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Andrzej Jacak
Automation Service Supervisor, OSM Piatnica

Wonderware MES solution supports packaging process of cottage cheese

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Goals:
• To create a consistent reporting system for production efficiency;
• Real time monitoring of machine conditions;
• To analyze productivity levels through OEE monitoring;
• To analyze production potentials and material consumption.

Challenges:
• To detect and eliminate the most frequent reasons of packaging machines stoppage;
• To improve the production management;
• To replace paper work with electronic records.

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

Results:
• 8% OEE increase thanks to the detection of weaknesses in the packaging process and later optimization;
• Quality and throughput increased;
• Production order tracking enabled the quantitative and qualitative control of packaged products;
• Available information for managers thanks to detailed reports.
Piatnica, Poland - Timely reporting and production efficiency analysis, based on Wonderware Performance software, has showed the weakest points of the packaging machine and enabled the management to take the right decisions to optimize its work. Wonderware Performance software allows to control all machine components and monitor the operators’ work on every shift.

OSM Piatnica offers a wide stock of dairy products and with 50% market share represents one of the market leaders in the food industry. They produce cottage cheese and other milk products which are distributed into different regions of Poland. A business operation under a strict technological and sanitary supervision is one of the key to explain an undisputed success.

The company also adopted the most modern solutions to effectively manage and control the plant floor and production. Last section of cheese production line is equipped with one of the most efficient packaging machine in Eastern Europe. In order to optimize production management, supervision maintenance and the performance of their cottage cheese packaging machine, OSM Piatnica’s management team decided to implement a MES solution. They chose Wonderware Performance software to address their production efficiency and stoppage analysis’ needs.

Thanks to the open and scalable ArchestrA architecture, OSM Piatnica was able to integrate the new solution with the existing system. Moreover, the new system automatically tracks machine status and calculates its OEE (Overall Equipment Effectiveness).

Thanks to the Wonderware solution, it is possible to know the most frequent downtime reasons and therefore packaging operators, team leaders and maintenance specialists can react immediately and prevent future production losses. With Wonderware Performance software, it is possible to analyze the machine utilization and work cycles to implement predictive maintenance. Selected packaging machine parameters are recorded in Wonderware Historian database.

Existing visualization based on Wonderware InTouch HMI (Human Machine Interface) was extended to enable order execution and production balancing.

Thanks to Wonderware Performance software, the customer have access to comprehensive product information, from recipes and raw materials to the packaging and ‘best before’ date printing.

Key Effects of Implementation

Unquestionably, the most reliable benefit from Wonderware software implementation is the common reporting system enabling maintenance staff and the top management to have access to real time and updated information from the shop floor.
The new solution is a user-friendly tool: reports can be created quickly and contains useful data on the most frequent downtimes, work status, maintenance and balancing of the resources.

“Thanks to the information about equipment efficiency and utilization provided by the reporting system, we are able to understand how to improve our packaging line performance and increase our productivity. We knew it was possible, but we didn’t imagine that improvements would have been so easy to reach. Now we know that a production increase will not create bottlenecks,” said Andrzej Jacak, the Automation Service Supervisor in OSM Piatnica.

Wonderware Information Server’s reporting system ensures the web-based access to the reports, as well as to basic and current parameters connected with packaged products. It is also possible to conduct different analysis, based on the real data from anywhere, not only from the production plant.

It is worth to notice the easiness of application design and development thanks to the ArchestrA architecture and the simple management of production orders. Thanks to the Wonderware solution, OSM Piatnica was able to minimize the time needed to add new orders into the system.

By considering the results of the Wonderware solution implementation, OSM Piatnica management team is taking into consideration the possibility to use the same equipment and software automation for packaging lines which will be installed in the future. “In the future we would like to add the reporting system to other machines and production lines, in order to analyze manufacturing process completely,” summarizes Jacak.

Figure 3: Work Order Summary at Operator Station.