

## Comprehensive

Adaptive Wireless Energy management system combines cutting edge wireless mesh networking with flexible analysis software whilst also integrating existing metering infrastructure and data communications. Energy and environmental auditing are made easier, particularly with the demands of DEC and EPC certification, due to the flexibility wireless provides and the range of meters and other sensors provided.

## Flexible

Until the recent development of wireless sensor networks access to energy consumption data has always been a limiting factor in achieving the level of detail needed to understand consumption patterns

and allow action to reduce usage. Integrating wireless with existing wired meters and infrastructure maximises the ability to collect energy data whilst making use of existing investments in metering devices.

## Integrated

Whether your requirement is for data to feed into an existing BMS system or a complete end to end system including an energy management software package, whether run on-site or hosted off-site, Adaptive Wireless Solutions can provide a tailored solution to suit your needs and budget. Our services include site survey, system design, project management, installation, commissioning and energy management advice.

## Energy Data Acquisition

### Wireless Sensor Network

The self-healing, self-forming features of wireless mesh sensor networks make installation quick and flexible whether for permanent use or temporary auditing spot checks. Wired connections are used where most appropriate.

### Monitor multiple energy sources

Wireless sensor nodes are available for monitoring electricity, gas, water and liquid fuels consumption. Additional sensors for temperature, humidity and CO<sub>2</sub> detection allow the system to become part of a wider environmental monitoring system.

### Gather data from existing systems

Many sites have relevant meter data in existing systems such as a BMS or standalone database. This data can easily be acquired and integrated with new data for a complete picture at lower overall cost.

### Local gateway

Allows data to be viewed on site or forwarded to central point for further analysis.

### Multi-site capability

Solutions can be tailored to suit varying building types including single site, multi site or campus facilities.

## Energy Management Software

We supply modular software from best-of-breed suppliers to enable comprehensive energy management appropriately aligned with varying user needs from raw data for site personnel up to consolidated management summary and exception reports. Typical modules include :

### Energy analysis

Perform comprehensive analysis of energy data including consumption totals, actual versus target comparison, degree day calculations and comparison with design targets.

### Benchmarking

Establish baseline measurements for comparing with figures after corrective energy-saving initiatives are implemented.

### Financial analysis

Used collected data to calculate true cost of energy in all areas and use in negotiation with suppliers.

### Exception reporting

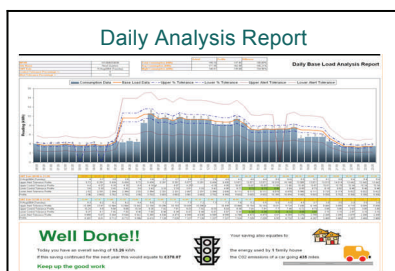
Real-time reporting allows immediate action to be taken when consumption exceeds preset limits. Supplier readings are at least 24 hours old, even if the data is available at all, when what is needed is real-time data to enable immediate action.

### Invoice validation

Compare supplier data against your own independently collected readings.

### Contract bid management

Use accurate consumption data when negotiating with existing suppliers or looking for comparative quotes.

