

## Install New or Extend Existing

Use wireless mesh sensors and control devices to quickly and economically install new or extend existing building management and building energy management systems into new areas or provide more detailed **monitoring and control** in existing managed areas.

## Easily Integrated

Compatibility with virtually all commercially available BMS and BEMS brands is assured through use of **industry-standard interface protocols** between BMS and wireless gateway, such as Modbus, BACNet and LON.

## Quickly Installed

Battery-powered sensing for the most commonly required inputs can make installation extremely fast which minimizes your costs and causes very little disruption to building operation when compared with wired systems.

## Why Wireless BMS?

While building controls manufacturers' prices have been holding steady, overall projects costs are going up. The main cost of any building-services project is now labour. Building management systems projects are no exception and typically 60% of the project cost is for wiring alone. The answer to this dilemma lies in the use of wireless technology.

## Refurb and new build

Refurbishment projects can gain even more from a wireless solution. Given the dramatic increases in energy costs and demands of Part L of the Building Regulations, existing building owners are trying to reduce energy consumption. While plant such as boilers can be replaced relatively easily there is little point in having very modern equipment if it cannot be managed efficiently. Many control systems are well over 10 years old and badly need significant upgrades, but high installation costs are holding building owners back. A wireless solution can unblock many of these projects and result in potential savings of millions of tonnes of carbon.

## Low disruption and fast install

At seminars on energy management many questions are related to installation costs, both direct and the potential disruption costs while works are ongoing. A wireless solution is ideal for retrofit projects, offering little or no disruption, an accelerated project roll-out and a quicker return on investment.

## Makes economic sense

Wireless sensors have been around for some years,

## Flexibility for optimized use

The mesh networking capability makes it easy to provide resilient and reliable wireless coverage across a building or campus, including penetration through one or more floors of typical structures. Sensors can then be put wherever they are needed and moved around at will to optimize system performance

## Vast range of Sensors

With a very wide range of integrated sensor types including temperature and humidity, PIR, contact closure and pulse inputs as well as support for attachment to 4-20mA and 0-10V sensors the range of sensing inputs is virtually unlimited.

## Control Outputs

With on-board 0-10V and relay outputs the wireless system can also provide control where needed

---

but it is only recently with the advent of mesh technology that they have become economically viable for widespread use in HVAC control applications. Previously they may have been found in places such as museums and historic buildings where visible wiring is not acceptable. Now that they have so much more flexibility and capability, and cost less than the conventional wired alternative, they are being specified for a wide variety of premises.

## Effectively Manage Change

Office churn and repurposing of space is another major issue for BMS. Buildings now need to be flexibly re-fitted based on the requirements of new tenants or simply changes in business requirements. With a wireless solution, changes such as moving walls and office cubicles is greatly simplified. Being able to use the same wireless backbone for several areas also reduces engineering, construction, commissioning and operating costs over the entire life of the building.

## Wireless Mesh Sensor Network

The self-healing, self-forming features of the best wireless mesh sensor networks make installation quick and flexible.

## Multiple coexistent networks

With the possibility for many coexistent wireless mesh networks in the same physical space with no risk of interference the expansion possibilities are limitless and individual networks can be dedicated to specific applications, such as HVAC control or energy monitoring.

