

Improving Machine Utilization with **MERLIN** and Automated OEE

HÉROUX-DEVTEK

Héroux-Devtek Inc. is an acknowledged tier 1 leading manufacturer of landing gear for aircraft producers worldwide. The company undertakes the mammoth task of designing and manufacturing aircraft landing gear, aeronautical and other industrial components from ten different locations across North America and Europe.

At the epicenter of this production process is Héroux-Devtek Inc.'s headquarters located in Longueuil, Quebec. The headquarters is a paragon of centralized internet driven networks that control the flow of information via Enterprise Resource Planning (ERP) and accounting system.

BUSINESS SITUATION

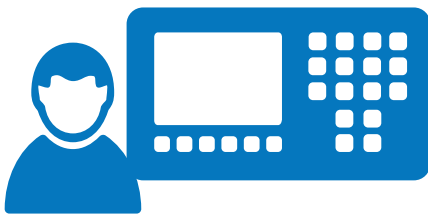
Héroux-Devtek is constantly optimizing its precision manufacturing and design engineering capabilities in order to produce highly reliable products and related services for its customers in the global aerospace industry.

The company encompasses an ever-growing role in aerospace and industrial product marketplaces. To meet the high demand for its products, its manufacturing plants need to be able to run smoothly to deliver both quality and quantity.

TECHNICAL SITUATION

For Héroux-Devtek, the cost of raw materials and capital equipment were essentially the same for all machined part manufacturers. Therefore, the management team knew its biggest differentiator was going to be based on productivity increases. All the machines, some almost 30 feet long, in the plant are very highly automated. But as with many manufacturing operations, they had issues connecting and communicating with each other. Héroux-Devtek was looking for a way to create this essential connectivity between machines on its plant floor.

Héroux-Devtek desired to have a more updated and automated method of measuring machine utilization. The company wanted to implement, across North America, the same kind of unified computerized connectivity on the factory floor as it has in its front office.



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to the people on the shop floor
that our performance can improve.
Customers can see and believe in
what we're doing to improve on time delivery."*

- Sébastien Caron, Plant Manager, Héroux-Devtek

SOLUTION

The goal of Héroux-Devtek was to increase plant productivity and track performance and any related problems in Real-Time. The MERLIN communications platform from MEMEX tracks Overall Equipment Effectiveness (OEE) as measured by availability, quality, and performance, with full traceability of the exact clock for all defined events on the machine. This enables the company to have a detailed log of what exactly happened to each machine.

Héroux-Devtek looked long and hard at several different OEE system vendors, but ultimately in 2008 decided to go with MEMEX, especially since MEMEX had proven to be a trusted partner with their existing DNC supplier relationship.

Héroux-Devtek decided to install MEMEX OEE and DNC systems on more than 130 machines in six manufacturing plants, with three more plants to follow. This includes:

- MERLIN software for OEE dashboard and reporting metrics
- MERLIN Ax9150 Universal Machine Interface connected to a control for OEE Machine Monitoring
- MERLIN Ax750 I/O Link Fanuc Interface Board for ease of installation on Fanuc i-Series Controls
- Handheld HMI for downtime recording

MEMEX OEE and DNC products are attached directly to each machine. They provide local memory, embedded software, high speed network connectivity, real-time automatic machine state and utilization data collection that enhances and improves machine tool production. In each plant, every machine tool is monitored from any networked computer in the company.

On the plant floor MERLIN platform can connect to any machine in a plant, including CNC machine tools, conventional or hydraulic punch presses, injection molding machines, and manual processes or machines.

