

# Wireless Energy Management Systems



## Traditional Building Energy Management Systems (BEMS) - Benefits

Applied correctly AND managed :-

- Reduced Energy Consumption
- Reduced Maintenance Costs
- Improved Environment



## Traditional Hardwired BEMS - Drawbacks

- ❑ **Install accounts for 50% of total cost**
- ❑ **Disruptive to retrofit**
- ❑ **Expensive to expand**
- ❑ **Complex to manage**
- ❑ **Only applicable to buildings with £10K+ energy bill**



## Wireless Technology – The impact on BEMS

- Total cost reduced by 40%
- Non-disruptive to retrofit
- Simple to expand
- Easy to manage
- Applicable to buildings with £5K+ energy bill



## Case Study – The Mission

### Characteristics:

- Victorian Building (Wiring Constraints)
- 3 Storey plus Mezzanines
- 5,500 Sq. ft.

### Requirements:

- 3 Wet Heating Zones with HWS
- 3 Air Conditioned Zones
- 1 Door Heater
- 3 Mood Lighting Zones
- 2 External Lighting Zones
- 3 Blind Control Zones
- Fire & Intruder System plus Smoke Detection Monitoring



# Case Study – The Mission – Option 1

## Traditional Hardwired BEMS:

- Equipment Cost - £7K (Supply, design, commission)
- Installation Cost - £6K (Wiring, labour, materials)
- Total Cost - £13k

## Advantages:

- Established Technology
- Wide Supply Base

## Disadvantages:

- Cost – unjustifiable on payback
- Unsightly and inflexible installation
- Limited and Complex Human Interface
- Specialised Training Requirements

## Case Study – The Mission – Option 2

### Wireless BEMS:

- Equipment Cost - £7K (Supply, design, commission)
- Installation Cost - £1K (Wiring, labour, materials)
- Total Cost - £8k

### Advantages:

- Cost – 40% cheaper than traditional BEMS, quicker payback
- Simple to expand (wireless add-ons)
- Simple multi-choice Human Interface
- No Training Requirements

