

A1 Rating

Economical solution for everything from the power supply to the light switch

For the new Mövenpick Hotel in Frankfurt's Europaviertel, the developer opted to implement a life-cycle concept for the electrical and building automation – more specifically, one from Siemens. The decision helped to considerably lower the investment costs. Additional synergies were generated through the use of modular systems. All of the parties involved rated the project as "A1." ▶



Life-cycle conceptualization already begins with the power distribution: the Sentron 3WL circuit-breaker (left) forms the core of the low-voltage switchboard. Interaction with the Alpha small distribution boards (right) saves costs





MÖVENPICK

Hotel Frankfurt City

Siemens technology at a glance

■ Building automation:

- ▷ Desigo Insight building control center
- ▷ 10 PX 64/128 – DDC controllers
- ▷ 293 RXC single-room controllers
- ▷ 1 PX-E-Protel couplers
- ▷ 7 PX-R master controller for single-room controllers
- ▷ approx. 5,200 data points, including actuators and sensors

■ Fire protection:

- ▷ 1,200 Sinteso fire detectors
- ▷ Fire alarm system

■ Security:

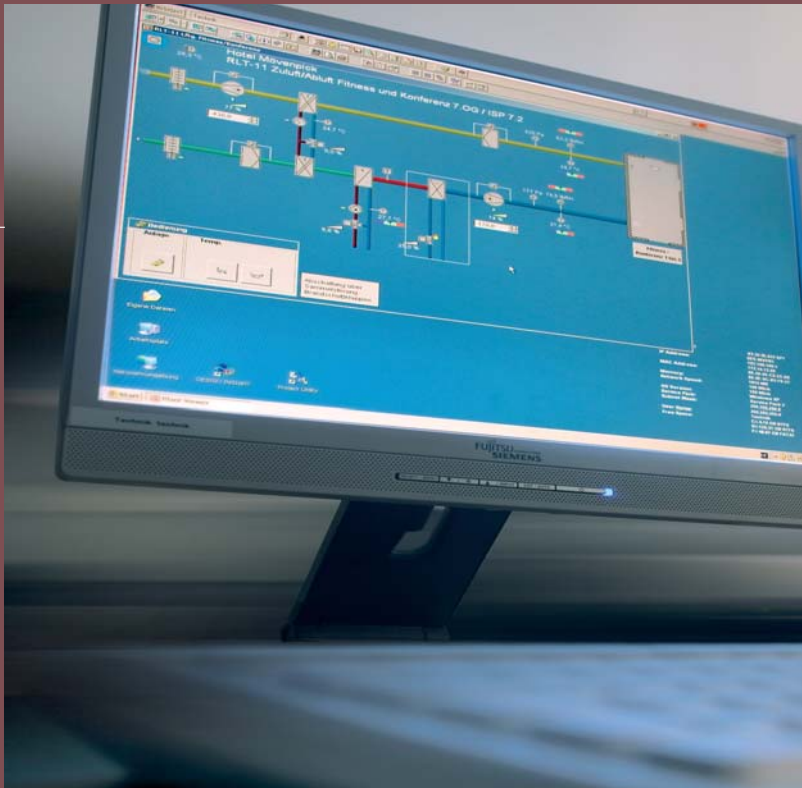
- ▷ Access control for 12 doors
- ▷ Video surveillance with 25 cameras

■ Power supply:

- ▷ Sikus 3200 low-voltage main distribution board

■ Installation technology:

- ▷ 320 distribution boards (Alpha, Simbox small distribution board and Beta installation input devices)
- ▷ approx. 4,700 Delta Line switches and socket outlets



Control center: the user interface of the Desigo Insight building management system is clear and intuitive

▷ **THE MÖVENPICK HOTEL** Frankfurt City is located in the middle of the new Europaviertel, directly across from Frankfurt's trade fair venue. The new district currently being developed on the site of a former freight yard is intended to boost the image of the city on the Main River. A balanced mixture of retail establishments, restaurants, residential areas and office buildings, set in a backdrop of extensive parks and entertainment zones, creates an urban environment that simply invites people to stay.

Elimination of knowledge base distinctions

The hotel celebrated its grand opening well in time for the start of the 2006 Soccer World Cup. During the ceremony, the 288-bed facility was handed over turnkey ready for business to its operator Mövenpick. The developer, the Hochtief/Bilfinger Berger consortium, was commissioned by the owner of the building, the Vivico real estate company. To implement the project, the business partners opted for a "single-source" solutions concept from

Siemens Building Technologies. Typical knowledge base distinctions between electrical engineering and instrumentation and control technology I&C/building automation were thereby largely eliminated in order to put together a complete electrical engineering/I&C package. The benefit for the client: Siemens was able to offer the tendered bundle of functions at an economical total price. It also gave the client a consistent overall concept based on state-of-the-art systems technology and modern switch/socket outlet and room automation designs. Moreover, as a result of the synergies achieved with the high and low voltage systems and with the I&C/building automation, both the owner, Vivico, and Mövenpick, the tenant and operator of the hotel, were able to take advantage of additional optimization benefits.

