Efficiency and innovation of automation systems in the wood industry

by Wonderware Italy

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Roberto Scroccaro,
Vice President, De Morgan

VALUE DRIVERS

Goals
• To increase the flexibility and capacity of the production and logistics departments;
• To reduce implementation costs and optimize the manufacturing systems.

Challenges
• Identify KPI parameters that could describe what is happening in the manufacturing system;
• Improve the accuracy of the information.

KEY METRICS

Wonderware Solutions
• InTouch HMI;
• Wonderware System Platform.

Results
• Wonderware technology has allowed De Morgan to add value to the company;
• With Wonderware technology, ILCAM will be able to offer very high-quality products at very competitive prices.

Company Overview
ILCAM S.p.A. – Cormons (Gorizia), Italy
In the new premises in Cormons (in the province of Gorizia), with 70,000 m² of uncovered and 40,000 m² of covered surface area, a daily output of 25,000 units and over 400 employees, ILCAM manufactures polymer or lacquered frontals. This production stands out for the high level of technology used in every stage of the cycle, from 3D design to laboratory tests on the raw materials and finished products and all the processing phases.
The core feature of “re-engineering” projects affecting company processes is the identification of critical areas and the setting of specific goals. The choice of a new technological partner plays a strategic role in this. This is the case for ILCAM S.p.A. that turned to De Morgan s.r.l., system integrator with specific skills in Wonderware solutions. Over the years, a new element has taken on a great deal of importance in the manufacturing area of companies: information from plants. Thanks to this information, it is possible to obtain a real-time view of what is going on in the production department, without delegating this important information to the good will and precision of the workers, but obtaining it directly from the source, the plant automation, and integrating it with the data obtained from the ERP from the field operations. This information, suitably structured and historised, makes up the most important tool to improve the efficacy and efficiency of manufacturing processes.

New requirements

A characteristic trait of a great manufacturing company is the flexibility and innovative capacity of its production and logistics departments. These goals which can be attained if innovation, integration and efficiency are at the top of the list at all times. ILCAM S.p.A., a leading company specializing in wood processing, and in the production of cabinet doors and frontals in particular, felt this need and set it as its goal thanks to the tools provided by the Wonderware System Platform. In the new premises in Cormons (in the province of Gorizia), with 70,000 m2 of uncovered and 40,000 m2 of covered surface area, a daily output of 25,000 units and over 400 employees, ILCAM manufactures polymer or lacquered frontals. This production stands out for the high level of technology used in every stage of the cycle, from 3D design to laboratory tests on the raw materials and finished products and all of the processing phases. To optimize productivity, only in 10% of cases it is necessary to totally renew the manufacturing and technological assets: in the majority of cases it is enough to improve flows and processes that take place within the manufacturing departments. For this reason, ILCAM management appointed De Morgan to create a supervisory system to increase the production capacity and efficacy of its factory.

In search of manufacturing excellence

A large number of companies get equipped with high capacity manufacturing plants that require huge investments, but very few know how to use and fully exploit the potential they have. Indeed, high power that is not controlled and not handled is not incapable of leading to benefits. How many companies know the following about their plants:

• How long is the actual cycle of the plant during production?
• How many machine downtimes have occurred and why?
• Can I plan predictive maintenance or have some indicators that will show me possible drops in efficiency on which maintenance work needs to be performed?

These are just some of the questions that a manufacturing company needs to ask itself to achieve and maintain excellence, without considering that everything is related to work in progress, handling and stock control on finished products and semi-finished products in the department. ILCAM S.p.A. accepted this challenge and introduced a supervisory system on its plants and manufacturing premises, allowing it to answer these fundamental questions, which in the eyes of its clients become a parameter for quality, transparency and reliability, integrating it all with the management system. So for ILCAM, it was vital to identify parameters (KPI: Key Performance Indicators) which would help describe the manufacturing reality and be certain as to the accuracy of the information.
Continuous investments are therefore met with a setting capable of assessing the benefits and finding the best asset of the manufacturing process.

**Analyse to know**

De Morgan aims at being seen as the technological partner of those companies requiring an integrated solution of automation and business systems, both in the manufacturing and services spheres. This is why Wonderware solutions were chosen and the staff was ArchestrA® certified to ensure all-round intervention in all types of industries (whether utilities, manufacturing companies, turnkey plants and factory information systems). The plants are capable of providing a large volume of information but analysing it in an unstructured way would mean it would risk becoming not only useless but also misleading.

Consequently, De Morgan structured a special organization for this information that is able to provide an overall framework of all processes and of managing the production order in all its aspects.

**Reduced implementation costs and optimized manufacturing system**

De Morgan presented the ILCAM management with a solution that makes use of the benefits brought by Wonderware System Platform, a software platform that integrates InTouch HMI, one of the most widespread HMI softwares used in the industrial world, as well as all the plant automation features. ArchestrA technology, the heart of Wonderware System Platform, makes it possible to limit investments during the implementation phase and encourage rapid returns thanks to the standardization of software solutions across the company.

This supervision system made it possible to store the optimal configuration for each machine on the system. The operations planned by the system no longer depend on the staff and are therefore no longer tied to the ability of individuals, with the consequent optimization of the work carried out.

The equipment monitoring process can even prevent failures through the planning of maintenance activities linked to the plant’s actual requirements. The work in progress activities are handled directly by the system. This way, the production and quality certification is ensured by the system and no longer by the factory staff. The introduction of the supervision system has not only improved and optimized the production system but also the sharing of information. For instance, production control panels were fitted on each plant so that, in the event of inefficiencies, the reason for the anomaly would be displayed in real-time.

**Improved human resources management, increase in production capacity and waste reduction**

The owner of ILCAM, Silvano Zamô, has decided to use this supervisory system on future production plants as well because he noticed evident benefits since it was adopted such as the improvement of the production line, for example. Machine downtime, which has dropped considerably, thanks to focused maintenance work, objectively increases production in each department. The plants - which are suitably structured - have enabled the optimization of human resources as well as a reduction in manufacturing waste.

In addition to these strictly operational aspects, the managerial benefits are evident:

- Identification of the configuration of all the machine parameters for each job order;
- Downloading of raw materials and semi-finished products used during processing;
- Detection of production progress;
- Production cycle checks;
- The possibility of checking the factories over the Internet via the web portal.

The transformation of simple production data into strategic information has allowed the wise planning of production processes: “Two months after the project was implemented, the client enthusiastically told me that the investment had already paid off through savings in the maintenance and inefficiency identification activities. It was possible to see a real return on investment in a very short space of time. The project exceeded all expectations.” stated Roberto Scroccaro from De Morgan.

By exploiting Wonderware technology, De Morgan managed to give added value to a company that - thanks to its production - is a benchmark on domestic and international markets. So, thanks to the significant advantages offered by Wonderware technology, ILCAM will be able to offer even more competitive prices on very high-quality products.

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