# IBM Intelligent Building Management

*Integrated software solution for improving buildings management and facilities operations*

## Highlights

- Lower building operating cost by consolidating building information and by performing analytics to identify energy optimization opportunities

- Improve facility operations by analyzing real-time equipment alerts and automated service requests to more efficiently service key building equipment

- Gain flexible enterprise, regional and building-specific views of energy trends, alerts and facilities operations across the building portfolio and building management systems

- Extend the life of building assets through proactive maintenance enabled by real-time condition monitoring

- Provide a consolidated role-based dashboard for one stop view of building operations

From offices and conference rooms to labs and data centers, each space in today's buildings, whether five months or 50 years old, has its own requirements. And the infrastructure that supports the needs for lighting, heating, cooling, ventilation and water is complex. The building consumes power and generates costs that must be managed proactively if a portfolio of buildings is to achieve maximum efficiency.

The past decade has seen an unprecedented proliferation of smart sensors and control systems designed to sense conditions and emit alerts or responses from interconnected systems. However, these building systems typically operate independently through a mix of vendors, they have different protocols and transport mechanisms, are often isolated and have been maturing at different rates. Add to this complexity the sheer volume of data and real time alerts—especially when the focus is at a campus or portfolio level—and it's easy to see why gaining control of building systems can be a daunting task.

IBM® Intelligent Building Management provides a comprehensive, easy-to-understand dashboard of vital information such as monthly peak electric demand and energy usage. Scoreboards can be tailored to personnel (such as executives or line of business) or to tasks (such as alerts or work orders). Data filters can also be used to display a wide variety of graphs for visualizing energy consumption and other trends.
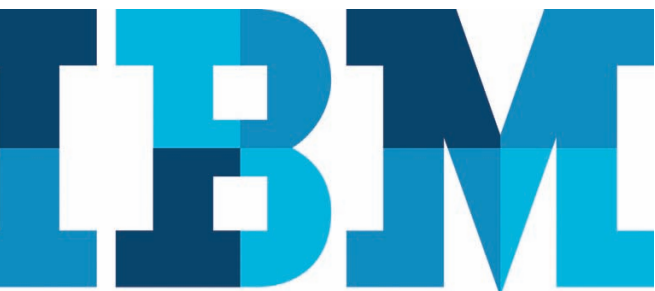
Optimizing building performance and leveraging sensor data from a holistic point of view requires collaboration between facilities and IT operations. IBM Intelligent Building Management is an integrated software offering that combines real-time systems monitoring with facilities and event management to help analyze and optimize facilities operations, reduce energy expense, and improve asset management and reliability. The solution gives building owners and managers the ability to collect vital real-time energy and operational metrics, apply enterprise-wide analytics, and view that data in a cohesive dashboard to support optimization capabilities.

These real-time data gathering and analysis capabilities allow building managers to address service issues proactively before they occur and to visualize energy, environmental and portfolio performance metrics for floor space under management. The solution enhances management of heating, air conditioning and power consumption to lower costs and emissions, enables prediction of equipment maintenance issues to prevent break-downs, and helps locate assets and resources across the facility. It also serves as a platform for improved management in other building domains such as asset optimization, water management and lighting.

## Integrated energy and facilities operations

IBM Intelligent Building Management provides a consolidated, role-based view of data in two key areas—energy and environmental management, as well as facilities management—that enable building owners and managers

to increase building management effectiveness, staff productivity and energy efficiency. These areas are addressed by solution capabilities in the following areas:

- Energy and environmental management
  – Energy consumption reporting
  – Energy use drill down
  – Proven analytics to identify energy inefficiencies

- Facilities operations management
  – Asset and work management
  – Portfolio management
  – Maintenance
  – Condition monitoring

## Delivering information and insight across infrastructures

IBM Intelligent Building Management provides a comprehensive, easy-to-understand dashboard of vital information such as monthly peak electric demand and energy usage trends. Secure, role-based dashboards provide users access to the data they need to do their jobs, be it an executive providing oversight of a building portfolio's operational performance, an energy manager evaluating energy trends or a facilities operations worker monitoring work order aging. Dashboards can be tailored to personnel (such as executives or line of business) or to tasks (such as alerts or work orders). Data filters can also be used to display a wide variety of graphs for visualizing energy consumption and other trends.

