

Building Management Systems is a Green Building systems provider, offering renewable energy solutions and building automation systems for governmental, commercial, industrial, residential buildings and Home infrastructure projects.

Our product portfolio and expertise help our customers and communities in improving their business efficiency, reducing their operating costs, optimizing their energy usage, and ultimately increasing their profitability.

Our solutions

We offer suitable interoperated Integrated Building Management Systems (IBMS) such as:

- Building Management System (BMS)
- Room Automation System
- Home Automation System
- Energy Conservation & Management Solution
- Enterprise Energy Management Solution
- Security Surveillance & Access Control Systems
- Car Park Management System

We also provide Renewable & Sustainable Energy Solutions such as:

- Solar Water Heating System
- Building Integrated Photovoltaic System (BIPV)

Control & Building Automation Systems	Home Automation Audio/Visual Systems	Room Automation Systems	Voice Communication Systems	Security: CCTV & Access Control Systems	Car Park and Ticket Management Systems
Industrial Control & Instrumentation	Electricity & Water Systems	Energy Metering Systems	Solar Water Heating Systems	Photovoltaic Systems	Energy Management & Conservation Systems

Our services:

System Design

- Expertise in designing and specifying most suitable electrical and mechanical control systems matching client requirements and meeting or exceeding all relevant regulations
- Advice on MEP control systems design, possible improvements and optimization.
- Coordination with other MEP Services considering client requirements, demands and approved project schedules

Project Implementation

- Implementation, integration, testing and commissioning of MEP control systems
- Providing turnkey solutions from concept to completion, including project management, design management/co-ordination, planning, procurement, construction management and delivery to meet current and future needs.
- Providing installation recommendation, procedures and supervision.

Maintenance and Service

- Full training on the installed systems and their operation as well as maintenance procedures.
- Maintenance contracts after warranty period upon request for the installed MEP control systems.

Energy Management & Service

A comprehensive range of energy management systems and services is available.

Implementation in both new and existing buildings

Energy Auditing and Conservation Feasibility Studies

Plant and Equipment Performance Analysis, Recommendations for Energy Savings

Guaranteed Savings, Energy Conservation Products, Cost-in-use Management

Turnkey Implementation of Energy Conservation Measures

PV

Photovoltaic panels provide electricity for small consumers



Solar water heating

Using solar energy for heating domestic water eliminates the need for electric / gas heaters

BIPV

For new constructions, Photovoltaic elements can be directly incorporated into the building structure (roof, facades, glazing), minimizing installation cost and is more aesthetically appealing

Building Management System

Provides monitoring and control for automation systems in the building



Chiller Plant Control

- Energy saving
- Increase of the system flexibility
- Extended chiller plant life
- Provides spare capacity for future expansion
- Lower maintenance cost

Expected energy saving: 20-30%, without compromising comfort.



AHU Optimization

Optimises air distribution in Variable Air Volume (VAV) AHU systems thus greatly reducing energy usage. This is achieved by continually adjusting static air pressure set-points of an AHU as opposed to conventional VAV AHU systems which rely on a fixed static air pressure set-point.

Expected energy saving: 50%, without compromising the environmental comfort.

