

# Process automation from BMA Automation

For automation projects in the sugar industry, BMA has a decisive advantage: process engineers and automation experts work closely together in order to find the best solution for the customer.

A thorough analysis and, if necessary, optimisation of the production process should in any case form an integral part of automation projects, as this may crucially improve their efficiency.

Thanks to their comprehensive and long-standing experience in this branch of industry, BMA engineers and technology experts can quickly familiarise themselves with the individual project-specific tasks. BMA Automation is very well prepared in this respect. As an independent business unit within a mid-size, international group of companies, we implement projects of any conceivable size for our customers – and we do this worldwide: from upgrading the control unit of a single machine to a new control generation, to supplying complete process control systems for sugar factories and refineries. Numerous references can be listed here.

In the past year, BMA received two orders for the supply of process control systems for sugar factories in Egypt and Russia. These have been implemented on the basis of the Siemens PCS7 unit. For Egypt, the existing process control system of an older design has been partially replaced, as it was no longer sufficiently sized for the intended factory extension. The special challenge of this project is the seamless integration of the new components into the existing infrastructure. A further order for a process control system on WinCC basis was also implemented, this time for the operation and monitoring of 14 new BMA centrifugals in a sugar refinery in the Middle East.

Our expert knowledge is in demand not only in the sugar industry, but also in the field of bio-renewables. We implemented and only recently successfully commissioned the heat management for a plant of 22 block-type thermal power stations on the basis of Siemens-S7 and WinCC flexible. This system can be comfortably operated by remote control via the Internet.



*Final acceptance of a process*

*control system preceding shipment  
to the customer*

## **Use of APC (Advanced Process Control)**

In the sugar industry, outside parameters often play a role, such as the varying quality of the raw products cane and beet. In such cases, the operators have to adjust new setpoints in the process control system for several interacting controllers, in order to adapt the process to the new conditions. These are often experience-based values, which might be subjectively influenced.

We use APC in order to optimise individually existing, interacting control structures by applying higher-ranking control strategies. This allows us to adapt the process automatically and more quickly to varying external parameters. In addition, the process can be run in closer tolerance ranges. For this purpose, we use computer-based simulations and models for dynamic process description.

*BMA specialist Florian Krause  
during commissioning of a  
microwave sensor*



After just one year, BMA has numerous references in the global sugar industry, such as in the USA, Latin America, Kenya and Asia. The orders to be given particular mention are for 20 DynFAS MW devices for Brix value measurement for a sugar factory in Egypt, and for 10 systems for a sugar factory in Bolivia. Most of the microwave probes sold are used to monitor the Brix value for automation of the boiling process.

Thanks to the global network of BMA service technicians, you will always find a person to contact nearby for maintenance and service work, or for modernisations and extensions. We can thus help you protect your investment in the long term.

*Bernd Stolte*

### **Online sensors**

For optimising the production process, BMA Automation offers several online measuring devices in the field of instrumentation:

- IR3000 near-infrared sensor for real-time moisture measurement in pressed pulp and bagasse
- DynFAS FS for contact-free layer thickness measurement in the centrifugal
- DynFAS MW for Brix value measurement by means of microwaves in several stations of a sugar factory and refinery: vacuum pan, melting tank, evaporator station, VKT, milk of lime system, etc.

### **Benefits**

- Increased productivity by optimal integration of machinery and automation
- Quicker commissioning thanks to close collaboration between BMA process engineers and software specialists
- Higher and more uniform product quality
- Increased throughput
- Reduced personnel costs

