Pulsar deploys FactoryTalk software suite from Rockwell Automation to develop OEE measurement solution for demanding industry

Tissue industry challenges addressed by open and scalable software solution coupled with effective relationships in technical development

Challenge

Pulsar wanted to develop an OEE measurement platform for the very niche tissue industry, so it needed an off-the-shelf platform that was easy to modify and easy to integrate

Solutions

A Rockwell Automation solution was installed, which included:

- FactoryTalk View
- FactoryTalk Metrics
- FactoryTalk VantagePoint EMI
- FactoryTalk Transaction Manager

Results

- Open, scalable software platform from an industry leader
- Easier to integrate with leading automation solution
- Worldwide support possibilities
- Similar mind-set to modern philosophies, including the Connected Enterprise and the Industrial Internet of Things (IIoT)
- Existing Rockwell Automation industrial partnerships (e.g. Cisco) can help deliver additional features and functionality
- Real willingness from Rockwell Automation engineers to help develop new ideas

By developing and deploying a system based on the FactoryTalk suite from Rockwell Automation, Pulsar has created an extremely attractive platform for business improvement

Background

Pulsar Srl, founded in 1989, is based in Castelmaggiore, near Bologna, in the heart of the "packaging valley" of Europe. Its primary activities are based around the engineering, production and creation of conveying and transportation solutions. It also produces specialised automatic machinery for use in the tissue sector, including feeding, packaging and sorting for rolls and packages of toilet paper and paper towel, machinery for processing and packaging folded paper products and product movement units.

In just a few years, Pulsar has built more than 230 systems and eighteen complete plants for major tissue manufacturers. Its continuous studies on the improvement of production line management has led it to create ideal hardware and software combinations that can manage and optimise entire lines integrating machinery with transport systems.

The company's innovative 'Layout Simulator' software can design new systems by comparing process machinery present on the market and then simulating its productive capacity. To this end, users can see various options aimed at specific production needs in real time and then evaluate the true value of their investment.

In a more recent development, Pulsar has developed the 'Reds Platinum System' a platform for SCADA systems –specifically designed for the measurement of Overall Equipment Effectiveness (OEE) in the tissue

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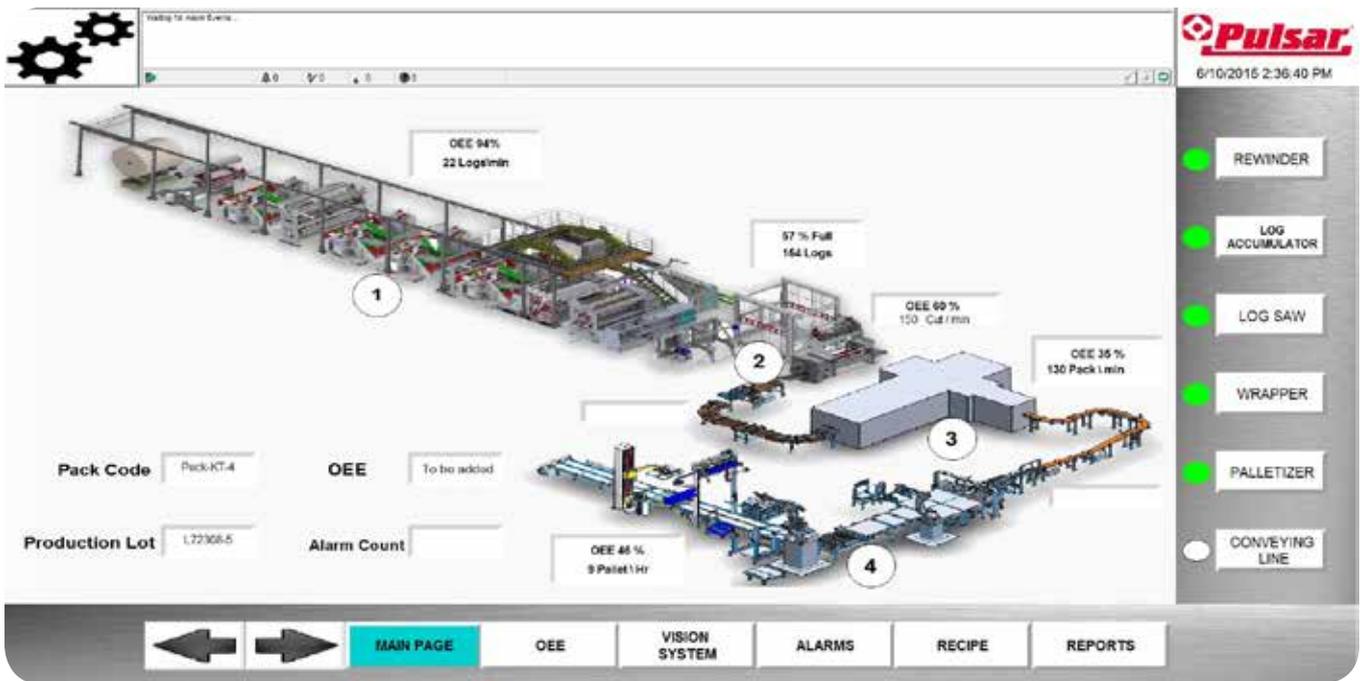
Allen-Bradley · Rockwell Software

Rockwell Automation

The use of FactoryTalk software and its very tight integration with Allen-Bradley control products means that the solution is easier to install and can start delivering data very quickly after deployment

converting industry – which uses various elements of the FactoryTalk® Software suite from Rockwell Automation.

