



Clean Room Equipped with LONWORKS® Control Networks at Leading Healthcare Supplier



For more than 30 years, B. Braun Medical AG, a subsidiary of the B. Braun group, one of the leading global players in health care, has been a producer of high-quality technical equipment for the medical sector. The new plant in Escholzmatt, Switzerland has thus become a “Center of Excellence” for infusion therapy within the international group. With a modern building automation system based on the LONWORKS control network platform the company complies with all production standards in accordance with FDA and is well prepared for the future.

With a clean room space of 4,000m² the additional production unit (worth 30 Mio CHF) meets the highest quality standards and offers controlled and clean environmental conditions so that goods produced in the facility are protected from contamination of particles or microorganisms from production to packaging.

The Challenge

Building automation plays a key role in this sophisticated facility. Climate parameters such as room temperature, air pressure, air humidity and air cleanliness are decisive factors for the quality of products created in pharmaceutical production. Moreover, strict FDA-compatibility is a prerequisite for commercialization

abroad. Utmost flexibility and the highest levels of efficiency as well as exact control of clean rooms are also important requirements. It was the task of the system integrators, Haelg Building Services Group, to meet the stringent demands at B. Braun Medical AG.

The Solution

To satisfy the manifold and high demands B. Braun Medical AG decided to install an open and integrated building automation system based on the LONWORKS platform. Thanks to the decentralized approach and consistent communication between all technical devices, the costs could be significantly reduced.

The highly integrated information network for heating, air conditioning, cooling, lighting, sunblinds and electrical devices consists of a variety of components from different manufacturers:

TAC

- Monitoring system
- Building management system
- Freely programmable controllers
- I/O-Modules

Svea

- Switches, presence sensors, lighting/sun blind actuators, monitoring of electrical devices

Thermokon

- Distribution boxes for inserted ceilings, brightness sensors

PentaLon

- Weather station

Loytec

- Infrastructure products

With the integration of all products into a flexible, user-friendly and failure-safe system, the Competence Center of the Haelg Group's building automation unit has developed a tailor-made building automation concept for the complete building. More than 2,500 data points allow the operator to have access to and receive information from all integrated systems.

Clean Room

The new clean room concept offers maximum flexibility so that it is possible to react promptly and effectively to new products, production technologies and working methods. The entire space was conceived as one coherent area to allow for maximum autonomy in the way the production process is designed. This facilitates the subsequent integration of clean rooms with higher cleanliness levels. Moreover, the modular ceiling system and the specific energy/media supply for production machines as well as the combination of central and decentralized ventilation and air conditioning components guarantee the highest possible levels of flexibility.



Monitoring

To meet the FDA standards, the Haelg Group decided in favor of the TAC Vista monitoring system, a solution already successfully installed in various facilities of the pharmaceutical industry. Furthermore, a second completely independent license is used as the building management system. In addition to the completely integrated qualification and validation of the monitoring system, parts of the building management system were also qualified and validated to set additional quality standards.

All relevant data are gathered and filed by the TAC Vista system so that specific room conditions are constantly monitored. It is possible to record and produce the exact compliance with/deviation from the specific room conditions (e.g. pressure, temperature and humidity) over a period of six years per measuring point collected (according to 21 CFR Part 11). Deviations from predefined limit values are precisely reported to the operator depending on the pre-set measuring intervals.

All process and parameter data such as measured values, status values, operator steps, system reports, facility parameters or component conditions (including date, time, name of information point, user name or changes) are filed by the monitoring software in a standard database, which guarantees a maximum level of information.

All data are protected against unauthorized access and manipulation. They are periodically filed in the archives where they are available for several years. In addition, the data can later be retraced whenever necessary.

Optimal availability, consistent openness as well as easy operation of the complete facility result in the greatest possible benefit, ultimate comfort, optimal supply of information and profitability. After the successful FDA certification, the new production facility could already be inaugurated on August 11, 2005. The refurbishment/extension of the old production plant is in full swing and will be completed in 2006.

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