

BEAMS

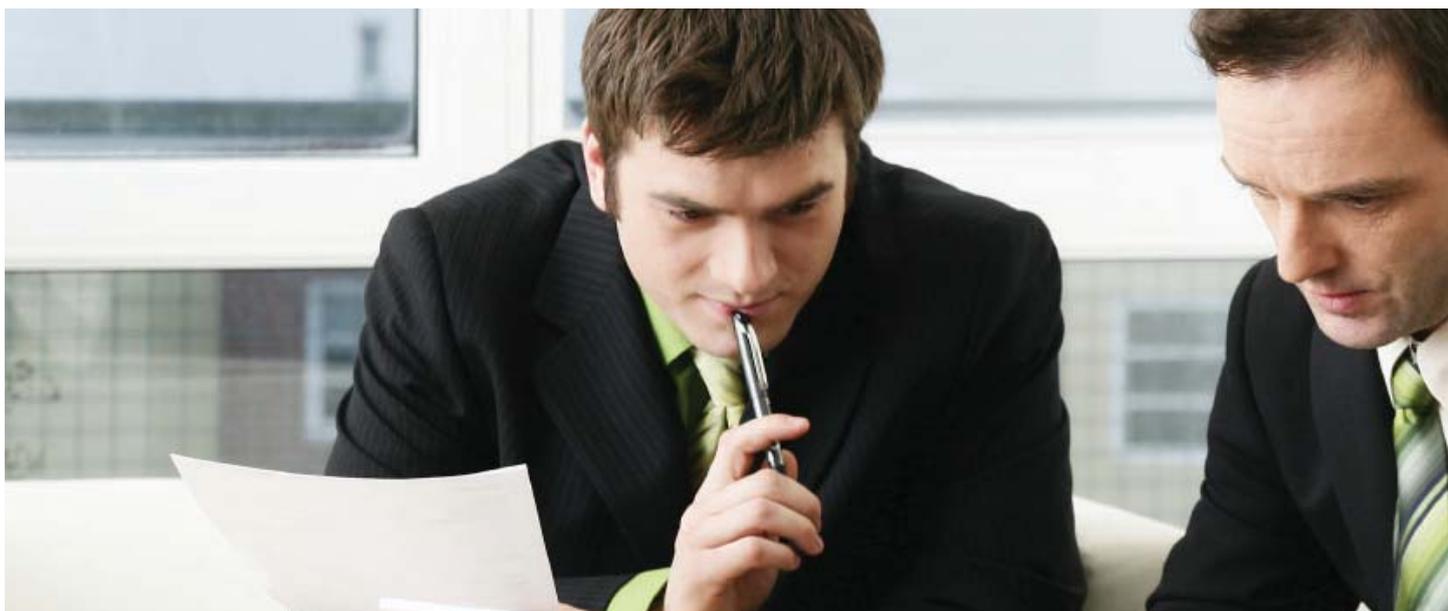
Building Energy & Automation Management Solutions

**Seamless building
facilities integration**



Energy reduction strategies /// Increased operation life ///
Integrated control /// Reduced maintenance ///
Remote management ///

Improve Operational Efficiency



Business Benefits

The greatest challenge in the development and ownership of all built environments, including commercial and industrial accommodation, is to gain the maximum return on assets and investment.

Controlling Costs

Any inefficiencies impact profitability and value of the asset itself. Major areas to address include energy usage, waste and maintenance costs. Mitsubishi Building Energy and Automation Management Solutions (BEAMS) applies technologies and integrated control strategies to address many of the needs of today's building management. A key goal is to improve operational efficiency of the building and thereby reduce running costs.

Energy Management

Minimising energy cost is a vital factor in successful building management. By maintaining maximum efficiency, the impact of external factors such as rising fuel costs, Carbon Tax and even future limitations imposed by carbon trading can be reduced significantly. Buildings contain a diverse range of control and monitoring elements, such as sensors and controllers etc. BEAMS integrates available data from all sources and optimises the building control strategies for maximum efficiency under current operational conditions.

The Right Environment

Building services includes aspects of safety, security and environmental conditions such as lighting, heating and ventilation. A function of HVAC building services is to create a comfortable working environment for staff and clients.

These systems often have different control protocols specific to the application. BEAMS integrates information from these devices and controllers bringing together full site data, resulting in more effective and efficient control of the environment and processes. This integrated approach identifies and reports changing conditions within all the operational equipment and can minimise breakdown and unexpected outages as part of asset management.



Multiple Occupancy

Many businesses today assign operational costs to various groups in an organisation. Integrating usage data from all areas of the building management system means that costs may be accurately assigned, and trends identified. This also assists with billing where multiple occupancy of the building takes place.

Building Value

Energy management reports can be included in efficiency appraisal documents to determine the building energy band which may add to the asset value of the property.

Key Drivers

- Maximum return on investments
- Reduce energy costs
- Improve working environment
- Identification and elimination of energy waste
- Improve energy accountability
- Minimise external pressures such as fuel pricing and carbon taxation
- Security
- System integrity



One Company Seamless Solutions

Integration

Adaptable and powerful BEAMS solutions enable companies to take a strategic approach to energy management, automation and control. This allows the full integration of business functions bringing the benefits of greater efficiencies and huge cost savings.

