improve communication and collaboration across an often dispersed workforce.
Power and utility multinationals are often made up of globally distributed firms that can lack consistency. They have field workers spread out in many different parts of the world and they use a host of different tools and systems to get their tasks and jobs done. These systems or practices, from spreadsheets to legacy systems to paper-based processes, can vary from firm-to-firm or department-to-department. This can create complications in communication and internal processes, making consistency and efficiency across the business difficult. What’s more, many firms depend on extremely complex supply chains, meaning they must collaborate efficiently with suppliers and buyers.

Along with the challenges faced by individual companies and their processes, there are also industry-wide challenges that must be dealt with:

- Natural resources are finite; the push is for renewable energy
- Geopolitics adds another layer of complexity to the industry
- The competition is savvier than ever
- New regulations mean processes must be adapted (government or regulatory bodies seek smarter measuring systems, greener standards for generation and consumption)
- The evolution of customer preferences is continuous

However, while the challenges are real, the opportunities that workflow automation presents for the industry are also real and achievable:

- Automation of internal and external processes
- Data-driven decision making
- Field workers with mobile access to data and tools and real-time assistance
- Better preventative care and maintenance of sites and equipment
- Intuitive customer-facing apps that drive better customer experiences and produce data

A complicated process
What is workflow automation?

Workflow automation aims to boost the efficiency of organizational processes by automatically carrying out repetitive and often mundane tasks, freeing employees for more complex work, and removing the potential for human error within these internal processes.

Such processes that depend on people can easily break down for all manner of reasons—from an employee not seeing an email request to someone forgetting to check a safety valve, or in a general business culture where people take shortcuts.

Workflow automation minimizes these risks by building these processes into automated systems which significantly increase the chances of tasks being done correctly and on time.

For example, the process of drilling for oil requires a regular recording and updating on all drilling procedures, such as the use of oil/gas well data sheets, recording production flow and monitoring daily progress, etc. This process is in collaboration with geologists, contractors and line workers. Without automation, such a complicated and regular process like this is open to mistakes, lethargy, or even shortcuts.

However, automated workflows make this much less likely to happen. The engineer in charge might be required to complete their various readings on an iPad and upload the results to a central file repository. They would receive email reminders until all tasks were completed. At the same time, management would instantly be able to see if they had not filed reports as expected.
Powerful opportunities

The want and need here is for specific digital advancement that helps unify internal processes across multiple and diverse locations, as well as strengthen relationships with customers, while providing innovative processes for field workers and engineers.

Utility and power companies are often made up of multiple companies that are stationed in different parts of the world and a unified business culture and ethos, as well as practical processes are difficult to devise and maintain.

One way to help connect these many ‘pieces of the jigsaw’ is workflow automation. Workflow automation is the key connector for power and utility companies’ digital strategies (i.e. use of big data, analytics, mobile tools and communications).

There are many ways in which workflow automation can make power and utility companies more efficient and effective, including:

- Integration and extension of disparate data sources, content repositories and line of business applications
- Integration of mobile working
- Workflow analytics
- Smart maintenance (smart grids, Internet of Things (IoT))
- Customer relationships (IoT, product and management)
Powering your business forward through workflow automation

Workflow automation enables greater connection between multiple areas of the business. State-of-the-art automated workflow capabilities connect applications, content and systems of record with the primary decision-makers across projects.

Using automated workflows for business practices will:

• Streamline multiple processes
• Improve project management
• Enhance communication and collaboration
• Leverage the Internet of Things (IoT), big data, and analytics
• Provide opportunities all along the value chain
• Lead to better business decisions

The flow of information in a typical utility company is often hindered by manual, paper-based, and legacy processes. This contrasts hugely with the available technology employees handle in their personal lives.

Automated workflows, when applied to the power and utility industry, can have a major impact. It’s not unusual, for example, for an energy company to have multiple employees such as contractors or vendors based offshore. By enabling these workers (engineers, divers, etc.) access to important information via an automated workflow that can be used on a mobile device on-site is vital to enabling optimal productivity, as well as safety and wellbeing.