### Disadvantages:

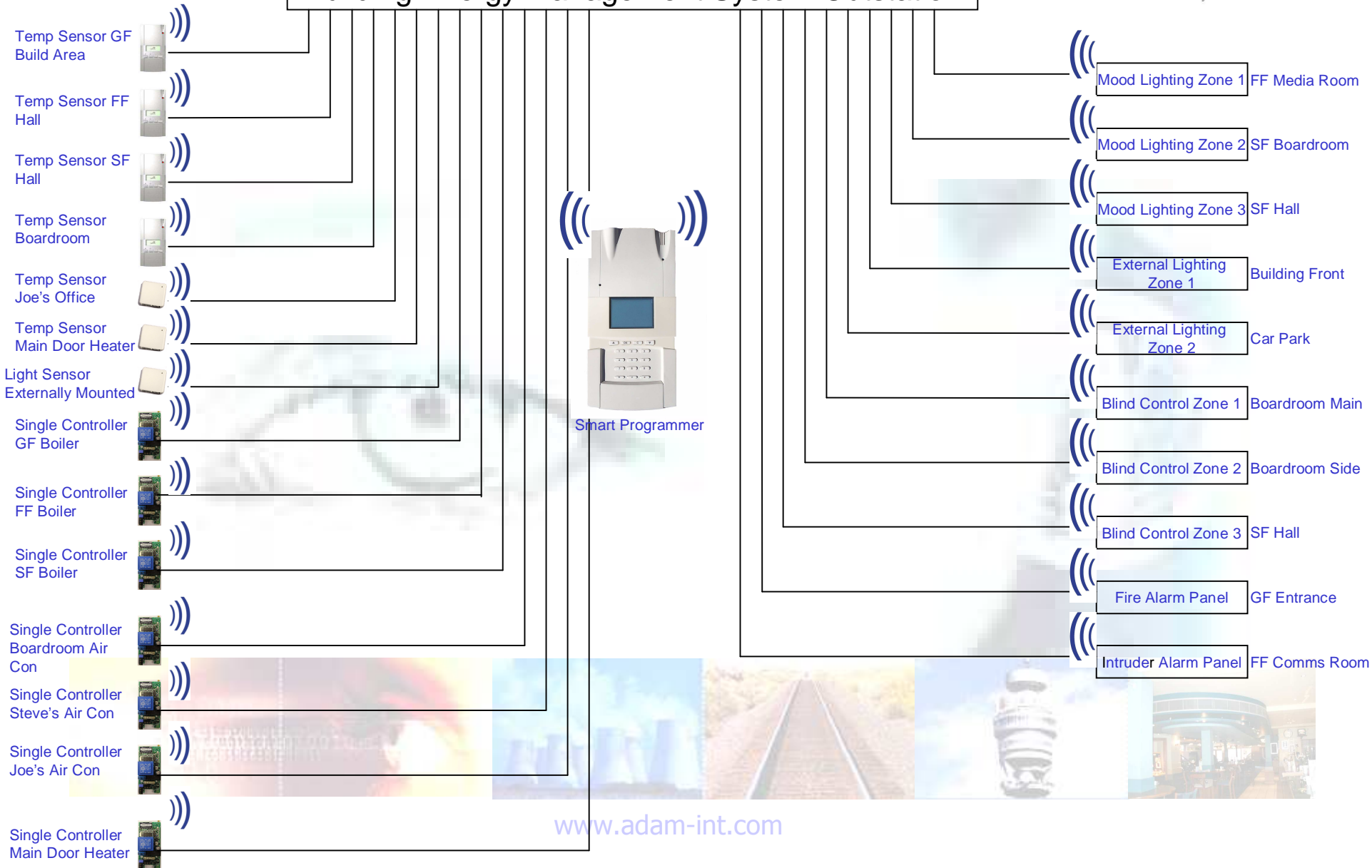
- New Technology
- Limited Supply Base



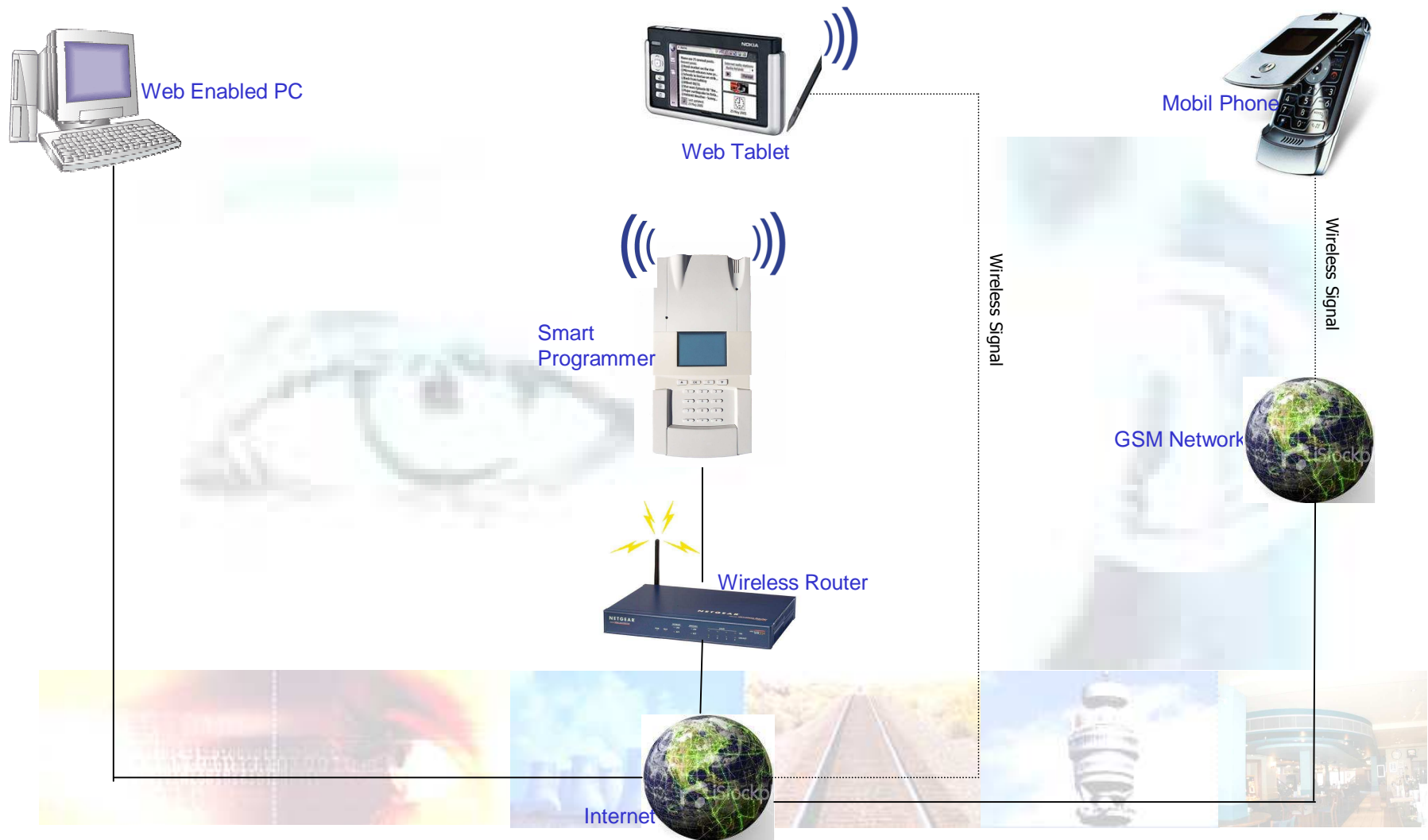
# Option 2 Traditional Wires BEMS BEMS



## Building Energy Management System Outstation



# Wireless BEMS – Human Interface's



## Wireless Energy Management Systems - Summary

- **Reduced cost**
- **Rapid deployment**
- **Internet enabled**
- **Simpler to manage**



# Wireless Energy Management Systems

- **Demonstration**
- **Q&A**

