rti
CUSTOMER STORY

Joy Global

Modular Software Infrastructure to Monitor, Control and Collect Real-Time Equipment Analytics

A Long History of Responsible Mining

Joy Global has over 90 years of experience as a global leader in the development, manufacturing, distribution and service of underground mining machinery for the extraction of coal and other bedded materials.

Joy Global has the world's largest and most extensive direct aftermarket service and support infrastructure in place of any underground mining equipment supplier. Its Life Cycle Management program helps customers better manage their equipment to maximize production. Joy Global's Smart Services program maximizes customer assets by providing better machine availability and utilization, minimal downtime and reduced costs.

Joy Global's vision is to be a world-class service company delivering the most reliable and productive products, systems and solutions that solve mining's toughest challenges.

The Problem

Joy Global was looking for a software architecture and modular infrastructure that would provide the company with the ability to easily add applications and software to their machines.

Prior to working with RTI, Joy Global wrote their own middleware. The company also had legacy hardware about to reach its end-of-life. As a result, Joy Global decided to revamp their infrastructure so they could focus on applications instead of infrastructure. They evaluated several vendors and considered building their own solution in-house.

The Solution

In 2011, Joy Global's team chose the RTI Connext™ DDS modular infrastructure for its upgradeability, future maintainability and real-time data analytics. Joy Global needed a solution that could run across a huge platform and solve a wide variety of challenges. Ultimately, Joy Global selected RTI because of the strong RTI solution set and services. Joy Global felt confident that RTI would act as a true partner and stand with them to achieve success.

The RTI Connext DDS product family was easy to integrate and supported multiple operating systems. The RTI solution set operates on both the embedded controller and on the Windows side of the machine, monitoring and collecting the information shared between the two. This functionality allows information to

"Connext DDS offered a complete, solid solution set that supported all of the technology we are using. We needed a solution that ran across the entire platform and RTI was the only vendor we looked at that provided that."
Arun Kesavan, Joy Underground Mining Global Director – Controls and Automation

flow between those two interfaces, recording information on the Windows side for equipment analysis.

Joy Global takes that information and seamlessly forwards it to the top of the mine for additional data analysis and to deliver Smart Services capabilities with predictive analytics.

Lasting Benefits

Having Joy branded mining machines continuously operating is the key to Joy Global's success; second only to promotiong a safety-first work environment. Joy Global uses Connext DDS for both uptime and safety enhancements by continuously recording data and using that data to help prevent future safety issues.

"From day one, our services team was fully committed to making the implementation successful and we are thrilled with the result."
Stan Schneider,
CEO, RTI

![rti logo] Your systems. Working as one.

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