Case Study

Automotive Supplier Moves Faster with New SCADA/MES

Greater Flexibility and Faster Development

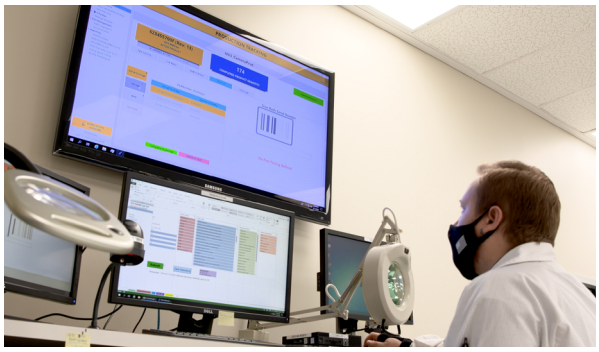
Veoneer, a leading global supplier for the automotive industry, needed a new system for supervisory control and data acquisition (SCADA) and a new manufacturing execution system (MES) for its production facility in Goleta, California. And it needed them in three months as Veoneer was splitting off from its parent company. Veoneer, based in Stockholm, designs and manufactures software and hardware systems for automobiles. In Goleta, Veoneer makes advanced night-vision systems for the world's leading automotive producers.

Flexware Innovation, based in Fishers, Indiana, did the integration work. Flexware has implemented more than 5,000 projects in numerous industries. For Veoneer, Flexware implemented Ignition by Inductive Automation®. Ignition is an industrial application platform with tools for building solutions in SCADA, MES, human-machine interface (HMI), and the Industrial Internet of Things (IIoT).

The new system provides faster development, greater flexibility, less downtime, and the ability for Veoneer to do many more things than the previous system allowed. And it gives Veoneer the ability to make changes on its own. "This new system is much faster than the old one," said Anthony Barnes, process and controls engineer for Veoneer. "And it's given us measurable improvement on production, as far as downtime related to communication issues and traceability systems going down. There's been cost savings in that too, because we're able to more accurately track hour-by-hour production numbers and downtime numbers to make on-the-fly adjustments to production schedules and delivery times."

Early Success

"Previously, we developed a custom MES solution for a different Veoneer facility with the Ignition platform," said Brian McClain, manager of the Ignition team at Flexware Innovation. "Word traveled around the organization of how powerful the software is, so it was an easy decision to use Ignition in Goleta."



Veoneer's process runs much more smoothly with data from Ignition.

In just three months, Flexware developed the new system, replacing one that had been built over many years. At the core of the framework, Flexware focused on building a completely configurable solution that Veoneer can administer entirely from the client without backend modifications. "It really is about the flexibility, and putting the power in Veoneer's hands, so they can expand on the solution to fit their needs," said McClain.

The new system gives Veoneer many new capabilities. "When we first started with our current product, trying to implement it with our previous traceability system was pretty difficult, and it took the majority of our time," said Barnes. "Now we have the freedom to use things in our process that we couldn't use before, because Ignition integrates with it so well."

"There's a lot of flexibility with Ignition. There are always new queries to write, and new tools to make with it."

– Jason Eckenrode
Industrial Engineer, Veoneer

Getting It Done

Everyone at the Goleta facility either uses Ignition or relies on the data that comes from it. Management teams use it, along with manufacturing, quality, and engineering teams. The software is used for data analysis, failure analysis, quality analysis, validation, and examining many types of process data. "Ignition is absolutely critical for my job," said Jason Eckenrode, industrial engineer at Veoneer. "That's because I'm validating products and making sure whatever is leaving this building is exactly what it needs to be and is up to code."

Flexware developed a complete MES framework from scratch using out-of-the-box Ignition tools. This repeatable framework handles product traceability, inventory management, production run management, and more. Flexware began by leveraging its internal MES framework, which was built up through various MES solutions developed in the past. This framework includes a database schema, configuration application, and many workstation applications for MES.

Veoneer's previous solution was tightly coupled with the automation layer and was essential for the line to operate. To add SCADA functionality, Flexware added another layer to its existing traceability architecture which included products, product routes, product operations, order routes, order operations, and order operation attributes. This layer is action scripting. Action scripts are routes in the background that allow Flexware to define low-level PLC interface data transfers and validations inside its configuration application.

Cleaner Design

The old system was used globally across the organization. If a new type of action was needed for a particular line process, it would have to be custom developed and then pushed to all instances globally. There was always a long list of requests for new actions, and it could take many months for a request to be completed. With Flexware's new action scripts, Veoneer can create and customize actions itself, from the configuration application.

Ignition's flexibility really helped Flexware during the development phase. "Having that flexibility of this platform allows us to uncover the hidden landmines of complexity," said McClain. "It allows us to keep moving forward and solve our way through those, and not have to rely on pulling in external systems to handle some of these nuances that come up. So we can keep the solution and architecture really clean and concise."

Flexware uses Ignition in a variety of industries. "We really like the pure power and capability of the Ignition platform," said McClain. "We use it in many different ways. We can use new and innovative ideas that we can integrate into our projects. It really keeps things fresh for the development team, and for the customers."

"We have plans for using Ignition to further improve processes on our line," said Veoneer's Eckenrode. "We're really excited about that. There's a lot of flexibility with Ignition. There are always new queries to write, and new tools to make with it." The company is also looking forward to furthering its work with Flexware Innovation. "Flexware was an absolute dream to work with," said Eckenrode. "They're an asset to our team."

Flexware Innovation helps customers solve problems with best-in-class software development, automation engineering, manufacturing systems integration, business intelligence solutions, Internet of Things devices, and specialized product development. For more information, visit flexwareinnovation.com.

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