Case Study

Utility Deploys Ignition for SCADA and Much More

10 Active Projects, with More on the Way

People enjoy their water in Lynchburg, Virginia. The city of nearly 80,000 is next to the James River, which residents use for boating, swimming, and fishing. Meanwhile, the City of Lynchburg Department of Water Resources is hard at work providing water, waste water, and storm water service to the community. The department uses innovative technologies to improve its efficiency — including Ignition by Inductive Automation®. Ignition is an industrial application platform with tools for building solutions in human-machine interface (HMI) and supervisory control and data acquisition (SCADA).

Previously, the department had two SCADA systems, which were becoming increasingly difficult to maintain. There were problems with upgrading and connecting to new PLCs. There wasn't enough data or automation for the department to operate as efficiently as it wanted to. Ignition solved those problems and created several new opportunities.

The Department of Water Resources is a creative organization that uses Ignition in a variety of ways, seeing numerous benefits. "Ignition is our engine of innovation. There's nothing I haven't been able to do with it," said Jason R. Hamlin, plant instrumentation technician for the department. "One of the powers I see in Ignition — that I haven't seen in other platforms — is a versatility of unlimited projects. It gives us the ability to do much more than just SCADA."

Comprehensive View

With Ignition, data flows throughout the enterprise, from the plant floor to the executive level — even via mobile devices. Operators have a holistic view of the plant, so they can better understand what's happening throughout the facility. Operators get advance warnings on overflow events, and the department sees time savings and other efficiencies on a daily basis.

Timothy A. Mitchell, director of the department, gets data from Ignition on his cellphone. He uses the information in making decisions. "It's an effective tool in our planning, as well as in our day-to-day operations," he said. "We can use the data to make decisions about allocating resources — whether personnel or money or whatever the case may be. Having the data helps us save money, improve our response times, and improve overall operations."

Ignition's mobile capabilities are a big plus. "Before, we'd need a human resource to give me information that now I can get instantly on my phone," said Mitchell. "This technology really frees up resources, provides information quickly, and is the answer to being a more efficient operation going forward."

The department built numerous screens in Ignition to track a variety of processes.

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– Elizabeth Jensen
Plant Shift Supervisor
Dept. of Water Resources, Lynchburg, Virginia

Variety of Projects

The department has 10 active projects in Ignition, with more in development. Active projects include:

- SCADA for the main plant
- SCADA for the dewatering process
- Status board
- Maintenance view
- Alarm notification beyond the control room
- Admin monitoring of combined sewer overflow (CSO) events
- Data entry to database
- Mobile applications and reporting of real-time data and key performance indicators (KPI) for admin-level staff

Hamlin is enthusiastic about new projects with Ignition. "We've moved forward with our KPI dashboard project, and have three new health/status dashboards for 2017. They will each contain data specific to their area — operations, lab, and administrative — and will be solely driven by SQL calculations displayed on Ignition. We're also moving forward on our public CSO notification project. And we're working on interfacing Ignition with the third-party notification software the City uses for emergency alerts."

City employees are often surprised at what Ignition can do. One example is data entry performed by admin staff, who had been doing the work in Microsoft Access. "Now they're doing it through our Ignition front end," said Hamlin. "That's very powerful to me. When we set this up, our administration people said, 'We can use Ignition for this? That's our SCADA program.' Well, no. It's much more than our SCADA program."

The department works with a third-party company that provides remote monitoring devices, which talk to SQL. "We wanted to put this on our SCADA system, and the guys there said we could have access to their SQL Server," Hamlin said. "They saw it working and said, 'This is amazing. How did you do this through your SCADA system?' It's so easy because Ignition speaks SQL. It's something we could never have done in any of the other platforms."

High Performance

Hamlin really likes high-performance graphics (HPG), which are enabled by Ignition. When he introduced the concept of HPG, some operators were a bit skeptical — but that didn't last long. "Once we showed them a side-by-side of what high-performance looked like, they embraced it," said Hamlin.

Operators also appreciate the time savings with Ignition. "We have more of our pumps attached to Ignition than we did with the previous system," said Elizabeth Jensen, plant shift supervisor for the department. "So we can adjust the levels of our various pumps with the touch of a button. It's so much easier than when we had to run all over the plant to do small adjustments."

From operations to the executive level, Ignition plays an important role for the department. "From a strategic planning standpoint, technology is foundational; it's a critical component," said Mitchell. "Moving forward, it's essential that we really look at technology to be more effective in our service delivery. Because our primary purpose is to serve the public."