

Kepware Puts Linamar in the Fast Lane to Improved Productivity, Quality, and Maintenance

The Customer

Headquartered in Guelph, Ontario, Linamar is a publicly traded manufacturer of auto components, assemblies, and castings. It is the second largest automobile parts manufacturer in Canada. Linamar supplies its products to automotive and other industrial markets around the world from its manufacturing centers in Canada, U.S.A., Mexico, France, Germany, Hungary and China.

The Challenge

Linamar is no stranger to the tight deadlines and high-volume production levels required by the automotive industry. But one customer was pushing the limits even higher. Linamar needed more insight into their production systems to quickly and easily find problem areas through a standardized data collection and presentation strategy.

Operational Impact & Benefits

- Established standards for data-driven decision making
- Consolidated data from 60 machines and 6 disparate control systems
- Dramatically reduced launch times for greater customer satisfaction

A typical Linamar manufacturing line has 50 to 60 production machines that are controlled by 15 disparate systems. As such, it was difficult and time consuming to extract data from each machine and consolidate it for tracking trends, machine performance, and other parameters. Management launched a project to create a corporate-wide standard for data collection and consolidation that would help the company gain greater insight into operating processes and support the creation and tracking of process improvements.

“We needed a data consolidation solution that would paint the entire picture of our manufacturing processes rather than just provide islands of information,” says Matthew Aho, Controls Engineer, Linamar. “We needed greater visibility into each machine and each process in order to reach our project goals and customer timelines.”

Linamar’s Advanced Systems Team evaluated vendors from Rockwell’s established list of partners, as well as other competitive solutions. Kepware Technologies® was the only vendor who had the technical functionality and price point that satisfied all of the requirements of the Linamar project.

“We knew a little bit about Kepware’s fundamental capabilities, but we weren’t aware of the sheer power of their solution,” Aho says. “We liked everything we read about KepServer’s Advanced Tags and with the Manufacturing Suite of drivers. We couldn’t find another solution like it that fit with our existing hardware and infrastructure better than Kepware.”



Organization:

Linamar Corporation, Canada's second largest automobile parts manufacturer

Industry:

Manufacturing

Sales/Service Area:

Global

Operational Impact:

Reduced launch time and increased production capacity through data-driven decisions

Improved operational visibility and can show data about our systems and processes both locally and remotely.

Solution:

KEPServerEX Communication Platform, Advanced Tag Option for KEPServerEX, and other Kepware solutions consolidate data from disparate machinery and systems to create a corporate data delivery and collection standard.

The Approach

With a pilot launched a year and a half ago, Linamar deployed Kepware's established KEPServerEX® V5 Communication Platform. KEPServerEX's Manufacturing Suite includes over 100 communication drivers that Linamar was able to utilize, including the User Configurable Driver, Allen-Bradley ControlLogix, GE Focas, Siemens Ethernet and Modbus to name a few. They also used KEPServerEX's Advanced Tag option to link data to and from the various control devices. Kepware's KEPServerEX and plug-in options were able to capture data from 99.7% of Linamar's machinery controls. Aho notes that the implementation was very easy to configure and setup.

"With Kepware, we have drastically reduced our engineering and implementation time.

— Matthew Aho, Controls Engineer, Linamar

"Advanced Tags, for example, is a breeze to learn if you're familiar with tag-based control systems and even for new users the learning curve is next to nothing," Aho says. "I had no problems deploying it very rapidly. Even with implementing the more sophisticated Kepware components, such as connecting the UCON driver to random OPC drivers, there were zero problems."