Buildings are very diverse, not only in their design but also in their use. Tailoring the control system to gain maximum efficiency can only come from a clear understanding of the business requirements and the technologies available. As one of the world's leading technology providers, Mitsubishi is ideally placed to bring together the data, understanding and experience to achieve effective control and efficient system performance. Mitsubishi BEAMS solutions are unique in their ability to interface to building services application modules and monitoring sensors.

Best Solutions

Key factors in the development of any solution are the ability to understand the need, and recognise existing opportunities and technologies to meet the client requirements. As building usage can be so diverse, Mitsubishi works together with the correct partnership of technologists and specialists to get the very highest performance from the systems involved in the environment. Mitsubishi partners with leading integration companies, bringing the best solutions to meet expectations and release maximum return on investment.



■ Building Services

- Lifts
- Escalators
- HVAC services
- Lighting systems
- Visual information systems
- Access control

■ Communication Networks

- Open control networks and communication



■ **Control Rooms**

- Visual systems
- Security monitoring
- Power monitoring
- Energy metering
- Occupancy monitoring
- Software solutions
- Reporting systems

■ **Plant Room/Services**

- Air conditioning/Chiller control
- Power distribution
- Fan controls
- Pump controls
- HVAC control
- Distributed controllers
- Human Machine Interfaces (HMI)
- Direct Digital Controllers (DDC)
- Boilers

■ **Board Room**

- Management reporting
- Enterprise Resource Planning (ERP)
- Reporting
- Offices/workstations/networks

■ **Production Areas**

- Robots
- Programmable automation controllers
- Direct Digital Controllers
- Human Machine Interfaces



Board Room: Real time information and reports vital for maintaining efficient operation and control. Better cost and investment planning.



Security: Access control, movement and occupancy information for billing and operational planning.



Living Environment Systems: Total integration of air conditioning control and other environment services.



Control Room: Integration point for all operational data. Monitoring of building information and system alarms to maintain full function and security.

Building Intelligence

Integration

The real power of a BEAMS solution comes from the ability to source real time data from every part of the operational environment and combine it with both automatic and manual data entry. Operational schedules could be keyboard entered, and climatic conditions updated automatically from web based information services. There are many other data types which can be included in the overall information mix to allow full trending and future operational projections.

The seamless approach takes each piece of data and fully integrates it into the enterprise level business databases where it can be recorded, assessed and processed. Adaptable and powerful BEAMS solutions enable companies to take a strategic approach to energy management, automation and plant control. This allows the full integration of business functions bringing the benefits of greater efficiencies and huge cost savings.

Accessible

At each level of the business, gathered information can be accessed, viewed, and where appropriate, processes can be directly controlled. Relevant information is always available at the right point such as local control interfaces, central control rooms and management offices. It is also accessible remotely through WEB and other communication services.

Business information is available in many formats, from programmed reporting and management software such as ERP and MES software, to WEB based secure access or views. Exception information including alarms and regular updates can trigger SMS messages for management and critical staff right to their mobile phones.



Automation

BEAMS automation controllers are highly adaptable, interfacing fully to systems and devices at all levels of the building management system including direct links to management databases. They are far more versatile than many other building control and monitoring systems such as BMS and BEMS systems which offer limited functionality and are not easily upgradeable.

BEAMS controllers use direct digital and analogue control, along with powerful open networks to tailor the complete control system for maximum performance. Where specialist controllers are required, BEAMS interfaces directly over industry standard networks for high control integrity and reliability. As fully configurable modules, they can be structured to meet the operational needs of all types of building, offering local, zone and global control in a unified way.



Effective Communication

Open and effective communications are the lifeblood of efficient building systems. Intelligent buildings generally involve a number of network communication strategies which interface distinct manufacturer's devices and systems. Data needs to be incorporated from the simplest field sensor, along with important information from complex application modules or processes. Alongside data networks there are other services such as visual security imaging which can be combined with process detail to achieve a clear understanding of operational conditions.

■ Plant Level

Operators at the plant level can use local information to make adjustments to the process. Changes can be easily tracked creating valuable insight into the activities and outcomes of local engineering and operational activity.

■ Control Room

The control room can trace and track activities including access and security. Information can be presented in the light of complete environmental data and global adjustments can be made where required.

■ Direct Automation Control

Automation controllers can automatically adjust systems for optimum efficiency by responding to global and local environmental conditions.

■ Exception Reporting

Important information can generate automated email and SMS messaging processes to ensure relevant people are informed immediately.

■ Management Reporting

Management can get strategic and tactical reports to monitor and control the business.



Beams – The Next Step

Find out more about how Mitsubishi's BEAMS approach can reduce costs and improve the effectiveness of your processes and plant. We have a team of engineers and technologists who can help you to gain maximum performance from your building systems.

If you would like to discuss this further, please contact automation@meuk.mee.com or telephone 0870 5168567.



Global Partner. Local Friend.



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