A Wonderware Solution Helps Frito-Lay Minimizing Cost on Energy and Water
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Goals:
• Monitor electrical energy, gas and water consumption to minimize utilities cost;
• Create consumption reports on all production area and products.

Challenges:
• It is difficult to collect information from monitoring devices spread out in a large area to a central location;
• It is important to create a system that provides standardized reports to different people coming from different parts of the factory;
• To save on energy costs, it is necessary to set the limits of consumption for the coming months.

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

Results:
• The Wonderware solution makes it possible to monitor electricity, gas and water consumption based on the customer goals, actual spending and cost per product unit;
• The Wonderware solution enabled people to act effectively thanks to web-based reports;
• The system enabled plant personnel to focus on overspending problems that are easily corrected.

“Now operators show pride because of the savings they have reached”.

Abdullah Biçer,
Maintenance Manager, Tarsus plant, Frito-Lay
**Tarsus and Suadiye, Turkey** - Frito-Lay, established in 1932, is the world’s largest packaged food producer. The company owns or leases over 50 plants or production processing facilities all over the world. Its parent company, PepsiCo currently manufactures and sells a powerful suite of brands and distinct products that include Quaker Foods, Pepsi, Gatorade, Tropicana Juices, and of course, Frito-Lay chips.

In Turkey, Frito-Lay aims to produce the best products on the market, reduce its enviromental footprint and create snack foods that appeal to cultural and local tastes. Factories in Turkey are located at Suadiye (Izmit) and Tarsus (Mersin). Both factories decided to monitor their consumption of gas, electricity, water and other utilities in order to minimize their manufacturing costs while being environmentally friendly. The project was in line with PepsiCo’s strong environmental awareness policy and both factories adopted to watch their consumption level very closely.

**Plant Intelligence**

Frito-Lay evaluated different HMI/SCADA manufacturers and decided to use Wonderware software. Wonderware System Platform is now used in the Tarsus plant and Wonderware Historian is used in the Suadiye factory.

The consumption data coming from energy meters, water gauges and gas meters are collected by the Wonderware Historian. At the Tarsus factory, two large screens display both historical and real-time consumption of the production areas. Also with effective utilization of the intranet, Frito-Lay managers are able to monitor the system from their offices transparently. The operators at the plant can examine their targets and observe if they are close to the planned level of consumption. Maintenance personnel and managers are able to track overall savings as well as over consumption.

The improvement on the operating procedure is noticeable once the trends at the production area are set. The Maintenance Manager Abdullah Biçer from Tarsus plant reports a marked increased awareness about the utility consumption among the operators. “Now they show pride because of the savings they have reached,” comments Biçer. He also adds that the project had been realized with the close cooperation of the project team as a live demonstration of the famous PepsiCo motto ‘Take Others with You’.

Wonderware Information Server is likewise extensively used to obtain real-time energy utilization reports for Suadiye plant.

Hakan Er, the Electrical Maintenance Supervisor of the Suadiye plant says “I can manage when I can
measure”. He adds that in their plant they were able to save 30% on water after they started to use the Wonderware solution.

**Observing Details**

The Plant Intelligence system at the Tarsus plant is integrated to the ERP (Enterprise Resource Planning). The production data from the ERP is connected to consumption data coming from Wonderware System Platform. The Tarsus plant’s application monitors the Potato Line, Dorritos Line, Cheetos Line, Packaging Area, Cogeneration Plant and Waste Water Treatment Plant.

Real time online consumption, as well as target consumption, are displayed in tables for each area where production, electric consumption, gas consumption, and water consumption’s graphics are monitored. Detailed alarms and reports provide real-time information to the people in charge, independently of their location in the plant, via web interfaces provided by the Wonderware Information Server.

In the near future, Tarsus plant will expand the system to include solar power, heat recovery, pressurized air and nitrogen.

Savings from consumption create a real value for Frito-Lay and they are very happy with the Wonderware solution.

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