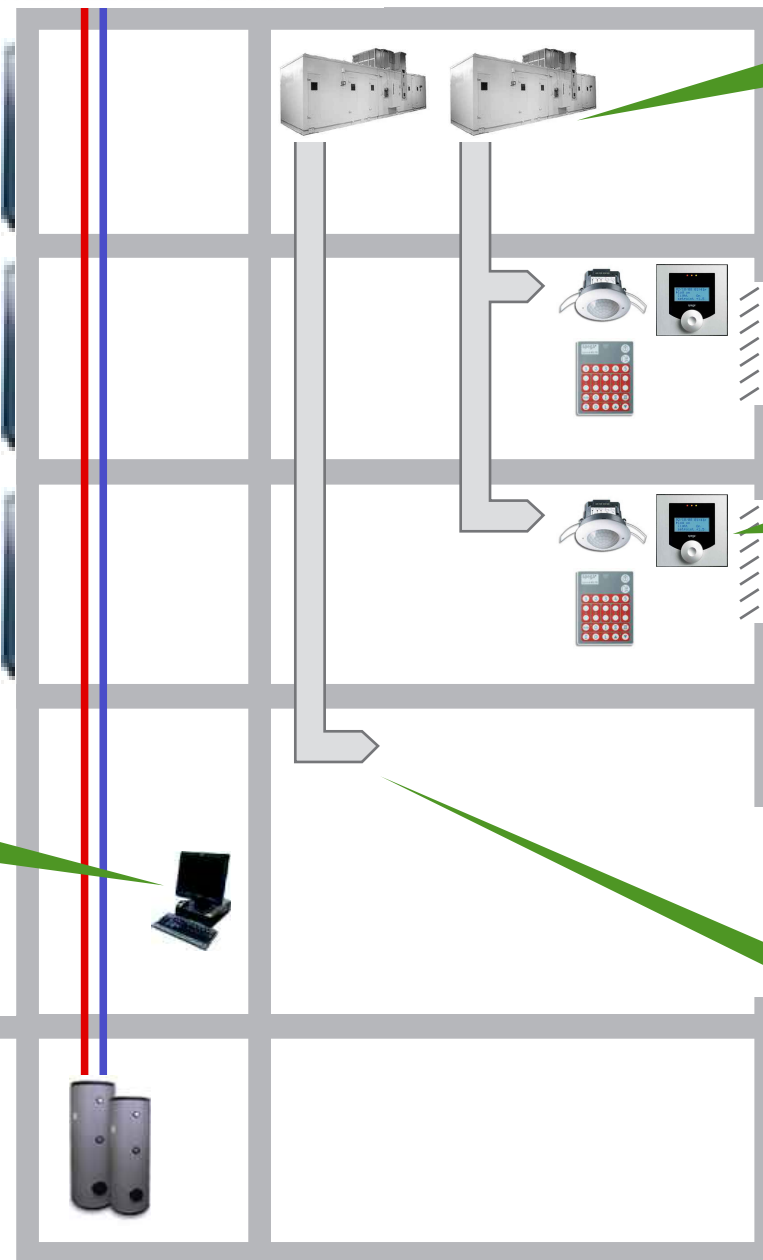
Room Automation

By harmonizing operation of lights, air conditioning and sunblinds in each individual room / office, up to 40% of energy can be saved.

In addition, further potential for improving efficiency by fully integrating the room automation system to the BMS, coordinating production of energy with the actual demand.

Ventilation optimization

For large spaces, ensuring even distribution of ventilation and temperature conditions provide considerable reductions in energy spending, in addition to improved occupants comfort



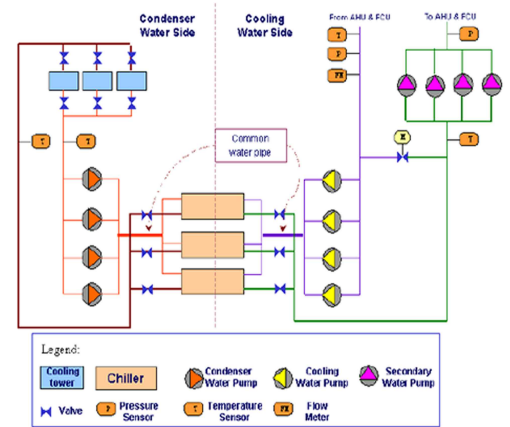
We have partnered with several leading companies in the field in European, American and Asian markets, allowing us to provide our customers customized, intelligent and interoperable best-of-breed solutions for each type and budget range.

Product highlight 1 - Universal Chiller Plant Controller

The Universal Chiller Plant Control Solution (CPCS) is an application specific LonWorks DDC based system for capacity and lead/lag control of a group of chillers and necessary peripheral equipment. The system is pieced together using specific interactive modules, one for each type of equipment that makes up a chiller plant, and together with duty coordinating modules and a capacity commander module, is able to sequence all related equipment for the proper functioning of the chiller.