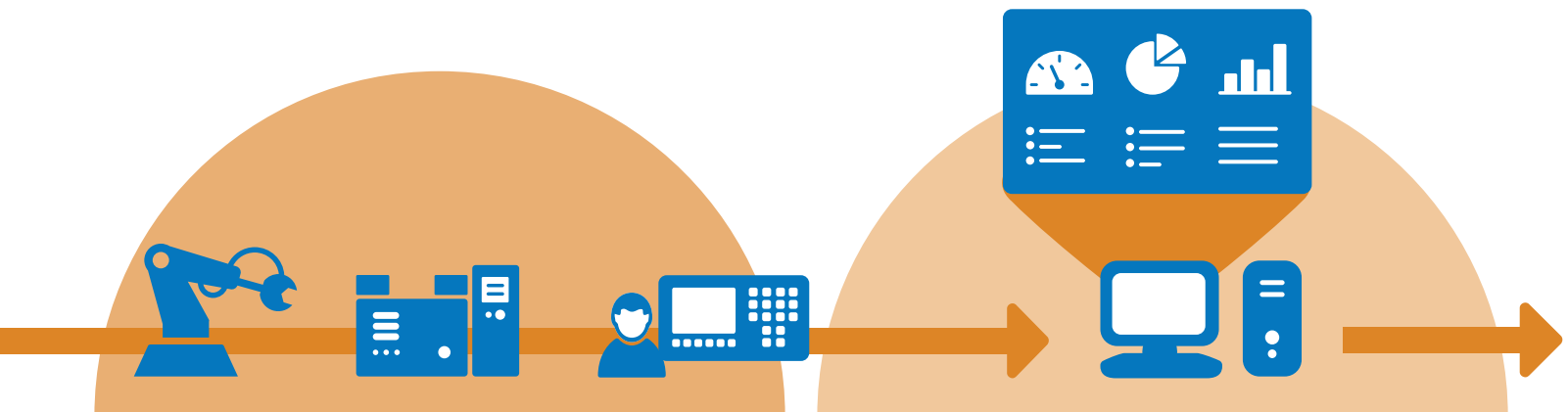
"We believe we can use MEMEX data to motivate employees with a shared understanding of how we can be more productive, and that's what it's all about." - Sébastien Caron, Plant Manager, Héroux-Devtek

Some of the changes Héroux-Devtek made and are considering as they perform lean continuous improvement include:

- Every machine tool in every plant being monitored from any Web-based computer
- Traceability of the complete manufacturing process was very important and is now documented in a report
- A hand-held unit tracks up to 13 different user-defined time loss categories such as unscheduled maintenance or setup
- Advanced reporting with text and email alerts to key management alerts them when a machine has breached a pre-set operating parameter
- Real-Time visibility of production and the ability to adapt and control each machine
- Truly internetworked plant floor system
- Standardized on one OEE solution throughout all North American plants

By utilizing the information received from the factory floor, plant management is able to operate at a much higher machine utilization. With excellent support from the MEMEX team, they realized they can improve processes and reduce downtime. Héroux-Devtek is very pleased with the results. Investing in the MERLIN shop-floor-to-top-floor communications platform proved to be far cheaper than buying new machines. Hence making MEMEX the go to supplier for OEE and connectivity solutions.

Data-Driven IIoT Manufacturing



BENEFITS

Héroux-Devtek was very enthusiastic about the increased productivity that came about from the investment in MERLIN. Some of the benefits Héroux-Devtek immediately experienced were:

- Increased productivity arising from visibility of production with Real-Time status and weekly reports
- Enables the company to be more competitive within its market

