“Wonderware System Platform meets all engineers’ requirements, and object-based programming in particular allows to develop applications in a fast and consistent way, with the possibility to reuse content on new lines. And thanks to the excellent results obtained by the supervisory system of the liquid coating line, the same application will be reused in all production lines, taking advantage of its flexibility and scalability.”

Luca Benedetti,
Responsible for Automation Projects, Skyline

The New Color of Aluminum
by Wonderware Italy

Goals:
• Increase competitiveness on the international market by improving efficiency and ensuring high quality standards.

Challenges:
• Production lines are composed of equipment provided by different vendors;
• Heterogeneous supervisory hardware and software.

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

Results:
• Waste reduction thanks to the possibility to detect nonconformity causes;
• Increased competitiveness thanks to the reduction in production costs;
• Increased productivity thanks to timely detection of causes and solutions to output failures;
• On time deliveries thanks to detailed scheduling and reorganization of production.
Bazzano (AQ), Italy - Otefal is a company operating in the finishing sector that has achieved success through continuous innovation in technology, as well as in commercial and marketing procedures. Otefal has specialised in aluminium coil-coating. The product is a perfectly flat, special aluminium alloy sheet coated with an even layer of long-lasting coating applied.

Innovative Supervisory System

Global aluminum demand constantly grew in the last decade. This material, in fact, ensures excellent machinability and has a long lifecycle, as well as weighing 30% less than steel. All these characteristics have been favoured by modern industry, not least because they comply with green regulations: aluminum is totally recyclable and this is one of the reasons why it has been so widely used. Thanks to these valuable properties, companies in the field of aluminum production and processing chose to invest in expanding or strengthening their productions sites, driving the best from existing plants.

Otefal is a clear example of this trend: the company deployed the most innovative automation and control technologies in the Bazzano plant, in the province of L'Aquila. This considerable investment involved embossing, liquid and powder coating. The company in fact used out-of-date automation systems, which have been growing without specific planning and often depended on vendors’ choices.

The innovative supervisory system allows to uniform data collection and communications, monitoring coating processes in real time to prevent any deviation from optimum quality.

Looking for Excellence

The existing lines, which the company decided to keep, are composed by machines produced by different vendors, each with different supervisory and control systems. The existing automation system was based on different and often off-market hardware, without any documentation about components. Such a situation involved high workloads since careful visual checks and continuous adjustments were necessary to ensure the high quality standards which characterize Otefal products. Furthermore, obsolete assets compromised the reliability of the whole system, which risked sudden failures.

In order to increase competitiveness on a global scale, under the direction of Sabino Morra, ICT General Manager, last year Otefal chose a partner able to contribute in increasing production efficiency while ensuring quality standards. Otefal chose to work with Skyline, combining typically IT expertise with specific industrial automation knowledge.

A Common Language

The wide range of hardware and supervisory softwares “represented one of the main challenges in the development phase,” explains Marco Anzovino, Skyline owner. “Even though this is a common situation in Italian manufacturing companies, where rarely there are unified automation solutions and every single vendor offers its own supervisory systems.”

In many cases, proprietary systems
work perfectly on specific applications, but are difficult to interface with plant HMI systems, since they are not based on international standard protocols.

Furthermore, suppliers use different hardware according to market opportunities.

This leads to overlaps increasing complexity and making the whole system unstable and unreliable. These limits are not compatible with modern operational activities, where there is no room for delays, mainly because they would affect the whole logistic and production chain.

In this scenario, Wonderware System Platform has proved winning, and has been used by Skyline engineers to develop the supervisory operating station with InTouch HMI (Human Machine Interface), allowing vector graphics visualization to create realistic plant representations.

Real Plant View

“In aluminum coating processes, which are characterized by multiple variables,” explains Luca Benedetti, Skyline responsible for the automation project “besides the automation phase, supervisory operations has a fundamental role. For this reason we chose Wonderware System Platform, enabling to create logical representations of the physical processes. Wonderware solutions provide better performances than systems by other vendors, and this is the reason why we’ve been working with them for more than twenty years. And we can confirm this thanks to our experience in the IT field. Wonderware System Platform meets all engineers’ requirements, and object-based programming in particular allows to quickly develop consistent applications, with the possibility to reuse them for new production lines. And thanks to the excellent results obtained by the supervisory system of the liquid coating line, the same application will be reused in all production lines, taking advantage of its flexibility and scalability. This way was created a business system which automatically collects and analyzes field data, avoiding problems arising from manual data collection, with the advantages of operating in real-time and eliminating any manual error. Total plant monitoring allows all authorized personnel to be always informed about any unusual situation. Line operators immediately understood the potential of this solution, both enabling to prevent inefficiencies typical of a system developed without specific projects, and the risk for irreversible damage, very likely in heterogeneous and not backed up systems.”

Smart Supervision

“Through the smart supervisory system developed by Skyline – explains Luca Centi, EDP Manager – all field data is collected in real-time and Wonderware InTouch HMI advanced graphic capabilities enable perfect management of all activities. In this context, the intuitive graphic interface allows operators to be timely informed in case of problems, with the possibility to analyze every single detail”.

“Data connection and real-time operator interactions – explains Anzovino – are possible thanks to the innovative Wonderware technology, enabling to integrate ‘intelligence’ in the control systems, transforming raw data into useful information. The system immediately detects downtimes and is able to notify output falls, indicating possible causes and solutions, in order to quicken maintenance interventions. All these capabilities allow to maximize efficiency, since they prevent any issue that could affect production times. In a process where...
any detail is planned, any delay negatively affects the whole organization, with the risk to pay penalties to the customers. On the contrary, a smart system timely notifies any disfunction, supporting managers in planning or reorganizing production, in order to keep to the schedule, without causing logistic problems. Data communication is quite useful also in maintenance activities. The system, in fact, is able to notify the need for interventions scheduled by machine builders, upon reaching of a certain amount of working hours. But what is especially crucial is the capability to detect production falls or unusual trends, clear indicators of problems to be solved before they lead to urgent interventions which negatively affect productivity.”

High Readiness

Wonderware System Platform satisfies all Otefal quality requirements. Choosing to invest on high quality production, second quality is unacceptable, and every nonconforming piece is rejected. In order to ensure high quality standards, operations must prevent waste. For this reason, Otefal needs a system able to monitor every single workpiece in real-time and to timely intervene on nonconformity causes, thus allowing for economic advantages. Waste is drastically reduced, mainly because this smart system allows to detect negative trends, notifying maintenance managers about the need for actions to prevent nonconformities.

This operational approach also improves efficiency and productivity, allowing to reduce costs linked with every single workpiece. This feature allows to increase competitiveness thanks to lower product prices, all the while keeping satisfactory profit margins.

This document was realized thanks to the support of: Otefal S.p.A. and Skyline s.r.l.