

GARANT ROLLS OUT INDUSTRY 4.0 ON THE PRODUCTION LINE

In 1895, Garant started manufacturing wagon wheels with a focus on craftsmanship. Today, they produce axes, shovels, snow removal equipment, gardening tools, and more. Given this breadth of tools, the production line must be flexible enough to accommodate multiple work orders that vary in complexity and quantity, while maintaining quality craftsmanship and efficiency.

“Garant is not machine driven, it’s human driven,” said Pierre Nareau, IT Manager for Garant, in a presentation at OSIsoft’s 2018 PI World Conference. However, in 2013, with employees regularly changing departments and disconnected systems slowing down production, Garant needed to optimize the production process. They embarked on an Industry 4.0 initiative to establish a centralized data system to monitor the production process and optimize the performance of both machines and operators.

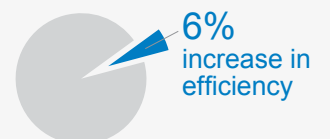
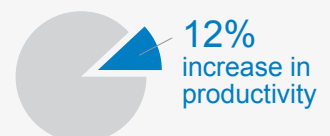
INDUSTRY 4.0 INITIATIVE

“Everything is built around the OSIsoft platform,” said Nareau. The PI System serves as the connected hub of the entire Industry 4.0 solution, which includes PI-based workstation displays, an OSHA Registry, Intranet, Preventative Maintenance, Oracle E-Business Suite Inventory ERP, and the Daily Management System (DMS).

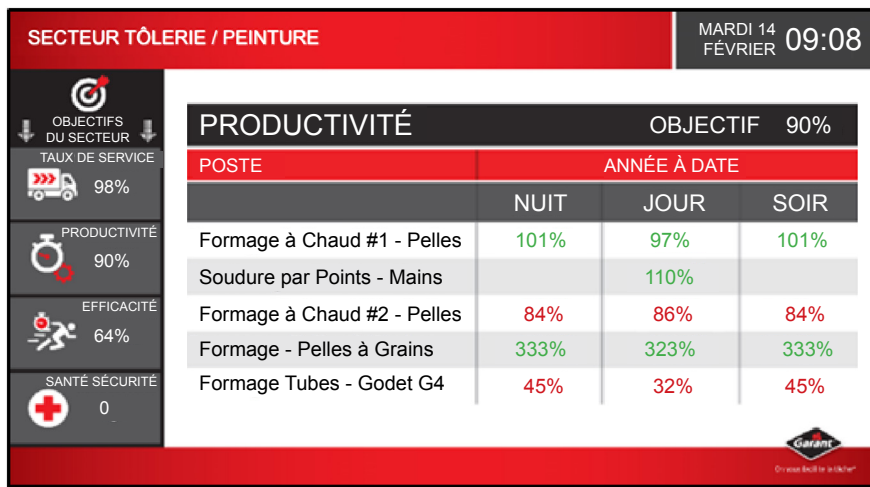
The PI Workstations are spread across the manufacturing facility to capture and display information on inventory, reject management, the production line, and use of employee time.

The PI Workstations serve as a hub of operational data, giving operators and supervisors increased visibility into equipment functionality. However, the Garant team took it one step further and, with the help of OSIsoft partner and system integrator Hulix, created ways for operators to interact with the PI System. For example, the assembly machine targets 50 shovels per hour. Not only does the PI System provide performance data on where production is relative to the time and work order, if the machine stops, the system asks the operator to select a reason from a list of pre-built answers. That data is time matched to the machinery data, giving Garant insights into downtime causes.

HIGHLIGHTS:



Return on
Investment in
<2 years



PI System data feeds 50 inch displays in the plant so that everyone can see in real time how well their station is performing against objectives such as productivity and efficiency.

Starting with its assembly line, Garant installed PI Workstations throughout its production line. From wood, to striking to painting and sheet metal, plastics, packaging and public works, the team connected equipment, digitized assets, and allowed employees to account for inventory and numerous other variables while implementing processes that track operator decisions. With the help of PI Analytics, supervisors can quickly identify which machines are functioning at optimal levels and which are not, and quickly drill down into the reasons why.

Garant now has a complete system that accounts for employee scheduling, inventory, operator and machine performance, and any other data that is imperative to running an efficient and cost-effective production line.

FROM SILOES TO CONNECTED SYSTEMS

However, the data doesn't stop there. The PI System is connected to Garant's other internal systems, giving everyone across the organization real-time visibility. Employees can use PI Workstations to enter work-related incidents, and that information is automatically updated in its OSHA (Occupational Safety and Health Administration) database. Equipment sensor data is automatically fed into its preventative maintenance system so the team can implement maintenance strategies based

on equipment data rather than fixed schedules. The PI System also pulls production order information in from the Oracle ERP system and sends back production, downtime, finished product inventory and any reject information.

PI System data is now displayed through Garant's Data Management System on over 25 large monitors located throughout the building. Team members can easily see objectives, productivity and efficiency in real-time so every employee is always on the same page and is working towards the same goals.

By integrating its human operators into its digital solution, Garant optimized the entire production process — and not just its machines. Because this information is easily shared across the organization, Garant has the real-time visibility into performance which is driving healthy competition between shift operators.

The Industry 4.0 initiative has increased productivity by 12 percent and efficiency by 6 percent, received return on its technology investments in less than two years, and has up-to-date component inventories.

To watch Garant's full presentation during the 2018 PI World conference, [click here](#).

PARTNER: HULIX

PI System™ Components Used:

PI Server™

- Data Archive
- Asset Framework
- Event Frames



Everything is built around the OSIsoft platform."

— Pierre Nareau,
IT Manager,
Garant

Nareau, Pierre. "The PI System, an Industry 4.0 Integration Tool for Garant"
<<https://www.osisoft.com/Presentations/The-PI-System--an-Industry-4-0-Integration-Tool-for-Garant/>>