Grupo Antolin Lusitânea optimises its production processes with Wonderware solutions

by Wonderware Spain

Goals:
• Improve the efficiency in order to respond to higher volume demands;
• Optimise efficiency in one specific assembly line to later replicate it on other production lines.

Challenges:
• The system needs to be implemented without any shutdown to the existing production lines.

Wonderware Solution:
• InTouch HMI;
• Wonderware Performance software;
• Wonderware System Platform.

Results:
• Visibility of line efficiency, showing opportunities for process improvement. Grupo Antolin now has great visibility in the efficiency of its Lusitânea production lines. The critical data is used to analyse new ways to improve the process;
• Seamless integration with current control systems;
• Low impact on shop-floor operation, due to automatic work order synchro and data collection.

“The Performance solution and ArchestrA architecture allowed us to develop a scalable OEE system by using all the functions of a Supervisory Control and Data Acquisition (SCADA) system. Because of this, there has been a reduction in development time.”

André Brandão,
Project Manager, Sysmaker
Vila Nova de Cerveira (Lusitânea), Portugal - Thanks to Wonderware technology, Grupo Antolin has achieved great improvement in efficiency and quality in one of the production lines of its Lusitânea plant, obtaining critical information to study new possibilities in real-time improvement and decision-making.

Leading Spanish Multinational in its Sector

As the leading Spanish multinational in the design and manufacture of components for car interiors, Grupo Antolin focuses its strategy on integral services that include the conception, design, development, manufacture and distribution of car roofs, doors and seats. With a global turnover of approximately 2.2 billion euro in 2007, a presence in 22 countries with 86 plants and 20 technical/sales offices, Grupo Antolin has over 10,000 professionals working to ensure full customer satisfaction.

The group’s origins date back to 1950. It has a big organization doing research and development, using highly qualified personnel and the most advanced technologies capable of adapting to client needs. Grupo Antolin offers multi-technological products, thanks to its expertise in materials, advanced simulation techniques, electronics, industrial processes, safety, acoustics and vibration.

In Search of Optimum Efficiency

Grupo Antolin Lusitânea has implemented a Wonderware solution for its factory located in the town of Vila Nova de Cerveira (Lusitânea - Portugal) with the aim of optimising the efficiency of its production lines.

According to Rui Araújo, Production Department Director at Grupo Antolin’s Lusitânea plant: “The automobile sector is becoming more demanding; To be able to respond to the demands of our clients, we needed to improve the efficiency of one of our assembly lines, especially the one dedicated to assembling door locks. This is why we decided on technological change through the adoption of the latest generation software.”

The company was looking for a solution that could be integrated without interfering with the production line. It was then that they contacted Sysmaker, a Wonderware ArchestrA-certified system integrator. Sysmaker created a PLC solution that gathers information from all field variables. They also developed a complete Overall Equipment Effectiveness (OEE) system based on Wonderware Performance software. All the data is collected through the PLC from the different equipment on the assembly line. This includes all detectors, sensors, pneumatic and electric system controls, alarms, separation of OK/notOK parts, management of manufacturing model changes and accounting of manufactured amounts. The Wonderware solution is essential in helping to compile, store, process and organize the required information that interacts with the PLC system by translating the data it receives into an understandable format.

“The aim is to implement Wonderware technology in the line for door lock assembly and then to replicate it later on other production lines. In the end, to have standard OEE (Overall Equipment Effectiveness) in all the lines” adds Araújo. The OEE solution helps to measure the production efficiency of industrial machinery and it involves monitoring all essential production parameters. These parameters are based on availability (real-time functioning of the production machine), usage (real production obtained in comparison with forecasts during the functioning time of the machine) and quality (number of good pieces obtained).

A Complete, Personalised OEE System

The implementation of the software began after Sysmaker carried out the corresponding test phase. The Wonderware software complied with all the initial
demands set by Grupo Antolin by providing the latest generation solution and integrating it into the plant without interference. It also added a very important element: the ability of adapting to client demands. Consequently, a complete OEE analysis system was implemented in accordance with the requirements of Grupo Antolin’s Lusitânea plant.

The application is based on Wonderware Performance software, a scalable solution that allows the addition of new functionalities such as traceability, genealogy, execution of job orders, control of intermediate stock and man-hour management. The software is a component of Wonderware Enterprise Manufacturing Intelligence (EMI) and it includes functions that facilitate complete OEE monitoring. The system is able to identify areas of improvement, such as small stops and low production speed that affect performance.

A Unique, Integrated Platform

Grupo Antolin has implemented a Wonderware solution to obtain a shared platform of industrial applications that can run on practically any existing system. Wonderware System Platform provides a unified environment that facilitates plant visualisation, historization, communications and integration of other industrial automation applications.

Full Functionality and Scalability

Wonderware System Platform is built on ArchestrA technology, an innovative architecture for plant automation and information based on a real-time Service Oriented Architecture (SOA). This makes it possible to reuse existing automation applications.

“The Performance solution and ArchestrA architecture allowed us to develop a scalable OEE system. Because of this, there has been a reduction in development time” explains André Brandão, Sysmaker Project Manager.

“The Wonderware Historian on the other hand, compiles and stores all the plant information, providing full visibility of the data that enables correct decision-making,” points out the manager of Grupo Antolin’s Lusitânea factory.

The Wonderware Information Server uses Microsoft SharePoint and Web Part technologies to present and collect production and plant performance data on the Internet or the company’s Intranet. Grupo Antolin professionals at the Lusitânea plant access the information and make informed decisions in real time, thus helping to detect errors beforehand. This saves on costs and improves staff efficiency.

The last element of this innovative platform is Wonderware InTouch HMI (Human Machine Interface), which is outstanding for its usability and ease of use. The HMI helps to control all the factory processes in an intuitive, clear and descriptive manner. “The Wonderware staff helped Sysmaker to personalise and make the specific required changes for the PLC programme and the Performance database,” concludes Brandão.

Main Benefits

Grupo Antolin now has great visibility in the efficiency of its Portuguese production lines. The critical data is used to analyse new ways to improve the process.

In the words of Rui Araújo, Production Department Director at Grupo Antolin’s Lusitânea plant: “Thanks to the OEE system, we have managed to automatically compile data and automatically manage job orders, edit information, analyse graphics and create reports that we define through a user interface.”

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