Let’s look at a range of practices and processes that workflow automation could assist with in these companies as they encounter daily tasks and unplanned issues.
‘SMARTER’ EXPECTATIONS
Utilizing workflow analytics with workflow automation

THE INTERNET OF THINGS (IOT) OFFERS A POTENTIAL ECONOMIC IMPACT OF $4–11 TRILLION A YEAR IN 2025¹
One of the major disruptors across the power and utility industry in recent years has been the influx of large volumes of data that companies can use to make major improvements to their business practices, monitoring and maintenance of equipment, as well as advances in safety and environmental protection. With such opportunities comes greater expectations. Operations and maintenance teams are tasked with doing more than simply reacting to problems and fixing equipment breakdowns, but are now expected to work towards higher levels of efficiency, minimizing downtime and extending the lifespan of equipment.

Bringing cutting edge technology—such as the IoT—together to meet these new expectations for power and utility companies is powerful and adaptable workflow solutions. For example, Nintex Workflow Cloud™ is an adaptable and intelligent automated workflow solution that leverages mobile technology, process analytics and the Internet of Things to build and optimize processes which take automation to the next level.

Smart Tagging is one way data, the IoT and automated workflows can work together to make great improvements to the operations of power and utility companies. For example, companies can Smart Tag their electricity generator (which previously would have required a significant amount of manual input of data entry, like serial numbers, site name, location, photo, model specification, etc.) and all data related to this equipment is automatically collected and sent back to a support system via an app on a smartphone, and based on this information, workflows can be triggered to solve problems or highlight important trends.

Workflows can be built around this network of information to vastly improve:

- Installation process of a generator and related equipment, such as the electricity grids powered by them
- Maintenance and lifespan of equipment
- Ability to predict when the generator might need to be repaired before it breaks down
- Administrative process of documenting of the various systems
- Data-based quality improvement strategy for tools
- Time it takes to monitor, diagnose a problem, and repair
- Cost savings

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AN ELECTRICITY GENERATOR COULD BE SET TO RUN ON CERTAIN PARAMETERS AS WELL AS IF THOSE PARAMETERS ARE NOT MET: A WORKFLOW IS AUTOMATICALLY TRIGGERED

This prompts a work order to be sent to a technician.

The data on their app will help them diagnose the problem, what tools or replacement parts they need for the repair and allow them to either fix the problem there and then, or order the required parts.

Based on their choices, other branches of the workflow will be activated.

Notifications are sent to the specific stakeholders requesting their help, or notifying them that the issue has been resolved.

They can update their schedule, visit the site and Smart Tagging to find the malfunctioning generator immediately even in a large building with thousands of pieces of equipment via a map on their smartphone.

9th floor malfunctioning generator ALERT
Working accurately amid disaster

Part of the territory for power and utility companies is being responsible for potentially hazardous materials.
AN IMPORTANT CONSIDERATION, IS THE ABILITY TO RESPOND QUICKLY AND ADEQUATELY IF THE WORST HAPPENS: WORKFLOW AUTOMATION CAN PLAY A VITAL ROLE IN DISASTER MANAGEMENT

THERE IS AN OUTAGE AT A POWER PLANT
Immediately there are several company departments that need to be engaged with. The right workflow can engage these different branches and enhance communication and collaboration to produce the required level of damage control. For instance, health and safety teams are notified of the situation and this triggers the workflow that then directs itself to other parts of the organization.

THE COMPANY NEEDS TO ISSUE A PRESS RELEASE
When a significant incident happens, a Significant Incident document is automatically created. This document is sent to the public relations/communications department and assigned to a member of the team. They decide on the type of the document—in this case a press release which is stored as a pre-written template in advance, that can be quickly customized.