Ecologically and economically optimized

The solution offered by Siemens fully met the investor's expectations for a life-cycle concept that takes into account the ecological and economic optimization of the technical systems over the entire life cycle of the building. As for the systems and products implemented, Siemens selected proven, long-lasting materials designed to minimize failures and replacement of defective components. As a result, the hotel operator requires fewer resources for the building, which in turn leads to lower maintenance costs.

There is a potential for further cost savings because the technical systems are optimized from an ecological viewpoint. The central activation of air-conditioning in the hotel rooms with needs-oriented switching via the booking system ensures energy-optimized operation of the hotel. With energy prices constantly on the rise, this provides considerable savings. The Mövenpick Hotel management as the user and operator will also benefit from the fact that additional options for economic

Desigo Insight

The Desigo Insight building automation system monitors all important functions of a building. Clear and standardized display of all building information permits fast and efficient operation. The functions of Desigo Insight are divided into modules:

- Plant Viewer: practical mimic diagrams
- Time Scheduler: programming of time-controlled functions
- Alarm Viewer: detailed general overview of all alarms
- Alarm Router: forwarding of alarms
- Trend Viewer: recording and display of measured values
- Object Viewer: analysis of trend data
- Log Viewer: alarms, errors and user events are recorded chronologically
- Web Access: operator input via a Web browser

Security is upheld with 25 cameras located both inside and outside

▷ and long-term reliable operation such as energy management and optimization functions are already included in the systems. With the help of a tiered migration solutions offer, Siemens is not only able to secure system functions long-term, but also to future-proof them against technological progress, as the latest version of the Desigo building automation system based on the BACnet standard convincingly demonstrates.

Focusing on the entire life cycle

For Siemens, a life-cycle solutions concept means two things: on the one hand, to employ the technological characteristics of products and systems in support of the entire life cycle of a building and, on the other, to be on hand as a life-long partner from the time of construction and erection to the operation and modernization of the building. For the four-



star hotel, the concept already began with the selection of the devices and systems that would most optimally be suited for the task at hand. The best example of this is the high voltage power supply. The power is fed in via Siemens Sikus 3200 switchboards and distributed to switches and socket outlets via the Alpha subdistribution boards from the Delta product range.

With all of the implemented solutions, attention was given to enabling easy system expansions in the future. The modular controllers, for example, can be upgraded at any time. Moreover, applications at the management level can be adjusted or upgraded for energy optimizations and additional bays easily added to the switchgear to handle increased power demands. As a result, investments made are protected against future developments. As the long-term partner, necessary modernizations are performed by Siemens in consultation with the client to specification. With respect to adaptations, modifications and expansions, Siemens leverages its “developer know-how,” thereby offering the customer the invaluable advantage of having both the manufacturer and solutions provider combined in one company.

The life-cycle concept also includes a service package individually tailored to the customer’s wishes. All maintenance and service responsibilities are handled by one contract party across all areas of ▷

The modern façade of the Mövenpick Hotel is an eye-catcher



Intelligent energy savings: the air-conditioning is automatically activated just shortly before the guest checks in at the reception

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► expertise, one who is available around the clock in the event of a fault.

From the switchgear to the socket outlet

Solutions from a single source were implemented in the Mövenpick hotel, including the electrical switchgear, electrical distribution boards, switches and socket outlets, the I&C/building automation, the PA system, fire alarm system, video surveillance system, access control system as well as parking space management. Savings in project management, utilization of harmonized, time-saving planning tools, of cable runs serving separate subsystems and the leveraging of synergies between modular systems helped to keep customer investment costs low. For the customer, the Hochtief/Bilfinger Berger consortium, bundling the order placement meant that there was only one contact person for all of the various technical fields of expertise. It also brought with it the added benefit of greatly simplifying the overall project management through the reduction of contact interfaces. The move away from brand variety toward an innovative, high-quality system from a single source was

an additional advantage in the eyes of the customer. A further time- and cost-saving simplification for all involved is the combined acceptance procedure for the systems, for example, the testing of functions across the subsystem boundaries between the fire alarm systems, HVAC (heating, ventilation, air-conditioning) system and I&C/building automation systems. All of the electrical engineering/I&C order decisions were made jointly, in other words, in cooperation with representatives of the consortium and the project manager Vivico. Apart from Siemens Building Technologies, the Siemens divisions Automation and Drives, Industrial Solutions and Services, and Power Transmission and Distribution also contributed system solutions. **B1**

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The employees at the reception area have direct access to the fire alarm center

Ecologically and economically optimized: Siemens uses switches made of long-life materials



Switches and socket outlets from the Delta line are an excellent match for the elegant atmosphere



The operating elements for heating, ventilation and air-conditioning are easy to use



Smoke detectors and video surveillance provide security and safety in the lobby area