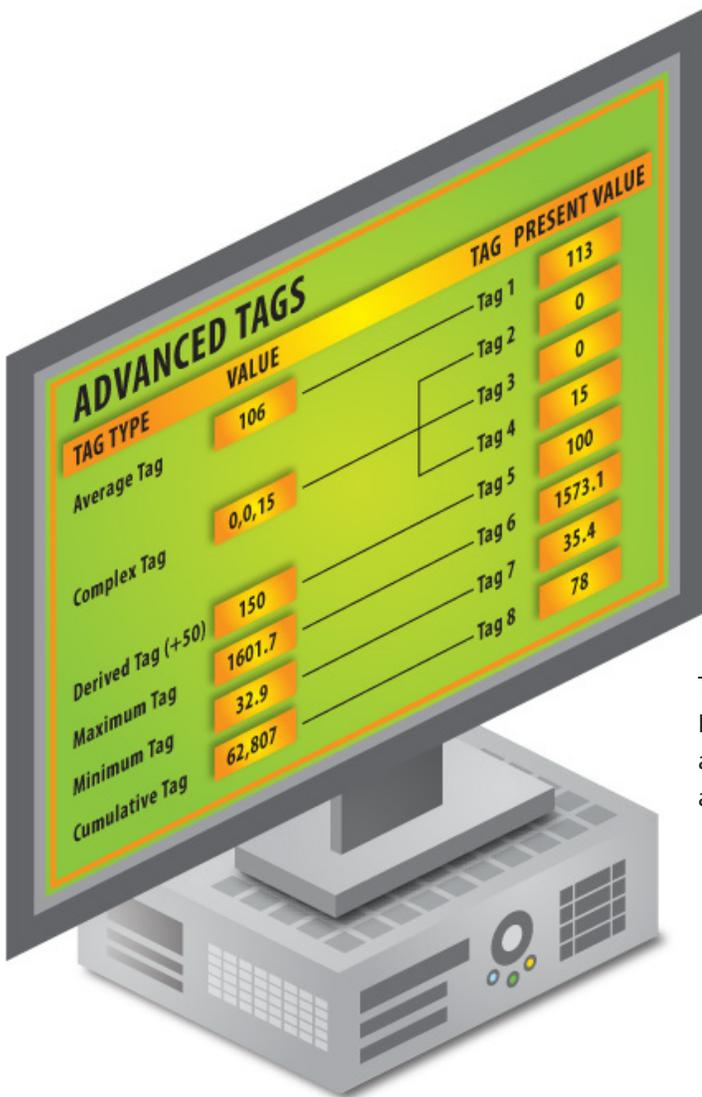
"I'm really sold on Advanced Tags," Aho adds. "I love the fact that I can effectively pick a tag in one controller in my control process and make it equal in another tag in my data concentrator – which may be an entirely different control platform. This capability is huge to us because it has drastically reduced our engineering and implementation lead time."

The Kepware solution streamlines data consolidation among three distinct modules – productivity, quality, and maintenance – each of which offer different sets of information. Linamar also uses Kepware to facilitate its process of constraint analysis, which automates the identification of bottlenecks in the manufacturing processes. As such, Linamar can connect to all of the machines in a facility in a common format and can manipulate the data consistently, resulting in greater data accuracy.

In the maintenance area, Linamar has launched a pilot project with the Kepware solution that will enable Linamar to collect and analyze all alarms from disparate control systems. Based on the alarm data, Linamar can see breakdown trends and other machinery analytics that will help the company establish preventative maintenance initiatives and standard hardware lists for spare parts.

“With Kepware, we are able to bring together productivity, quality and maintenance information on an hourly basis,” Aho says. “That’s how granular we can get with our reporting and analytics now. Any authorized person, from anywhere in the world can pull that information every hour, if required, from any machine, cell or line. Without the capabilities of Kepware, we could not paint this complete picture of our manufacturing processes.

“Also, thanks to our new internal standard software and the Kepware solution, we’re able to provide all levels of management with different sets of information, both in real time and historically as far as trending and analytics go, from all of the assets that we have,” Aho says. “So rather than just islands, we can provide real-time information our managers need.”



The Advanced Tag Option for KEPServerEX improves decisions and efficiencies in industrial automation control applications

“Without the capabilities of Kepware, we would be painting a very incomplete picture of our production environment.”

— *Matthew Aho, Controls Engineer, Linamar*

The Benefits

“The Kepware solution helped us provide the productivity information about our assets and our process, so we could start making data driven decisions,” Aho says. “We could then easily provide consolidated data via mobile and desktop platforms to the people working on this customer project.

Another huge benefit is a dramatic increase in launch time. “Improving launch is a major initiative for us, and with the help of Kepware we can deploy this system as the launch is happening,” Aho says. “We can then catch critical areas that require attention sooner and provide very specific information to our customers about our progress.



“Without Kepware, this project wouldn’t have been as successful as it is today.”

— *Matthew Aho, Controls Engineer, Linamar*

Overall, the Kepware solution has helped Linamar achieve the data collection standardization that was the goal of the project. To date, 25% of the pilot facility’s machines (80) are linked with Kepware, especially on new machines equipped with built-in Ethernet connectivity. By the end of the year, Linamar plans to have the Kepware solution live in more than half a dozen global facilities.

“I don’t know of a software company other than Kepware that is capable of doing what we needed to do on this project,” Aho says. “Kepware hit every requirement out of the park for us.”

ABOUT KEPWARE TECHNOLOGIES

Kepware Technologies, established in 1995, develops a wide range of communication and interoperability software solutions for the Automation industry. Our flexible and scalable solutions are for connecting, managing, monitoring, and controlling diverse automation devices and software applications. Our industry endorsed software solutions improve operations and decision-making throughout all levels of an organization. Kepware Technologies’ mission is to be “Your Standard for Connectivity”.

