

Asahi Glass benefits from international project expertise

Repeat Success

For several years, Asahi Glass Co., Ltd., the world's leading glass manufacturer, and Siemens have been working together successfully to equip glass works all around the world. Following projects in Iran, Belgium, and Russia, Siemens has recently successfully completed several projects for two subsidiaries of Asahi Glass. In all these projects, Asahi Glass has benefited from the established glass and project expertise with which Siemens supports its customers around the world.

Asahi and Siemens

In the last years, Siemens has executed several projects for Asahi:

At AGC Automotive:

Chuderice, Czech Republic
Roorkee, India
Tatabanya, Hungary

At Glaverbel:

Klin, Russia
Maasglas Tiel, The Netherlands
Liya Glass, Iran
Mol, Belgium

At AFG:

Cinimison, USA
Blue Ridge, USA

As long ago as the mid-1990s, Asahi recognized the huge development opportunities offered by the Russian market and acquired a percentage of the largest glass manufacturer in the country, the Bor glass plant. For the automation of a production line for flat glass, coated glass, and plate glass in Klin, near Moscow, the Siemens Group was contracted to provide the project management for all the engineering, the installation and commissioning of the automation and drive technology, the field instrumentation, and the complete energy supply, as well as being responsible for the integration of all components supplied by subcontractors. Simatic PCS 7, part of Totally Integrated Automation, was implemented as the core component of the solution.

Expertise in Russia

In Bor, around 500 kilometers east of Moscow, Asahi Glass and its subsidiaries Glaverbel and AGC Automotive operate several production lines for float glass and automotive glass, which have been successively equipped with state-of-the-art technology since the mid-1990s.

Asahi recently decided to upgrade the power distribution in Bor. As a result of its

previous positive experience with Siemens and the fact that Siemens had already demonstrated in Klin that it was familiar with the requirements of the Russian market, Asahi decided to work with Siemens again. In bidding for this contract, Siemens held its own against well-known competitors, as Bertrand Wiart, project engineer at AGC Automotive, explains: "Several factors played a key role in the decision in favor of Siemens. In addition to the company's experience in the Russian market, which Siemens has already proven, the proposed technology – NXAir air-insulated medium-voltage switching systems and Sivacon low-voltage switching systems – matched our requirements perfectly. In addition, with Siemens we would be able to purchase all the components from one source."

In Bor, Siemens was responsible for the engineering, supplying the required components, and monitoring the installation of the systems on site.

Another project in Hungary

At almost the same time as the project in Bor, Siemens was able to secure two orders for a new AGC Automotive plant in the Hungarian town of Tatabanya, where float glass is further processed into automotive glass. The compact gas-insulated NXPlus switch-

ing systems played a key role in tipping the scales in favor of Siemens. Within the scope of this project, Siemens was responsible for the ordering, delivery, and commissioning of the NXPlus switching system, the Simosec systems in the 22-kilovolt range, and Geafol transformers, as well as the drive technology with Sinamics drives and appropriate motors. Other factors key to Siemens winning this contract were the excellent glass expertise and in-depth project experience of the Siemens team.

The successful implementation of this project and the exemplary international project coordination contributed to the decision to have Siemens also supply the complete medium-voltage distribution system and process control technology with Simatic PCS 7 for the new float glass plant in India.

Proven technology and an experienced team in India

The float glass line in Roorkee is part of a glass complex that is projected to come into operation at the end of 2006. Roorkee is the fourth glass production operation of Asahi India and will, once complete, be the largest integrated glass production operation, with lines for reflective glass, mirrors, automotive glass, and float glass.

On the new float glass line in the Indian town of Roorkee, Glaverbel is using Simatic PCS 7 at the hot end. The efficient Simatic S7 controllers are being used at the cold end, which is equipped by Grenzebach, as well as in the batch house. Siemens partner STG Cottbus was responsible for the CAD designs, software engineering, cabinet construction, installation supervision, and commissioning.

With a total of 1,000 process signals, this is a typical float glass project. Around 30 percent of the signals are linked via Profibus DP and PA, including more than 40 units of the AEG Thyro-P thyristor controller. The architecture of the system in Roorkee combines the most cost-effective solution possible with a high level of plant safety. Four of the automation systems are not redundant. Instead, each of the more than 80 control loops has a hardware backup in one of the 25 Sipart DR24 hardware controllers. Each control loop utilizes the full PCS 7 functionality as a software controller and also has an independent backup in a DR24 with an independent second control output. The Profibus link to the Thyro-P heating units is fail-safe due to a modified software solution: if the bus connection is lost or reconnected, the heating will continue unchanged for the process.

The complete system was tested loop by loop in two steps in the STG testing panel, including possible error situations. As training for later system maintenance, three engineers from the plant operator took part in these tests, enabling them to familiarize themselves with the hardware and software of their new system. The system is currently being installed, with the aim of beginning production at the end of this year.

International expertise

In all these projects, Siemens was able to demonstrate to Asahi how an internationally experienced team can support a client with optimally tailored solutions from one source, thereby simplifying project handling and reducing the lead time until commissioning. This enabled Asahi to benefit both from the strengths of a globally positioned partner and from the great experience Siemens has in the glass industry. ■

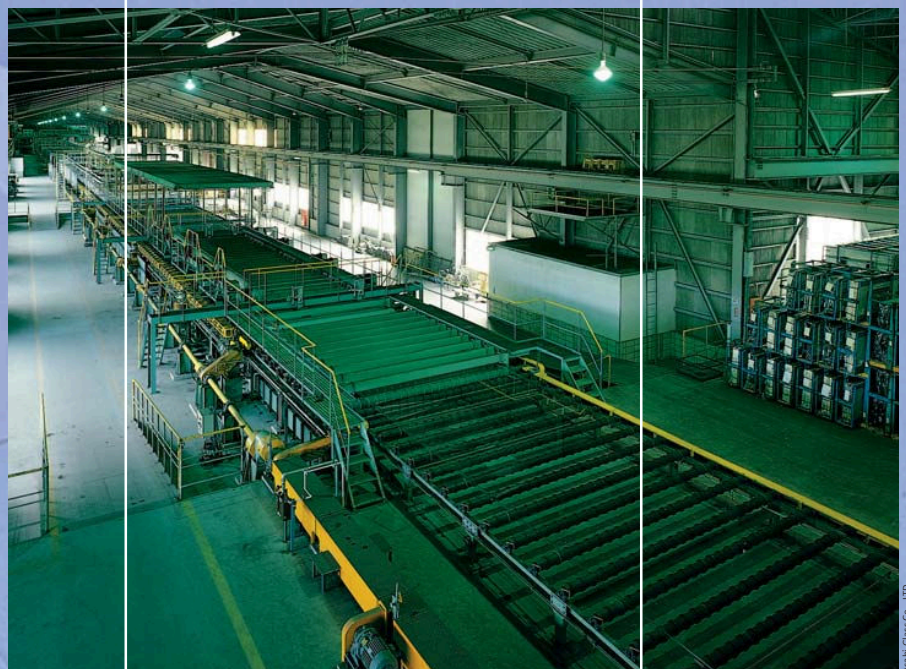
More information:

www.siemens.com/pcs7

www.siemens.com/processinstrumentation



Glaverbel



Asahi Glass Co., Ltd.

Simatic technology is implemented in both the hot and cold end at Asahi Glass – consequently, the company fully benefits from Totally Integrated Automation