The Brundtland Building - Building Management System

What is a BMS?

A Building Management System (BMS) is a computer-based control system installed within buildings that controls and monitors the building's mechanical and electrical equipment.

At Bedford College the BMS monitors/controls the following equipment:

- Lighting
- Heating
- Cooling
- Ventilation
- Rainwater Harvesting
- Wind Turbine
- Photovoltaic Array
- Solar Thermal Array

BMS Outstation #2 (Automotive Workshop)

Motor Control Centre #1 (Main Roof Area)

How does it work?

The BMS works by linking all the plant and systems to one common location. This is achieved by wiring and installing sensors/connecting the relevant equipment or systems back to the MCC panel (Motor Control Centres) or Outstation.

At Bedford College there are two BMS panels, one located on the roof of the building MCC1 and one located in the Automotive Workshop OS2. These panels are both linked to a central server located within the Communications Room. This server allows any equipment or systems connected to the BMS to be visually monitored or controlled on the server display screen.

The Trend 963 system installed at Bedford College also allows anyone in the building to log into the BMS system via a webpage and monitor the plant & systems. This is useful for SMEs, lecturers and students as the BMS can also be used a demonstration aid.

Benefits of BMS?

Owners and tenants of non-domestic buildings are under mounting pressure to cut their energy usage and carbon emissions. They are faced by the prospect of higher utility prices and ever more stringent legislation, not to mention public and stakeholder demands that they show high standards of corporate social responsibility.
So what should be the first priority for hard-pressed energy and facilities managers? The logical answer is that they should focus on those areas where large energy savings can be made quickly and easily. This will often mean looking no further than their building management system.

BMS Server (Comms Room)

A BMS can efficiently control as much as 84% of a building's energy usage. By applying a range of control and monitoring routines - both simple and sophisticated - it is capable of operating the building services in strict accordance with demand, thereby avoiding unnecessary use of energy.

- Central or remote control and monitoring of the building
- Early detection of problems
- Possibility of individual room control
- Improved plant reliability and lifespan
- Equipment faults displayed on BMS Server
- Effective monitoring and targeting of energy consumption

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