

# Telenor



## CUSTOMER BENEFITS

- Maximized energy management
- Substantial operational savings
- Centralized monitoring of a multiple-building office complex
- Flexibility to adapt to future needs and reconfiguration of offices and interior space
- Optimal working environment with employee control over individual work spaces
- Seamless interoperability with third-party applications
- Lower energy use

## PROJECT AT A GLANCE

Project Type:

Energy, Integration

Location:

Fornebu, Oslo, Norway

Total Area:

137,000 m<sup>2</sup>

Number of Buildings:

8

TAC Equipment Installed:

9 - Vista Servers

25 - Vista Workstations

11 - Vista Webstations

500 - TAC Xenta<sup>®</sup> controllers

72 - Operator Panels

1,300 - TAC Xenta IO modules



Telenor, Norway's leading telecom, IT and media company, needed a new headquarters for thousands of its employees scattered in offices around the capital city of Oslo.

When the perfect location became available at Fornebu, site of the country's former national airport, the telecom giant decided it was time to construct what would be Norway's largest office complex.

TAC's expertise in Open Integrated Systems for Building IT was decisive in it being awarded participation in the high profile contract.

As one of the most progressive companies in the Nordic region, Telenor wanted to provide its 7,500 employees with the most comfortable and intelligent work environment possible. Located in an area of great natural beauty on the edge of a fjord, the massive complex would be Telenor's global center.

TAC teamed up with one of Scandinavia's largest technical installations companies, Bravida, to provide a multi-use, interoperable building management solution that complied with all Telenor's demanding specifications and employees' wishes.

**Applications:**

- CCTV
- HVAC Control
- Lighting
- Chilling
- Heat Recovery
- Emergency Lighting
- Energy Logging & Reporting

**Total System Points:**

4,000

**TAC Partner:**

Bravida Norge AS



**The Challenge**

Telenor had multiple objectives for the new site. Architecturally, the eight-building complex had to be attractive and comfortable for employees and visitors, and blend in harmoniously with the surrounding countryside. It had to incorporate the most advanced high-tech solutions available for energy-efficient and economical operation.

The new control system would also have to be flexible enough to meet future needs of the occupants and support frequent reconfiguration of offices and interior space. Telenor also wanted to increase comfort and improve the overall working environment by giving employees the power to regulate indoor climate from their own work spaces.

**The Solution**

To integrate such a vast array of multiple operational functions, TAC and Bravida designed and installed a TAC Vista™ building control system. Telenor's new system integrates and controls HVAC, lighting, power monitoring, chiller plants, heat recovery and emergency lighting. All critical real-time information is collected and stored on nine TAC Vista servers, from where it can be accessed, directly or remotely, by 25 TAC Vista Workstations and 11 TAC Vista Webstations located in various areas of the multi-building office complex.

Other LONMARK®-certified products integrated include variable air volume (VAV) controllers for optimal indoor air quality and a revolutionary sun protection system that deflects light into the building thereby supplementing artificial lighting and cutting energy costs.

This highly sophisticated system even allows individual employees to control the lighting level, temperature, air flow, blinds and other functions directly from their own PCs.

## COMMERCIAL PROFILE

Flexibility in the utilization of office space is of primary concern for commercial tenants. Remodeling, relocation or space expansion within a particular facility can be optimized with minimal changes in existing installations by using TAC Building IT solutions based on LONWORKS® technology.

This helps to decrease the time required for changes, and thereby enhances the attractiveness of a commercial property. Tenants can be assured that the facility is able to adapt and meet their growing business needs without causing them – or the owners – huge incremental costs for every change.

This is all part of Building IT solutions for commercial facilities – designed for economy, operational efficiency and flexibility in space utilization.

## The Bottom Line

By using a LONWORKS®-based open system, TAC and Bravida delivered a solution that enhances the environment, maximizes energy management and integrates a wide range of building functions. The results are substantial cost reductions and a flexible indoor environment that helps ensure employee comfort and satisfaction, both now and in the future.

In 2003, Telenor Kokstad in Bergen was awarded the Prix d'Excellence for the "Best Office Building of the Year" worldwide, by the International Real Estate Federation (FIABCI). This was, in fact, the 10th award bestowed on the building. As the most energy efficient building in Norway, it uses only 100 kWh per square meter every year, about one third of the national average.