Case Study

Improved Efficiency and Reporting for Large Manufacturer

Atlas Copco Sees Several Benefits with New System

Atlas Copco is a global company based in Stockholm, Sweden, with 40,000 employees worldwide. It provides compressors, air treatment systems, vacuum solutions, industrial power tools, and more for customers in over 180 countries. Its solutions help customers improve productivity while reducing costs and carbon dioxide emissions.

When Atlas Copco needed more efficiency and better reporting from its plant in Wuxi, Jiangsu, China, it turned to system integrator Coderise IOT Technology for help. Coderise, based in nearby Suzhou, provides industrial software development services and data-collection products for customers in a variety of industries. The company has more than 100 partners and customers.

The project implemented quick response manufacturing (QRM) on the cooler line at the Atlas Copco plant in Wuxi, which opened in 2013. The plant manufactures small and medium-sized industrial air compressors, and portable diesel and electric-driven compressors and generators. The factory is helping to meet the growing need for industrial equipment throughout Asia. To create the required solution, Atlas Copco and Coderise chose Ignition by Inductive Automation®. Ignition is an industrial application platform with numerous tools for building solutions in human-machine interface (HMI), supervisory control and data acquisition (SCADA), manufacturing execution systems (MES), and the Industrial Internet of Things (IIoT).

Solving Many Problems

The new QRM system created with Ignition brought strong results for the factory's manufacturing of pressure vessel coolers. To produce the coolers at the Wuxi plant, all

A new SCADA platform has eliminated paper and saved money for Atlas Copco.

production process information needs to be tracked and archived, certification standards must be met, and certificates need to be generated.

Previously, all information from the production line was manually recorded by operators using paper — a system that was inefficient and prone to errors. Information could not be effectively tracked, and raw materials, meters, and measuring tools were selected and used by employees based on their own experiences rather than on standards. This also made it harder to train new employees in an efficient manner.

"Many things were going well, but there was room for improvement," said Jack Ji, general manager and sales director for Coderise. "The new system allowed operations to move to a new level of efficiency. Good things happen when an organization is working to find a better way."

With the new Ignition system in place, efficiency of the production line is much higher, reporting is faster and easier, and much less paper is used. Also, the incorrect use of materials, welding

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> — Ding Min
>   Production Team Leader at Wuxi Plant, Atlas Copco

parameters, and instrument ranges has been effectively eliminated.

"Our production efficiency has improved a lot, due to product certification being generated automatically," said Jiajin Jiang, process technology manager of the Atlas Copco Wuxi plant. "And I can track production status, in real time, in my office or home."

The new reporting system ensures that standard report and process requirements are being met. It's also saving Atlas a lot of time and money. "We hired a quality admin to handle all the reports, and there were also costs for a lot of paper every year, but now all the reports are generated from the QRM system," said Jiang. "We can easily save and forward the PDF files, so a lot of time and paper are saved."

Unlimited Licensing Saves Money

Coderise saved money for Atlas by leveraging Ignition's unlimited licensing, which means users can add clients, screens, tags, devices, or connections for no additional cost. "Atlas Copco had already purchased an Ignition license through us for their CNC SCADA project two years ago," said Ji. "It was running on a local server, but with the unlimited licensing saving costs, and with the assistance of the Atlas Copco IT department, we migrated Ignition to the company cloud server to achieve Ignition resource sharing."

Atlas Copco also saved money with a more efficient process. "We are definitely getting a good return on investment on this," said Jiang. "We can better track product status and better arrange production plans. The cost saving is

certainly worth the investment in the software and the service of the Coderise team."

Atlas Copco is now gathering production information via barcode scanner, which has greatly improved the speed and efficiency of information recording. The information collected includes station, material, personnel, welding machine number, and more. "The wireless barcode scanner can be shared among multiple workstations," said Ji. "This saves on hardware expenses. The Microsoft Surface Pro is used as a mobile client, so the operator doesn't need to collect and input information at a fixed location, which greatly facilitates user operations and improves production efficiency."

Looking Ahead

Training new employees is easier with the new system. "All the dashboards, buttons, and charts are designed with multi-language capabilities, so our users can easily know the functions," said Ding Min, production team leader of the Atlas Copco Wuxi plant. "And the interface is very friendly, so operators can master the operation process quickly."

The project brought several other improvements. It created a product information database, and the system performs error-proof checksums and error reminders. Signature information is digitized for more efficiency. There is more transparency of inventory information. There's a database of annual inspection information, with automatic reminders for inspections. There are several other improvements as well.

Atlas Copco plans to expand upon its successes. "We do have plans to do more with Ignition in the future," said Min. "We will continue to develop more and more applications on the Ignition platform. Not only for the QRM project but also IoT and traceability applications."

Coderise IOT Technology develops and integrates customized software products for numerous industries. In addition to creating new solutions, Coderise can migrate existing applications to the latest platforms.