Eleven years after the new construction of its sugar factory in Zeitz, Saxony-Anhalt, Germany, Südzucker AG sets another milestone with a new bioethanol plant in the region. ABB provided the complete process control equipment as well as comprehensive electronic technology for the plant, which is to produce an annual 260,000 m$^3$ of environmentally friendly fuel components and protein feed.

>>> Ever since the ceremonial laying of the foundation stone on February 6th, 2004, construction has been in full swing in Zeitz. Under the project management of its office in Leipzig, ABB has been part of the project since late March 2004, and supplied the complete process control system, among others. In detail, the delivery includes:

- Process control system consisting of 14 AC 800F controllers, seven operator control and observation units and two engineering stations. Its framework comprises about 16,000 I/Os, most of which are de-centrally equipped with S800 modules in more than 100 remote I/O housings.
- Motor Control Center (MCC) for about 700 drives.
- The entire building installation, including the layout for external / internal lighting, the fire alarm system and the infrastructure for the IT data network.
- Complete engineering, assembly, configuration and commissioning of all facilities.

New Visualization Screen
For ABB, this is the first major PROFIBUS-PA installation with about 1,000 Profibus devices at Südzucker. As a particular highlight of the plant in Zeitz, the ABB automation experts applied the new visualization screen IndustrialIT 800xA Operations in connection with AC 800F controllers.

“We have supplied the bioethanol plant with cutting-edge process technology,” ABB project manager Jürgen Heinze emphasizes. “The very short duration of the project presented an additional challenge. In close cooperation with all participating ABB partners, however, we turned this challenge into a success.”

Werner Schütz, Key Account Manager for Südzucker, adds: ABB STOTZ-KONTAKT, ABB Process Automation and ABB Automation Products had already been incorporated during the acquisition phase.” Incidentally, ABB technology utilized in the plant is also employed at another location: For Energy Center 3, ABB supplied Babcock-Hitachi Europe with a process control system, instrumentation, MCC and the appertaining data lines.

Impulses for the Region
The main ingredient for the production of bioethanol at Südzucker is wheat. In addition, use can be made of products from the sugar production or other kinds of grain. These natural and regrowing ingredients exist in abundance at Zeitz, in the center of the three-state corner between Saxony, Saxony-Anhalt and Thuringia. An ethanol production of 260,000 m$^3$ per year requires about 700,000 tons of grain. This is equivalent to approx. 100,000 ha of cultivated area.

>>> FACTS

Bioethanol Helps the Environment
The bioethanol produced by Südzucker is used as an environmentally friendly fuel component. Even today, the effective standard for gasoline allows for using up to 5% of bioethanol as a direct additive. On top of that, the standard permits the incorporation of up to 15% of ETBE (ethyl-tertiary butyl ether), an octane improvement that can be made from ethanol. Both substances are excellent gasoline additives with superb environmental properties.

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