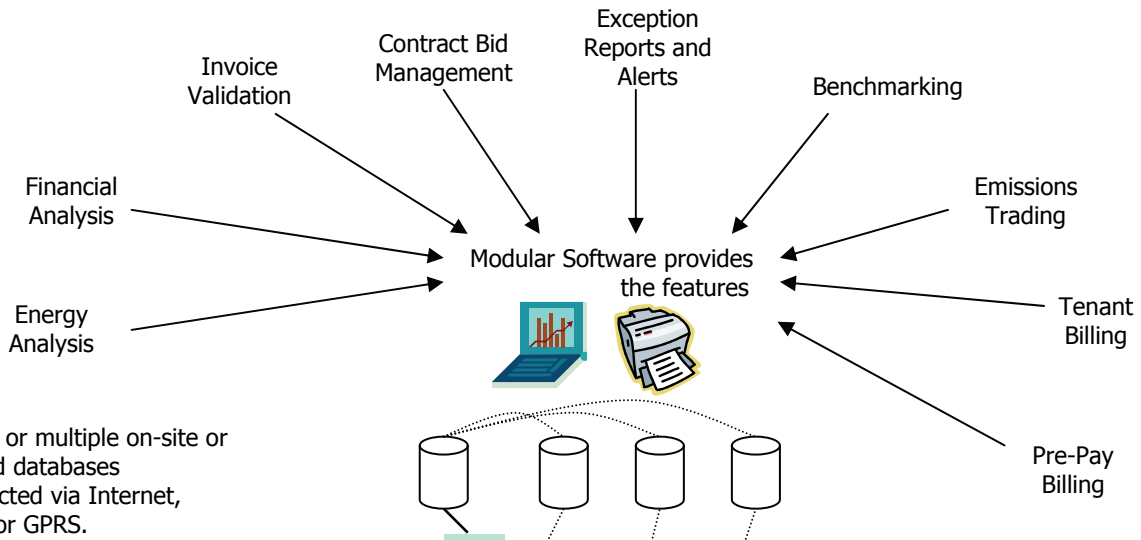


# Energy Management Solution Guide



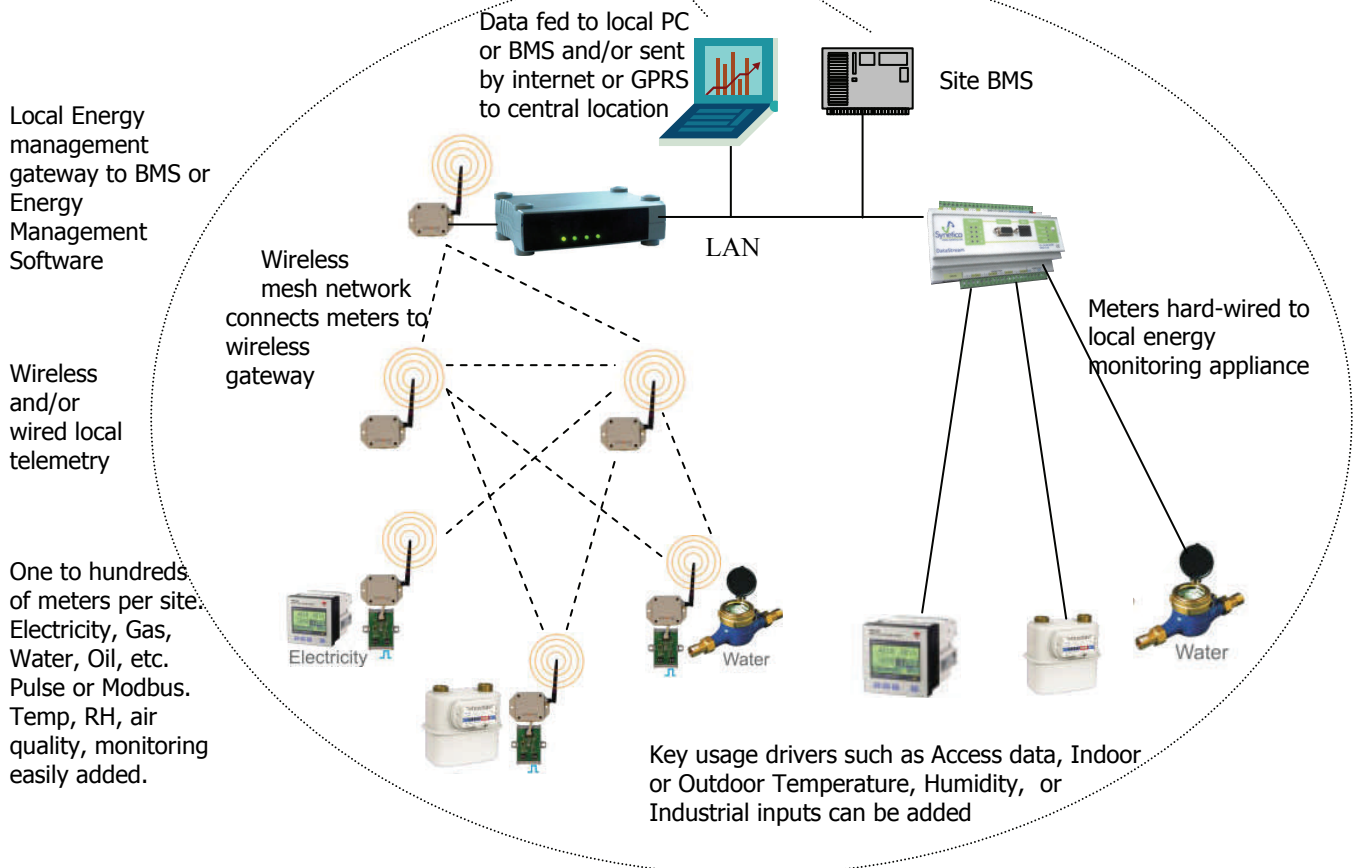
Comprehensive, Flexible and Integrated for all your requirements

## Energy Management Software



Single facility, campus or multiple sites. Central and site-level data management and reporting