IBM Intelligent Building Management provides adapters for interconnection with existing building management systems. Analytics capabilities include analytics rules designed to detect sub-optimal energy situations and issue alerts for correctible action for high energy-consuming equipment. Real-time event notification and centralized service request processes enhance the creation of work orders for anomalies detected through analytics.
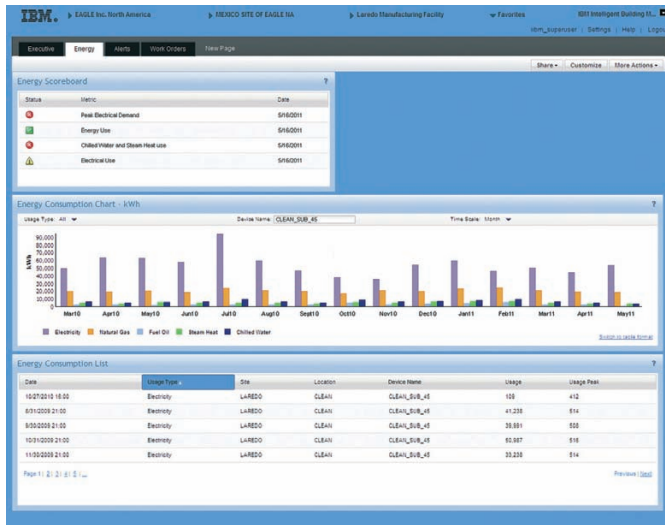
Dashboard views provide graphs of energy consumption for buildings across an enterprise's global locations.

## IBM Intelligent Building Management: A case study

The IBM Rochester, Minnesota campus, which comprises 3 million square feet and 35 interconnected buildings, is one of the most energy-efficient IBM locations. When the facilities management team implemented Intelligent Building Management software in an area of the site, energy savings accelerated by an incremental 8 percent from 5 percent on the equipment monitored.

Comprehensive dashboards and alerts generated from analytics that constantly monitor equipment trends give managers, engineers and maintenance staff real-time operations visibility and intelligent analytics. Staff can achieve more effective decision making using information gathered from air handling,

lighting and perimeter heating equipment as well as data from the campus building management system, electrical meters, asset management software and outdoor temperature and humidity gauges.

## Achieving efficiencies based on deep IBM experience

IBM Intelligent Building Management is part of a portfolio of IBM solutions for Smarter Buildings and is built on a combination of IBM technology innovation, real-world experience in business analytics and optimization, and IBM's extensive partner ecosystem. The combination of real-time monitoring and event management technologies delivers robust analytics, visualization and management capabilities. IBM Global Business Services delivers consulting expertise to bring together business and operational requirements. IBM Global Technology Services delivers operational and integration best practices. The result is the greater effectiveness and productivity that site-specific building management and global energy efficiency issues require.

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**IBM Intelligent Building Management system requirements at a glance**

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**Virtualized environments**
**Software:**

- Three software components:
  - VMware vSphere Hypervisor ESXi v4.1
  - VMware vCenter Server v4.1
  - VMware vSphere v4.1

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**Hardware:**

- Four or more Intel/AMD server-class machines, each with 64-bit architecture:
  - A minimum of 6 cores per hardware device
  - A minimum of 12 GB of RAM per hardware device
  - A minimum of 250 GB of HDD per hardware device

## For more information

To learn more about IBM Intelligent Building Management, contact your IBM representative or IBM Business Partner, or visit
**ibm.com**/ibm/servicemanagement/industry/us/en/smarter_buildings.html

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