Wonderware System Platform based MES improves specialized multilayer pipes manufacturing

by ASTOR Sp. z o.o.

“Thanks to the Wonderware MES system and its easy-accessible reporting module, we are able to link distributed knowledge of alarms, machinery performance data, downtimes, process data values, quality and raw materials consumption with adequate work order information. With such detailed and accurate information we are able to perform effective optimization activities, which are indispensable success drivers.”

Miroslaw Jastrzab,
IT Specialist, Multilayer Pipe Company

VALUE DRIVERS

Goals
• Provide integration to existing Wonderware InTouch HMI solutions;
• Collect and utilize data from currently working Wonderware Historian real-time database;
• Enable process genealogy and traceability;
• Provide fully-functional reporting of contextual information about production.

Challenges
• Several existing, but not integrated HMI/SCADA solutions;
• Lack of scrap monitoring and detailed tracking of production process;
• Ineffective reporting system;
• Huge gap in current productivity and production lines effectiveness tracking.

KEY METRICS

Wonderware Solutions
• InTouch HMI;
• Wonderware Equipment Operations Module;
• Wonderware System Platform.

Results
• Creation of full production process genealogy;
• Availability of productivity comparative reports;
• Laboratory and Quality Assurance have a huge analysis capabilities;
• Production Manager has access to real-time production completion status information;
• Maintenance Department is provided with diagnostic tools helping to eliminate dead-weight machines.

Company Overview
Multilayer Pipe Company Sp. z o.o. (MPC) – Strzelin, Poland
Multilayer Pipe Company (MPC) Sp. z o.o. is one of the biggest European multilayer pipes and cross-linked polyethylene (PEX) pipes manufacturer. It was established in 1997 as the answer to growing market demand. Production is performed in modern Plant placed close to Strzelin city in Dolnoslaskie District. Manufacturing Process is fully computerized. In company product offering customer can find components dedicated to internal water installations, centralized heating systems, etc.
The broadest application of MPC products is found in multilayer PE-XC based pipes. Company sells its products by shareholder’s distribution channel.
Multilayer Pipe Company (MPC) policy is characterized by continuous market share expansion and increasing production capabilities & performance. It would not be possible without research for innovations and marketing activities increasing turnover volume. This policy correlated with employees’ engagement and high quality of products enables MPC to successfully compete on the international market.

One of the most important success drivers is use of up-to-date Manufacturing Execution System (MES) settled down on the Wonderware System Platform – ArchestrA technology based solution. Main role in this solution is being played by the Wonderware Equipment Operations Module component.

According to best implementation practices, solution has been tested during a ‘pilot’ installation and expanded to all production lines in roll-out phase.

Solution Implementation

Wonderware MES Solution was selected after feasibility study and crucial practical aspects consideration:
- Easy integration to existing HMI/SCADA Systems;
- Need for wide range of functions and easily adaptable scalability;
- Automated data collection from distributed data sources and real-time acquisition;
- On-line contextual-based reporting.

Implementation of MES system has been performed beneath a Process Continuous Improvement imperative idea. From the Production Management point of view linking of collected events with its reasons is great and valuable knowledge used during the quality excursions identification process. Wonderware Equipment Operations Module (formerly known as Wonderware Production Events Module) functionality was great answer to this need.

Wonderware MES system ensures potential failures effective treatment and identification, necessary to make preventive actions heading towards quality improvement and cost saving.

Key Metrics

Benefits from implementation are noticeable by all company departments and maintenance services. For instance Laboratory Department and Quality Assurance execute comprehensive quality analysis using Wonderware Information Server reports. Wonderware Equipment Operations Module provides possibility of documenting all production related events, e.g. when, by whom, with consumption of which materials was performed a work order. Wonderware System Platform – SOA compliant solution – allowed company to implement integrated Document Management enabling them to meet international standards, norms and policies.

User-friendly Wonderware Development Studio with configurable template-based objects will play the crucial part in system ‘roll-out’.

Wonderware Information Server reporting gives MPC online reliable automated Manufacturing Intelligence solution allowing real-time process analysis, continuous quality improvement and in consequence forming a positive market image of MPC Company as a solid business partner.

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