Challenge

According to Angelo Bertini, General Manager at Pulsar: "The measurement of production line efficiencies in the manufacture of consumer goods is a major factor towards increasing competitiveness. The tissue industry does not escape this logic; so the provision of a platform

dedicated to the converting industries will give users a facilitated approach to measuring these all-important OEE figures."

These measured variables, upon which the efficiency figures are calculated, include basic machine availability, product quality compared to overall production volumes, machine downtimes and transition times, either between production

runs or, indeed between events such as unplanned downtime and stoppages.
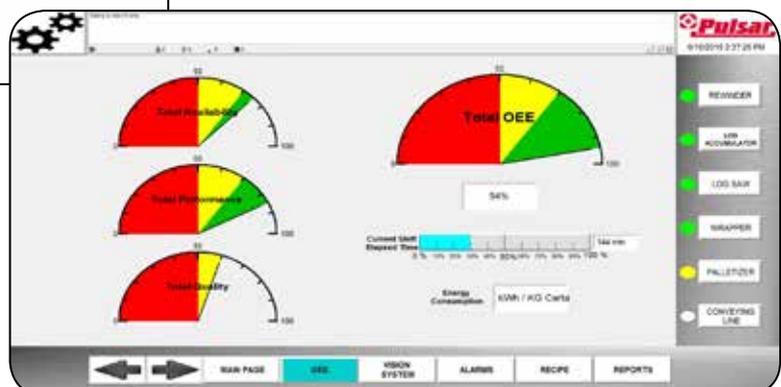
According to Bertini: "The primary issue faced by the tissue industry is the niche nature of its operations; with limited manufacturers and limited machine and service suppliers. If companies in this industry want to implement efficiency platforms, they have to ask for the services of industry experts and then apply standard platforms in order to gradually develop the structure of the data collection and analysis required. These experts then, in turn, have to be told by the manufacturer which parameters are to be monitored, where they are generated and how to record them.

"The process of creating such a platform," he continues, "requires a series of cross-functional skills which are rarely in place within the software houses that normally develop these types of platforms, especially the bespoke skills and knowledge relating to the unique facets of the tissue industry. In addition to IT and data analysis skills, the developers

also require knowledge about process, automation and IT infrastructures. Besides the identification of the data to be monitored, one also has to identify the availability of this data along the line, the methods of extraction and the subsequent communication to the analytics platform."

Solution

Combining its knowledge and expertise in the tissue production process, automation and regarding the different machines and equipment currently being used in these lines, Pulsar has developed a dedicated OEE measurement platform for monitoring tissue converting lines, leaving the integrator only simple adaptations for specific applications.

Pulsar has defined a strategy in the area of smart machines and tools and is already seeing dramatic developments occurring within the realms of the IIoT (Industrial Internet of Things)

The 'Reds Platinum System' is structured in such a way that it can take into account the process steps to be controlled, the machines involved and the parameters that must be collected and monitored for the calculation of the OEE of the lines.

Developed using FactoryTalk View, FactoryTalk Metrics, FactoryTalk VantagePoint® EMI and FactoryTalk Transaction Manager software from Rockwell Automation, the 'Reds Platinum System' has benefited from this choice of software for multiple reasons. "In the first instance,

integration of the supervision platform with the automation components from Rockwell Automation, with no need for conversion cards or translation software," Bertini explains. "The ability to access the partnerships that Rockwell Automation has developed, with companies such as Cisco, for instance, is incredibly attractive when it comes to the configuration of communications systems and security protocols; or with its other partners for jobs such as the network realisation and implementation or service."

Results

By developing and deploying a system based on the FactoryTalk suite from Rockwell Automation, Pulsar has created an extremely attractive platform for business improvement.

"We get great support from Rockwell Automation in Italy and in the EU and now we are heading into the USA.

The use of FactoryTalk software and its very tight integration with Allen-Bradley control products means that the solution is easier to install and can start delivering data very quickly after deployment. The system is capable of interrogating hardware from other vendors, but this requires additional hardware and software for communication, which ultimately increases complexity and costs.

Rockwell Automation is a brand leader in the field of industrial automation, Bertini explains. "We also appreciate the worldwide presence of the company and the support possibilities no matter where we are. Of particular importance is the fact that all of the FactoryTalk software platforms we are using have been specially developed for each of their individual purposes: FactoryTalk View for HMI development, FactoryTalk Metrics for OEE measurement, FactoryTalk VantagePoint for information delivery and reporting and FactoryTalk Transaction Manager for transaction integration and management."

Pulsar also sees the benefits of hardware and software being tightly integrated. "We have seen much easier

"Within this development," Bertini adds, "we have defined a strategy in the area of smart machines and tools and we have already seen dramatic developments occurring within the realms of the IIoT (Industrial Internet of Things). We strongly believe in this evolution, which is why we have developed this system. With the help of Rockwell Automation and its commitment to the Connected Enterprise, we see the collection of data and subsequent interrogation and disbursement of information as the norm rather than a luxury.

"Another reason we went with Rockwell Automation," Bertini concludes, "is that in Italy, we found a group of professionals with whom we subsequently became friends. We had complete support, including tools and technology 'loans' for application development. We get great support from Rockwell Automation in Italy and in the EU and now we are heading into the USA. Their approach differs compared to other suppliers, in that they are really willing to support development of projects. They don't just make the tools available, they also offer significant levels of help, which is not something I can say for some of their competitors."

Additional Information
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