Easily and cost-effectively install or extend your BMS or BEMS

## System Schematic

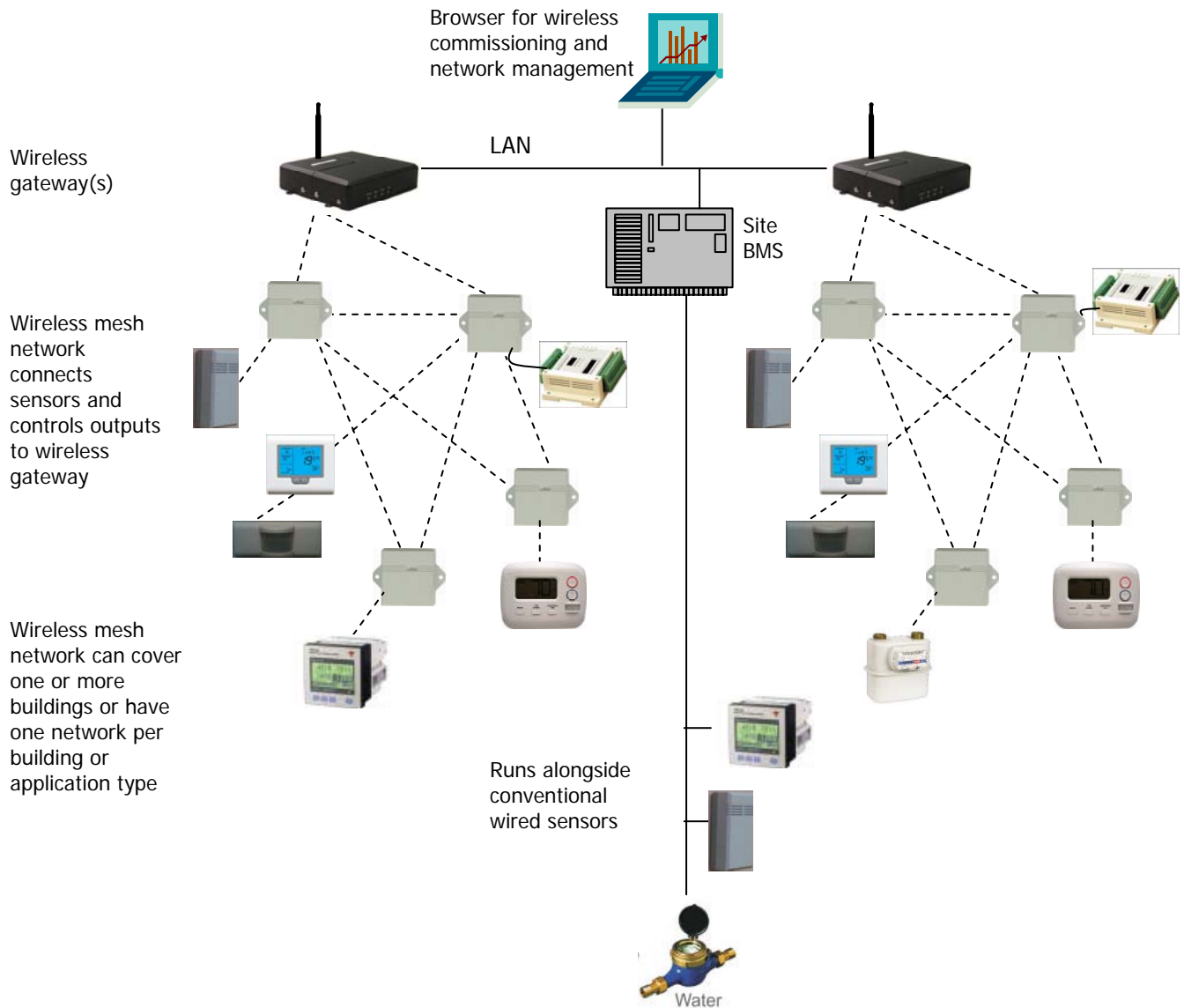
*One to hundreds of inputs and outputs per site.*

Temperature, relative humidity, occupancy, pressure, flow, electricity, gas, water, oil, etc.

Relay and analogue control outputs.

Multi-channel I/O per radio keeps cost and installation time down

Direct analogue and pulse replication into outstations from wireless receivers is also available



## Opportunity

Wireless BMS represents enormous opportunity and is probably the most significant development in the industry in a decade.

## Our experience

We have supplied wireless mesh systems to integrators on a wide range of new build and refurbishment projects involving BMS' from most of the major manufacturers including:

Honeywell, Schneider, Siemens, TAC, Trend, Priva, Satchwell Sigma, Andover Controls, Cylon, Johnson Controls, Automated Logic.