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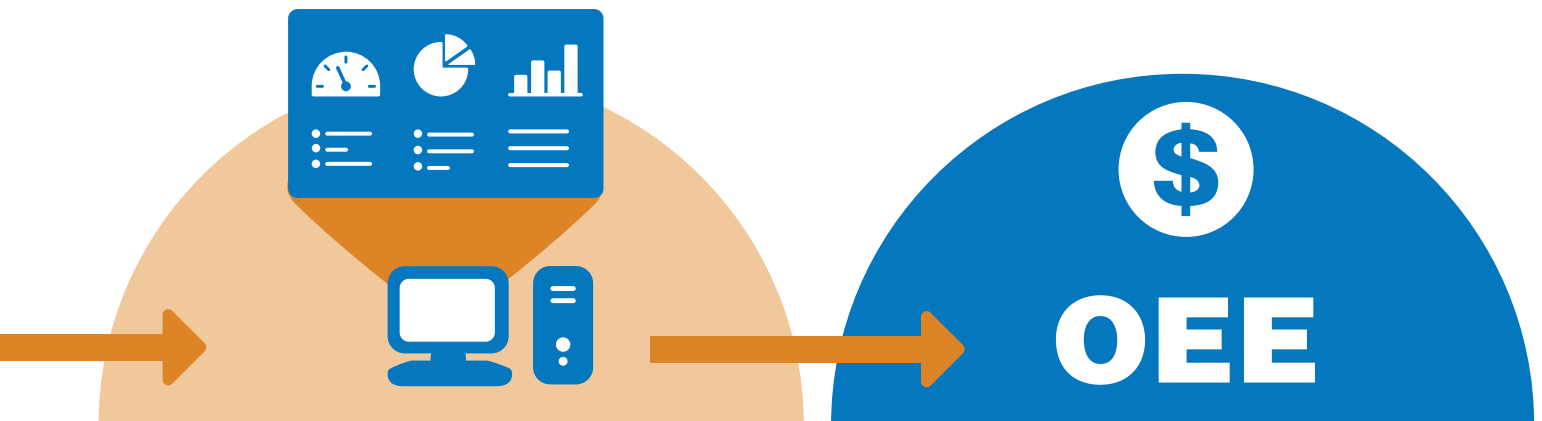
- Operating at a much higher machine utilization rate than prior to implementing MERLIN
- Saved on buying new machines, based on an immediate 30% increase in OEE, now a 90% increase in OEE
- Revenue is higher and costs are down providing a competitive edge in the marketplace

MEMEX is an IIoT leader that offers MERLIN, an Industrial Internet of Things software communications platform that provides manufacturing analytics in Real-Time.

"We believe we can use MEMEX data to motivate employees with a shared understanding of how we can be more productive, and that's what it's all about."
-Sebastien Caron, Plan Manager, Héroux-Devtek



From Shop-Floor-To-Top-Floor



ABOUT MEMEX™

The Industrial Internet of Things (IIoT) powered by machine to machine (M2M) connectivity coupled with software capable of collecting, analyzing, and intelligently presenting streams of manufacturing data represents no less than the next Industrial Revolution. MEMEX with its visionary attitude has been on the leading-edge of the convergence of the industry trends in Computing Power, Connectivity of Machines, Industry Standards, Advanced Software Technology, and Manufacturing Domain Expertise. Leading this transformation is MEMEX Inc., the developer of MERLIN, an award winning IIoT technology platform that delivers tangible increases in manufacturing productivity in Real-Time.

MEMEX, with its comprehensive understanding of the manufacturing industry, is the global leader in machine to machine connectivity solutions.

Committed to its mission of “Successfully transforming factories of today into factories of the future” and encouraged by the rapid adoption and success of MERLIN, MEMEX is relentlessly pursuing the development of increasingly innovative solutions suitable in the IIoT era. MEMEX envisions converting every machine into a node on the corporate network, thereby, creating visibility from shop-floor- to-top-floor.

MEMEX, with its deep commitment towards machine connectivity, offers solutions that are focused on finding hidden capacity by measuring and managing Real-Time data. This empowers MEMEX’s customers to effectively quantify and manage OEE, reduce costs and incorporate strategies for continuous lean improvement.



PRODUCTIVITY

10%-50% average productivity increase



PAYBACK

payback in less than four months with an Internal Rate of Return (IRR) greater than 300%



PROFITS

20% + profit improvement based on just a 10% increase in OEE



CONNECTIVITY

connects to any machine, old or new

Contact MEMEX to implement IIoT data-driven manufacturing now.



MEMEX
Measuring Manufacturing Excellence™

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