SECURITY
The PR/communications team summarizes the company message, but they don’t know all the technical details. So, the document is sent to the Security department to fill in the specifics: the time of the incident, the number of impacted customers, the damage, etc., as well as ways in which the incident can be avoided in the future, plus a quote from a corporate spokesperson.

REVIEW
The document is then sent back to PR/Communications for a review and sent to upper management to be signed off and released.

In this example, time is of the essence. The right tone for the message to the public is essential, as is presenting accurate details of the incident. Bringing together multiple areas of the business in a short space of time for collaboration and the back and forth of the review-approval-rework cycles would be difficult and time consuming if not for a powerful workflow.
CASE STUDY

Workflow automation increases efficiency and improves safety compliance

PREMIER OIL USE NINTEX WORKFLOWS TO SIMPLIFY THEIR INFORMATION SYSTEM, MAKING DOCUMENT ACCESS AND PROCESSING MUCH EASIER
THE SETUP
As a global FTSE 250 independent exploration and production company with oil and gas interests in 12 countries around the world, Premier Oil needed a better way to develop and deliver essential documents.

THE PROBLEM
In the past, Premier Oil’s document management was a complicated and time-consuming process. Their document controller received a constant in-flow of requests and managed them manually, including: permissions, desired documents, approval requests, approvals, etc. Approvals had to travel up a chain of command which added delays to what should have been a relatively simple process.

FROM A COUPLE OF DAYS TO A COUPLE HOURS
To evolve their document and information system, Premier Oil used Nintex workflows to build an automated system that could handle multiple kinds of requests in a flexible and efficient manner. As a large, diverse and dynamic company, they needed a system that could make changes fast, and respond to different situations easily. The new system now generates automated document numbering and improves filing and retrieval of documents. Document control and an easy-to-access master control list makes more sense to end users, while document numbering increases efficiency and frees up the document controller for more valuable work. Now approval processes rarely take more than a couple of hours, when previously they were often taking two business days.

BETTER CONTROL WITH NINTEX WORKFLOWS
“For me a real selling point about the Nintex solution is its ability to set and change permissions for every document flowing through the system.”

– Pham Nguyen Cuong, Information Management Coordinator, Premier Oil

For example: a welding lead on Premier Oil’s offshore facility can view the engineering plans for his work but is unable to access a corporate financial statement, even if he receives it in error. This prevents information leaks and breaches of information security, whether by mistake or otherwise.
BENEFITS OF DIGITIZING

- Improved time savings from days to hours
- Increased efficiency by eliminating confusion
- Better tracking leading to increased safety and security

Nintex Workflows generate documents very quickly. A click of a button instantly produces an autogenerated ID number, links in multiple areas, integrates metadata for easy search, taxonomy tracking and stats. Premier Oil currently employs active workflows that help automate correspondence, document management and notifications, and has its sights set on streamlining even more processes like archiving and travel request automation.

“We have a lot of business processes where we can apply Nintex Workflow. I think it is very workable for a more controlled, efficient, safe and secure future.”

– Pham Nguyen Cuong, Information Management Coordinator, Premier Oil
As put forward in this whitepaper, the power and utility industry is vulnerable to several industry-specific challenges, like shifting geopolitics, changing customer expectations and intense competition. These companies are often multinationals that must incorporate highly complex supply chains into their everyday practices. They depend on many aspects of the business working together seamlessly, and because of this there are many potential points where processes can falter. A lot of the time they need a consistent identity and ethos as well as better business processes that will increase efficacy, reliability and safety, all the while reducing costs.

**Workflow automation is a rapid, cost effective and highly impactful way of doing this.** By cutting the risk of human error and streamlining processes to ensure they are completed on time and to budget, workflow automation can play a significant role in helping businesses focus on work that is high value, rather than getting impeded by an excessive volume of routine tasks.

For the power and utility industry, workflow automation promises improved efficiency and the ability to create a more flexible organization. Facing down challenges that any business might face, as well as the challenges brought on by a highly competitive industry.

Ready to learn more about how Nintex Workflows would fit across your organization’s structure?

Contact us today.

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