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— Finn Chabert
 Technical Manager
 Steen & Strøm

PROJECT AT A GLANCE

Project Type:
 Building Management System

Location:
 Ørestad City, Denmark

Total Area:
 165,000 m²

Applications:
 HVAC
 Monitoring of CO² levels
 Lighting control
 Monitoring of sprinklers, elevators, electric heat tracing, fat and oil separators, emergency generators, revolving doors, emergency lighting, sewage and drainage pumps, escalators, moving sidewalks and weather stations

Field's – Scandinavia's Largest Shopping Center

When the indoor climate is comfortable, the air is fresh, and the escalators are working, customers are happy and can concentrate on what they came for—shopping and enjoyment. That's why the indoor climate and numerous technical systems at the new shopping center, Field's, are controlled and monitored with the help of a complete Building Management System solution.

TAC supplied the control system, one of the largest in the country, and employed 3-4 people over the course of 18 months to fully implement it. In addition, TAC supplied the BMS solution to some of the largest stores in the shopping center: Magasin (formerly Debenhams) and Bilka OneStop.

With its 115,000 m² of retail space, Field's is the largest shopping center in Scandinavia. It is owned by property management company Steen & Strøm and the German investment company CGI. Field's comprises two levels of retail space and one entertainment level featuring restaurants, cafés, a children's adventure play area as well as Denmark's largest fitness center, Hard Work Studio. The shopping center also has two levels of underground parking. Opened on March 9, 2004, Field's shopping center is 165,000 m² including parking space.

CUSTOMER BENEFITS

- Comfortable indoor temperature for shoppers and employees
- Good air quality in underground parking area
- Efficient alarm handling
- Easily accessible function descriptions
- Assurance of future service

THE CHALLENGE

Lighting is one of the biggest energy expenses in a retail environment, because attractively lit displays draw customers and therefore drive sales. This level of lighting throws off significant heat which must be ventilated; that is why one of the most important requirements of the project was for a large ventilation and cooling system. The systems have been specifically designed to meet future needs in terms of size and function. Customers and employees must feel comfortable—if the indoor climate is just slightly too warm it becomes uncomfortable for shoppers to try on clothing. In the central walkways and foyers, it is quite a challenge to achieve the correct mixture of air for a general comfort level.

THE SOLUTION

Ventilation takes place through 33 ventilation systems while heat and water are regulated by nine mixing loops. These are proven technical solutions, as there was no desire to experiment with the latest technology for this project. Instead, tried-and-true quality solutions were selected on the basis of proven operational reliability.

The BMS solution comprises central walkways and parking areas, while the individual retailers are responsible for system management within their own stores. However, lighting in all retail stores is controlled by a central day/night regulation system, so in-store lighting is turned on and off at the same time based on regular operating hours.

In the underground parking area, sensors constantly monitor air quality. If the CO² level rises above the fixed

limit in a specific area, a series of small ventilators are activated to restore the air quality. In addition, the system monitors technical installations such as sprinklers, elevators, electric heat tracing, fat and oil separators, emergency generators, revolving doors, cooling systems, emergency lighting, sewage and drainage pumps, escalators, moving sidewalks and weather stations.

THE BOTTOM LINE

The shopping center's technical manager can now monitor all of the building's technical installations from a single monitor in the central administration office. If anything in the system is amiss, he receives an alarm immediately.

In many places throughout the building, the technical manager can access the system remotely using a laptop, allowing him to monitor and regulate the system when it is necessary to respond.

"When we selected our BMS supplier we were interested in proven solutions, a company that could handle a large-scale task and, not least, a company that we know will be around in the future for maintenance and expansion purposes," explains Finn Chabert, technical manager at Steen & Strøm.

"We are very pleased with the graphic user interface. It makes it easier to monitor all of the installations. One small but very useful detail in the BMS solution is that it contains all of the function descriptions for all technical installations. The information needed is right there at your fingertips when something needs adjustment or when there is an alarm—we never have to search for a printed description or a book," adds Mr. Chabert.

Without its BMS solution, Field's, due to its size, would never be able to achieve a proper indoor climate while minimizing energy consumption.



Photos courtesy of Field's.

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