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*Teemu Hausen
Managing Director
TAC Finland*

PROJECT AT A GLANCE

Project Type:

Energy, Security, Integration,
Technical Facility Management

Location:

Lempäälä, Finland

Applications:

Technical Facility Management

Energy Conservation

Indoor Climate

Lighting Control

Fire Alarm Systems

Access Control

Intrusion Detection

Energy Metering (LON[®]-based)

Integration of Third-Party Equipment
via LONWORKS[®]

Ideapark - TAC reduces energy and operating costs at Finland's first indoor commercial city.

The Finnish winters may be long and dark, but a new indoor retail and leisure complex called Ideapark looks set to keep the inhabitants of Tampere and its environs both comfortable and entertained for the foreseeable future.

The Finnish branch of TAC is in charge of all the building management and security systems for the new commercial city, with an ambitious performance-based contract that calls for a 25% reduction in the energy required for building operation.

Located near the city of Tampere, Ideapark is the first indoor commercial city of its kind in Finland, providing products and services for homes, interior fashion and leisure. When its doors were first opened to the public in December 2006, Christmas shoppers could visit over 170 stores along 1,2 kilometers of shopping streets, and local residents could take advantage of all kinds of municipal services. Ideapark hosts 15 restaurants and cafés with a total of 1,200 seats for patrons. It has an imitation Old City with narrow alleyways and fountains and a special Cultural Centre for children. For those who like to be 'outside' there is a verdant Central Park with a retractable roof system that can be opened in warmer weather. The park has an area that can be turned into a skating rink in winter. In the future, sports enthusiasts will also be able to enjoy a swimming pool carved out of rock, a bowling hall, a climbing wall and an underground cross country skiing tunnel.

THE CHALLENGE

This ambitious project was first conceived by a trio of Finnish entrepreneurs, who bought the land upon which Ideapark is situated four years ago. By 2004, detailed plans were underway to create this impressive complex. Phase one was ready in December 2006, and two additional wings are planned for the future.

CUSTOMER BENEFITS

- Reduced energy spending by 25%
- Complete technical facility management
- Ongoing reporting and fine tuning of energy usage
- Comfortable and productive environment

Ideapark

TAC Finland first became involved in Ideapark as a technical consultant assisting with the planning phase. In 2005, the company was asked to fulfill a five-year Technical Facility Management contract. This meant, among other things, that TAC would be in charge of Ideapark's energy and security systems (including fire alarm systems, access control and intrusion alarm systems), and take part in the decision-making process when choosing security and IT suppliers for the project.

THE SOLUTION

One of the main reasons why Ideapark's owners were so interested in working with TAC was the company's ability to save energy in the existing building portfolio.

The promised 25% reduction in energy required for building operation is being achieved using TAC Finland's unique business model for building automation services – a model that not only lengthens the building's life-expectancy but also secures a better working environment and a good atmosphere in the building. Key factors are the integration of the different building systems, analysis and active follow up of the results. For example, TAC is taking advantage of LONWORKS® technology by using LON®-based energy meters to measure, analyze and distribute energy reports to Ideapark's organization.

Being involved at an early stage in this project meant that TAC was able to integrate the building management and security systems properly. On the technical side that meant making sure the security and fire alarm systems could be connected to the Building Management System TAC Vista™ by OPC or LONWORKS®. The use of LON® third-party equipment, such as LON® frequency controllers in air handling units and LON® pumps for heating

and cooling, led to savings on electrical wiring, installation and labor costs. This equipment is versatile and it's always possible to get technical support or information if problems occur.

"An integrated, centrally controlled building security and management system delivers savings from the construction stage onwards," explains Teemu Hausen, Managing Director of TAC Finland. For example, since Ideapark's different areas do not need their own electrical control boxes, savings are made on hardware and wiring, as well as the electrician's time and tools. Once in operation, the equipment is managed by experts who can apply their specialist knowledge to ensure optimal energy use. Continual fine tuning keeps energy wastage down to a minimum.

As part of its contract, TAC also selects and manages Ideapark's suppliers of IT services, security, fire alarms, cleaning and waste disposal. Businesses that rent space in Ideapark can access all these different services via TAC if they so wish.

What has been the biggest challenge for TAC so far? "We are shooting at a moving target," says Jari Räikkönen of TAC Finland. "We have to keep revisiting our goals as the project prerequisites change and, for example, new tenants arrive.

We never stop looking for improvements, checking the temperature and conditions in each area. It's an ongoing challenge." With steadily evolving requirements, it has been very important to assure tenants and visitors alike that the construction phase supports the business idea no matter what. The technical platform has been deliberately built to enable adaptation to new challenges that may come in the future.

FUTURE OUTLOOK OF IDEAPARK

Ideapark will eventually cover a surface area the size of twenty football fields, costing approximately US \$128.5 million to build. Toni Virkkunen, Marketing Director and co-owner of the Ideapark, expects six to eight million visitors per year, including both locals and tourists. Is this realistic? Within a thirty-minute drive of Ideapark, there are 500,000 homes, and 65% of the Finnish population (or 3.38 million people) live within a 200-kilometer radius of Ideapark.

The sheer size of Ideapark poses challenges too. An example is the underground cross country skiing area. There are two ski tracks – an outer track of 600 meters and an inner track of 450 meters. Ensuring comfortable conditions for visitors in such a setting is quite a task in itself. The Finnish law, which requires all public buildings to include underground nuclear shelters, makes things more complicated. The swimming pool area can be used as one of the nuclear shelters. Jari concludes, "When designing the climate control system, we therefore had to think of both sets of needs."

BOTTOM LINE

TAC showed how it was possible to use LON®-based building automation to reduce energy spending by 25% in comparison to current costs. Lower running costs not only mean better operating profit in the short term, but also a superior return on the developer's investment when it is time to sell.

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