FEATURES

- automatically calculates cooling demand from supply/return temperature and the flow rate of chilled water to decide the number of chillers to switch on or off.
- determines next available chiller, pump and cooling tower to turn on or off in sequence to maintain equal running hours and even wear & tear of each piece of equipment.
- modulates bypass valve to maintain differential pressure across supply and return headers. Also works with de-coupling systems
- eliminates single point failures by having distributed intelligence- each piece of equipment is assigned one DDC- ensuring reliable chiller plant control.
- automatically avoids activating faulty equipment, relying on serviceable equipment to meet calculated cooling demand.
- suitable for all chiller plants piped in common header pipe configuration



Product highlight 2 - Variable Static Pressure Regulator

Optimises air distribution in Variable Air Volume (VAV) AHU systems thus greatly reducing energy usage. This is achieved by continually adjusting static air pressure set-points of an AHU as opposed to conventional VAV AHU systems which rely on a fixed static air pressure set-point.

Expected energy saving: 50%, without compromising the environmental comfort.

Key Advantages

- AHU fan runs at lower average speeds resulting in more energy savings
- Individual VAV boxes receive just enough cooling air flow resulting in more effective cooling in individual rooms
- Cooling demand is met more quickly and efficiently
- Requires no modification of existing hardware beyond installation of the Variable Pressure Regulator
- Small dimensions - easy panel mount installation.
- Huge energy savings at low installation cost



Product highlight 3 - Room Automation System

Using a whole bundle of partial functions, room automation automatically reduces heating, cooling or electrical power requirements as a function of the room utilization and the free energy sources available, such as sunlight or cool night air, to a minimum. In this way energy and cost savings of up to 50% can be made.



RA function*	Savings**	Influencing factors
Constant light control (presence-dependent)	35 – 50 %	→ sufficient daylight provision → high illuminance level (300lx+) → most efficient with sun tracking
Daylight switching (presence-dependent)	25 – 45 %	→ sufficient daylight provision → high illuminance level (300lx+)
Sunlight control	5 – 8 %	→ sufficient daylight provision
Sun tracking control	10 – 13 %	→ sufficient daylight provision → most efficient with light control
Automatic light	n.s.	→ intermittent presence (e.g. corridors)
Mode change-over via time program	5 – 10 %	→ long operating time of boiler or chiller → low building mass
Occupancy sensors	5 – 10 %	→ longer periods of absence during operating time of boiler and chiller
Window monitoring	5 – 10 %	→ low building mass
Free night cooling	n.s.	→ air circulation must be possible

saving potential of some typical room automation functions

* room automation function according to LonMark

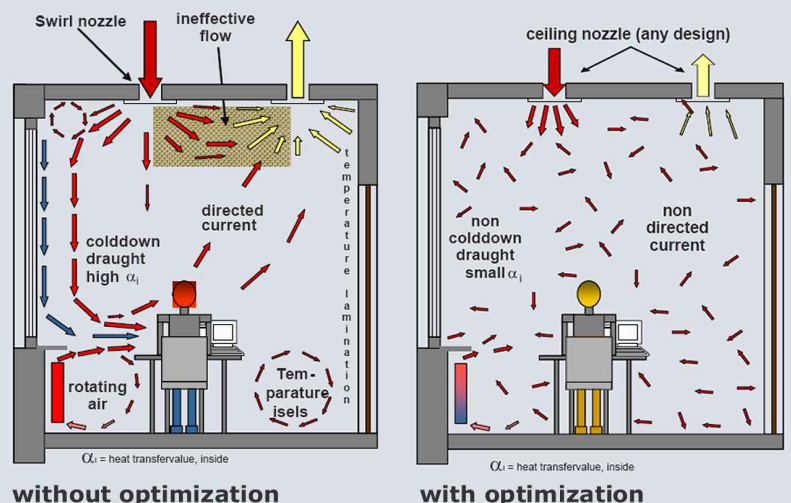
** saving potential according to LonMark study University of Biberach

Product highlight 4 - Ventilation Optimization

Reduces energy cost (Heating / cooling / ventilation) for 30% to 90% depending on the specific object while increasing the personal comfort at the same rate.

For new buildings, this substantially reduces the amount of capital investment and minimises the operating cost.

Smaller air ducts and virtually random placing of intake and discharge ducts allow for more freedom of architecture and utilisation.



without optimization

with optimization