

## Solutions for the Chemical Industry

# Bayer AG in Map Ta Phut, Thailand: Power Supply for the Infrastructure and Polycarbonate Production

### The requirement – complex power distribution concepts

The new Bayer AG production plant in Map Ta Phut, Thailand, is where polycarbonates are produced for a wide range of different applications and uses. The high level of complexity involved in this kind of production plant places particular demands on the concept and design of the power supply system – as well as on the experience of the supplier.

However, Moeller has available the experience required for this kind of project. The central task was to make the UL specifications of Bayer AG compliant with IEC Directives. An additional special requirement was that the entire installation in Thailand had to be identical to an existing Bayer AG plant in the USA, in terms of the relevant documentation

and the power distribution for the process control system. The order was for the planning and engineering, installation, commissioning and service of the entire low-voltage power supply system – both for the infrastructure of the site and for the production plant.



### The solution – electrical engineering near the process, including project management

Moeller is the right partner for integrating its entire expertise and experience worldwide in all stages of the project. Thanks to Xtra combinations, Moeller can provide the tailored solution package for electrical engineering near the process, and can also be relied on as a responsible partner for turnkey projects. These benefits allowed Moeller to implement smoothly a complete solution for low-voltage power distribution, in close cooperation with Bayer AG and local partners in Thailand.

Moeller was Bayer AG's contact for all aspects of the project, from the preliminary planning stage to engineering, from the installation and commissioning of the system to service and support. Project managers and technical personnel maintained a continuous presence onsite in Thailand.

The time factor was an important selection criterion for Bayer AG in terms of project supplier. The acceptance of the fully operational electrical infrastructure was completed within less than 12 months from the initial customer enquiry. This extremely short time up to the roll out was only possible because the Moeller project management responsible had defined transparent process stages and clear interfaces for all the partners involved.

### The details – power distribution, safe and flexible

However, it wasn't just because of the trouble-free handling and holistic management of the project that Moeller was successful. Moeller's technical know-

how and product expertise were important and essential factors also for the success of the entire project.

For example, the MODAN® Motor Control Centre solution with an integrated FI focus was specially designed for the limited space available in the system and offered an attractive solution.

NAMUR specifications for the integration of drives were given due consideration – Moeller supplied the complete drive system for the downstream motors and process chain. Both conventional motors as well as EEx de IIC T4 explosion-proof motors in flameproof enclosures with ratings up to 250 kW were used.

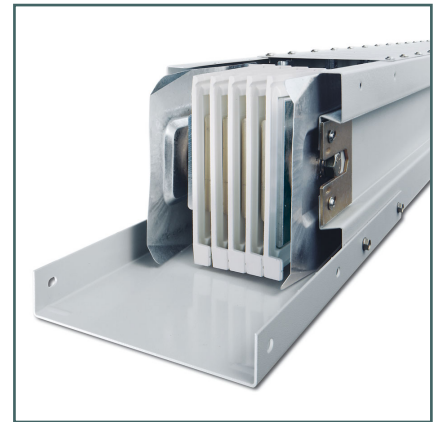
Several low-voltage main power distribution systems that were connected to the transformers by means of busbar trunking systems were used to safely supply the motor control centres and the drives in the field. The flexible expansion options available, even under live conditions, are an attractive feature for normal operation, as well as the variable motor protective functions using the multi-functional PKZ2 compact starter.

### The result – an outstandingly high level of process availability

Moeller's holistic approach and handling of all tasks allowed a high level of process availability to be achieved at Bayer Thai Co., Ltd. Moeller's holistic customer service at the new Bayer Polymers production plant in Map Ta Phut didn't end once commissioning was completed. A 24 hour service and the availability of spare parts and components in Thailand completed the performance package.



System MODAN® for flexible power distribution



LD busbar trunking system for economically transporting large quantities of power

### The technology used

- Low-voltage power distribution system and motor control centre with MODAN®
- LD busbar trunking system
- Standard motor and frequency inverter modules
- Drives
- PKZ2 compact starters

**Moeller GmbH**  
Systems Division  
Hein-Moeller-Str. 7-11  
D-53115 Bonn

E-Mail: [systems@moeller.net](mailto:systems@moeller.net)  
Internet: [www.moeller.net](http://www.moeller.net)

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