## Energy Data Acquisition at site level

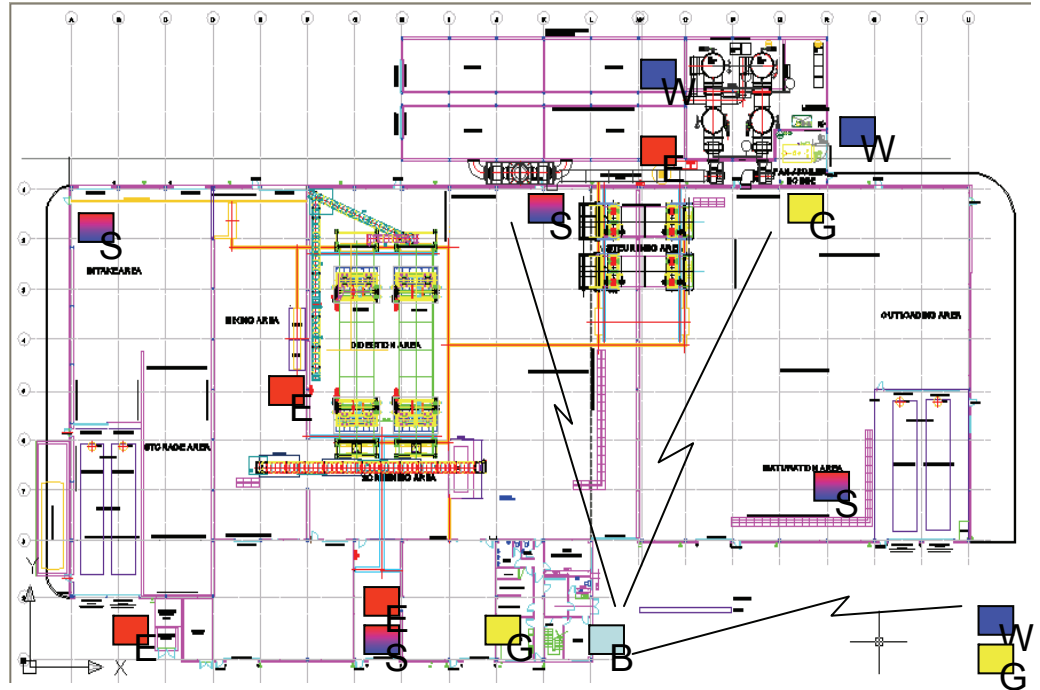


# Example Applications

## Industrial, Academic Campus or Multi-Tenant Office

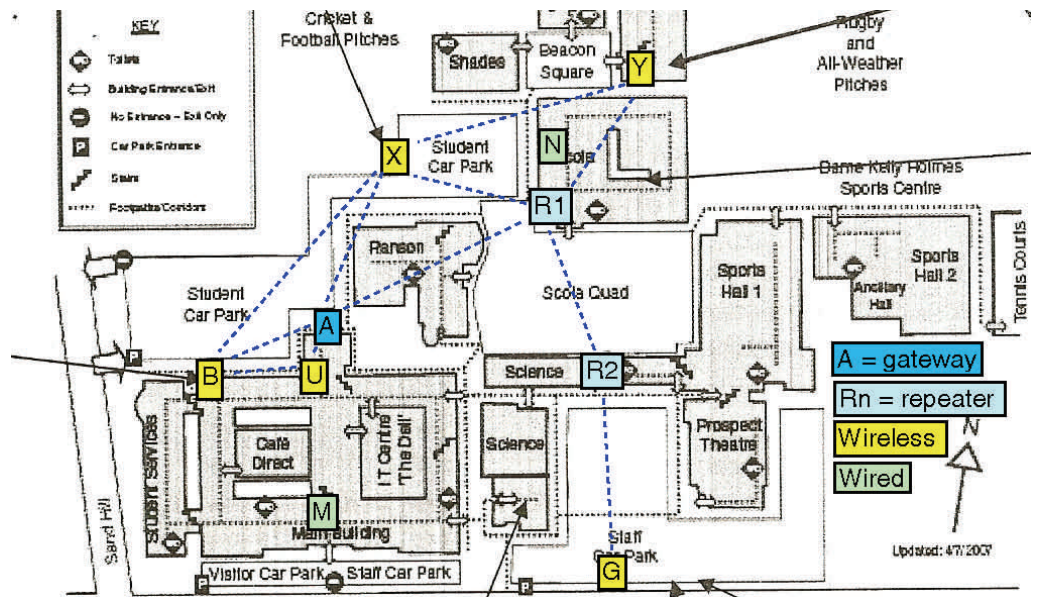
### Industrial Site Application

- Large site
- Combined repeater and sensing nodes
- Electricity, Gas, Water
- Interference from cladding
- Large electrical machines
- High peak usage capacity charge
- High humidity IP65 rated enclosures
- Integration into factory SCADA system
- Wired and wireless nodes



### Campus Application

- Utilities Cost £200kpa
- Wired and wireless
- Electricity
- Gas
- Water (part site)
- Future proof
- Installation 3 days
- Departmental visibility



### Multi-tenant Office

- Split and shared resources
- Sensors in key areas
- Timed automatic night running
- Pre-pay
- Remote isolation

