

CASESTUDY

# Canary Wharf | London – UK

## BP1 Building – Excellent Environmental Assessment (BREEAM) rating



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01 Canary Wharf  
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### Projekt Overview

Canary Wharf is planned on a grand scale, yet with meticulous attention to detail. The offices at Canary Wharf have been built to the highest standards, set in a landscaped estate providing a relaxing and healthy environment for office workers and visitors. The Estate extends over 86 acres. Some of the world's leading architects and designers have been involved in its creation. The estate comprises:

- Ten office buildings (some incorporating retail units at street level)
- Multi-level indoor shopping in Cabot Place East and Cabot Place West
- A Docklands Light Railway station
- A conference and banqueting centre
- 17.1 acres of landscaped open spaces

The ABB Cylon® Unitron BMS has been installed in various buildings within Canary Wharf, including One Canada Square, DS5 Citygroup Tower and BP1 at Churchill Place.

BP1 is the newest project with some 92,900m<sup>2</sup> (1 million sq ft), the building is arranged over five basement levels, ground and 33 upper floors. It includes a health and fitness centre for the BP1 staff

### Project Summary

|                                   |   |
|-----------------------------------|---|
| Applications:                     | Heating, air handling, cooling                          |
| Points:                           | 16,200  |
| Number/Type of Building:          | 1 building / 92,900 m <sup>2</sup><br>(1 million sq ft) |
| Network:                          | Arcnet – RS485 Subnet,<br>RS232 PC to UCC4              |
| ABB Cylon® Hardware<br>Installed: | UCxx range, UCUXX range                                 |
| ABB Cylon® Software<br>Installed: | WN3000  |

as well as a 365-seat restaurant and 100,000 square feet of training facilities. Five south facing atria are stacked vertically maximising levels of natural light in the office areas and providing a more relaxed informal working environment.

The ABB Cylon® Unitron BMS has been installed in all 5 basements and 33 upper floors controlling plant, with local temperature control via 2,100 UCU10VAV controllers on 1 basement and 23 upper floors. The BMS is managed by a full time team of Eton Associates Engineers. The facility has achieved an Excellent Environmental Assessment (BREEAM) rating.

### Solutions Benefits

For the owners the new building provides a better working environment, improved efficiency and significant environmental performance improvements. The ABB Cylon® Unitron BMS controls local temperature and electrical supply management and the facility has a range of features to cut down on energy use. Benefits include:

- Centralised management of 24 floors of commercial office space
- Highly controlled comfortable working environment suitable for this world headquarters
- Energy saving through efficiently managed ventilation, cooling and heating
- Intelligent load shedding providing security of supply for critical plant in the building
- Fast system trouble shooting through centralised alarm and supervisor control

### ABB Cylon® Solution

The main function of the Unitron BMS in the BP1 building is controlling the local temperature via the

2,100 VAV controllers on site. Energy is saved by delivering only the required amount of air into each controlled space. When each space does not have a cooling requirement the system automatically drops the fan speed further reducing the energy required. Each floor of the building hosts 16 multiple time zones which allow the flexibility of enabling every fan assisted terminal unit box to be changed to a specific time allocation.

The ABB Cylon® OSNodes provide a high level interface with the Chillers. With 6 Chillers and 9 Cooling Towers sequenced to achieve rotation for numerous zone applications, if one chiller shuts down, the BMS actions another to power up and single point failure is prevented. The Unitron BMS manages a load shed routine throughout the whole building. In the case of power failure the system will shut down non-essential plant to match available supply. Likewise the system constantly monitors maximum demand and will intelligently shed load so as not to incur penalties from the utility provider.