“Now, operators are able to concentrate on their work. Efficiency has been increased since they now focus their energy on increasing performance and productivity”.

Yaman Yazgan, Project Manager, BRiSA

Wonderware Helps Turkey’s BRiSA Tire Factory Achieve High Quality, Productivity and Efficiency

by EST (Enerji Sistem Teknolojileri Sanayi)

Goals:
- Implement a Manufacturing Execution System (MES) to help increase product quality and manufacturing efficiency and eliminate manual data collection and reduce production procedures.

Challenges:
- Inconsistency in the manual collection of the plant data affecting the plant’s efficiency and product quality;
- Develop a clear upgrade path for the MES system to enable improvements as technology evolves.

Wonderware Solution:
- ActiveFactory software;
- InTouch HMI;
- Wonderware Historian;
- Wonderware Manufacturing Execution Module.

Results:
- Significant increase in productivity;
- Huge improvement in lot traceability;
- Previous hard copy of archived information now available with just the touch of a button;
- Huge improvement on quality;
- Increased Operators’ Efficiency.
Izmit, Turkey – BRiSA is the number one tire manufacturer in Turkey and the sixth biggest tire producer in Europe. BRiSA operates the largest tire factory in the world, operating under one roof, as well as being one of Turkey’s quality leader. BRiSA has implemented the ‘Shop Floor Project’ in order to realize a Manufacturing Execution System (MES) to help increasing product quality to its top.

The Quest for Consistent High Quality

Initial project studies started in 2001, followed by a Functional Analysis phase, a Pilot Application phase, a Test Implementation, Execution and Commissioning phase, the project ended in 2008. The project is the most comprehensive MES project in Turkey.

For the Shop Floor project, BRiSA adopted Wonderware software solutions to realize data collection process, to send set point values to machines, and analyze production and machine performances.

The Shop Floor project was defined to manage the production at BRiSA factory.

As other global large companies, BRiSA utilizes the system to follow up their production, in order to maximize their production quality. The application software aims data collection, as well as setting the process parameters for the machines and record the downtime values of the machines. One of the most important data is the inventory information. Real time stock data is updated when materials are utilized, hence users can see what product, semi product or raw materials are used, and where, for a given time instant. The Project also includes the quality control system. Process parameters used for production can be followed up in real time. It is possible to retrieve the historical data of materials for a product. The most important phase of the project is the machine integration. Data quality increased, since machines produce the data and store it to the software automatically.

Culture Change for the Factory

Before the deployment of the MES Project, all production reports were created on paper. This included production plans, setpoints, alarms and other plant data. The manual recording of information on paper by operators resulted in a lot of inconsistencies. It was difficult for the operators to collect information and operate the plant at the same time. Once the fully-automated Wonderware-based MES was installed, all inconsistencies and errors were reduced and efficiency improved. The automation enabled the operators to focus in producing products because the previous manual operations, such as work order and production data collection, became automated. BRiSA project manager Yaman Yazgan states: “We have managed to improve our manufacturing in two main categories: First, we had a big increase in productivity, due to the automation of the previous manual data collection. Operators, now, have access to accurate information; inconsistent data coming from different sources has been eliminated. Second, we have improved in lot traceability. Before the project, we had to bring a lot of paper from the archive and, now, we receive the same information with just the touch of a button”.

“Operator’s errors at the plant have been almost completely eliminated. This has resulted in a huge improvement on quality”, Yazgan continues to tell that the best result of all is the change in production culture. “Now, operators are able to concentrate on their work. Efficiency has been increased since they now focus their energy on increasing performance and productivity”.

Wonderware Walks with BRiSA through the Technology Waves

Bimsa, Wonderware system integrator in Turkey, is the preferred partner of BRiSA because of their long working relationship over the years and the experience in plants’ production and manufacturing. Turkish Wonderware Distributor, EST Enerji has been working with BRiSA and Bimsa for more than ten years, providing support for the current installation. They are poised together as BRiSA looks to adopt the Wonderware System Platform in the near future.