

Energy efficiency in buildings

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Background on BAS

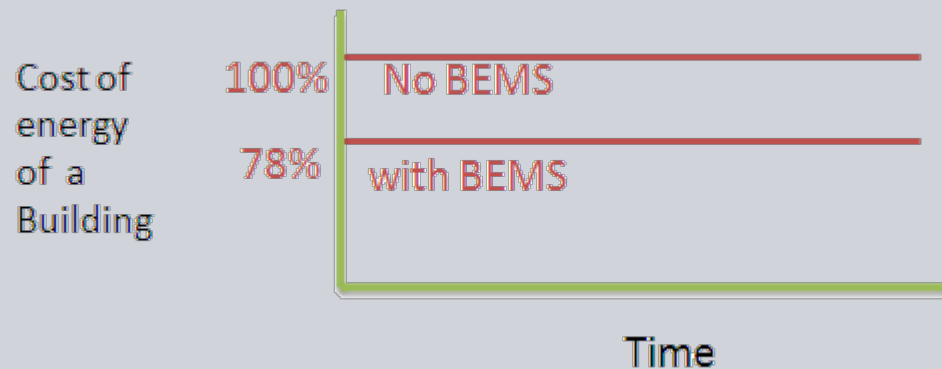
- A privately owned Company
- Formed from a management buyout of Siemens Building Technologies BAU
- Provider of innovative control solutions and technology
- Helping business understand their energy usage, reduce emissions and save money



The History of BEMS

Energy Management
Is not a new concept

It has been around for a
long, long time



Objectives

- To help organisations understand their BEMS
- To highlight and explain the key issues
- To help you get more from your BEMS
- To explain the possibilities
- To provide practical advice and examples
- To highlight best practice
- To offer solutions

Buildings Are Complex

Systems linked to a BMS typically represent 40% of a building's energy usage; if lighting is included, this number approaches 70%



Many Complex Systems

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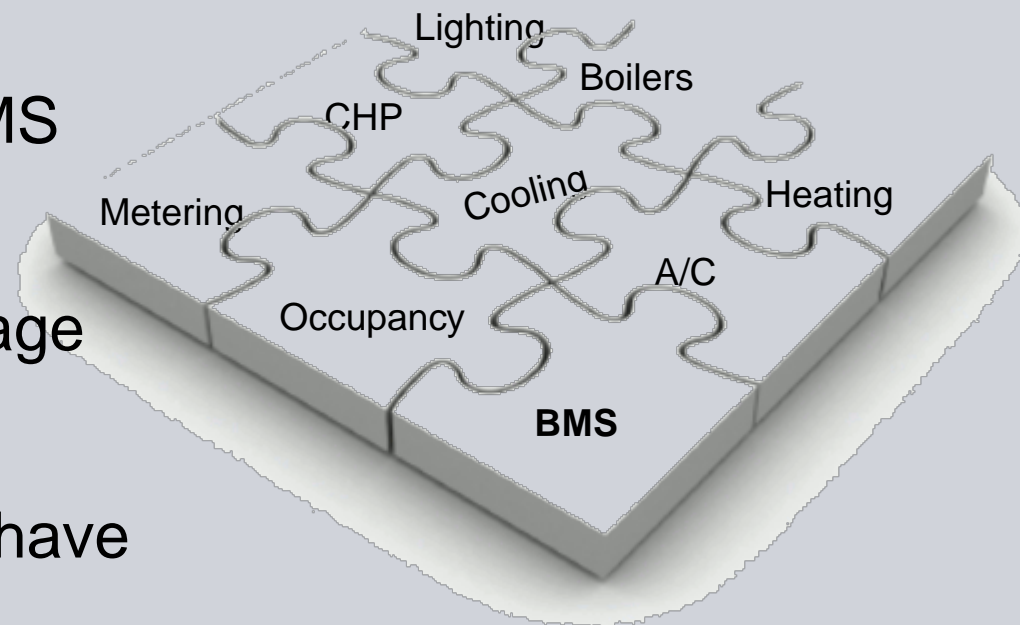


Traditional Approach

BMS systems are a critical component to managing energy demand

Improperly configured BEMS are believed to account for 20% of building energy usage

It does not make sense to have them under-utilised



Out of Site – The typical place for the BEMS

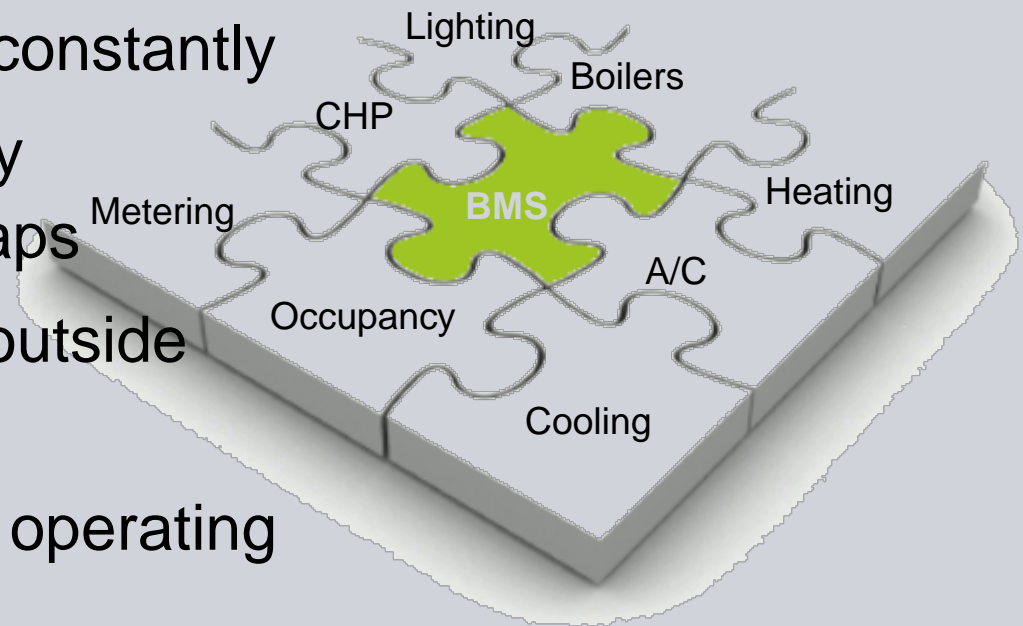
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Identifying Problems

Harnessed correctly, organisations can identify:

- Lighting operating incorrectly
- Escalators running constantly
- Water flushing every 15mins or leaking taps
- Controls operating outside its parameters
- Boilers and Chillers operating when not required



BEMS

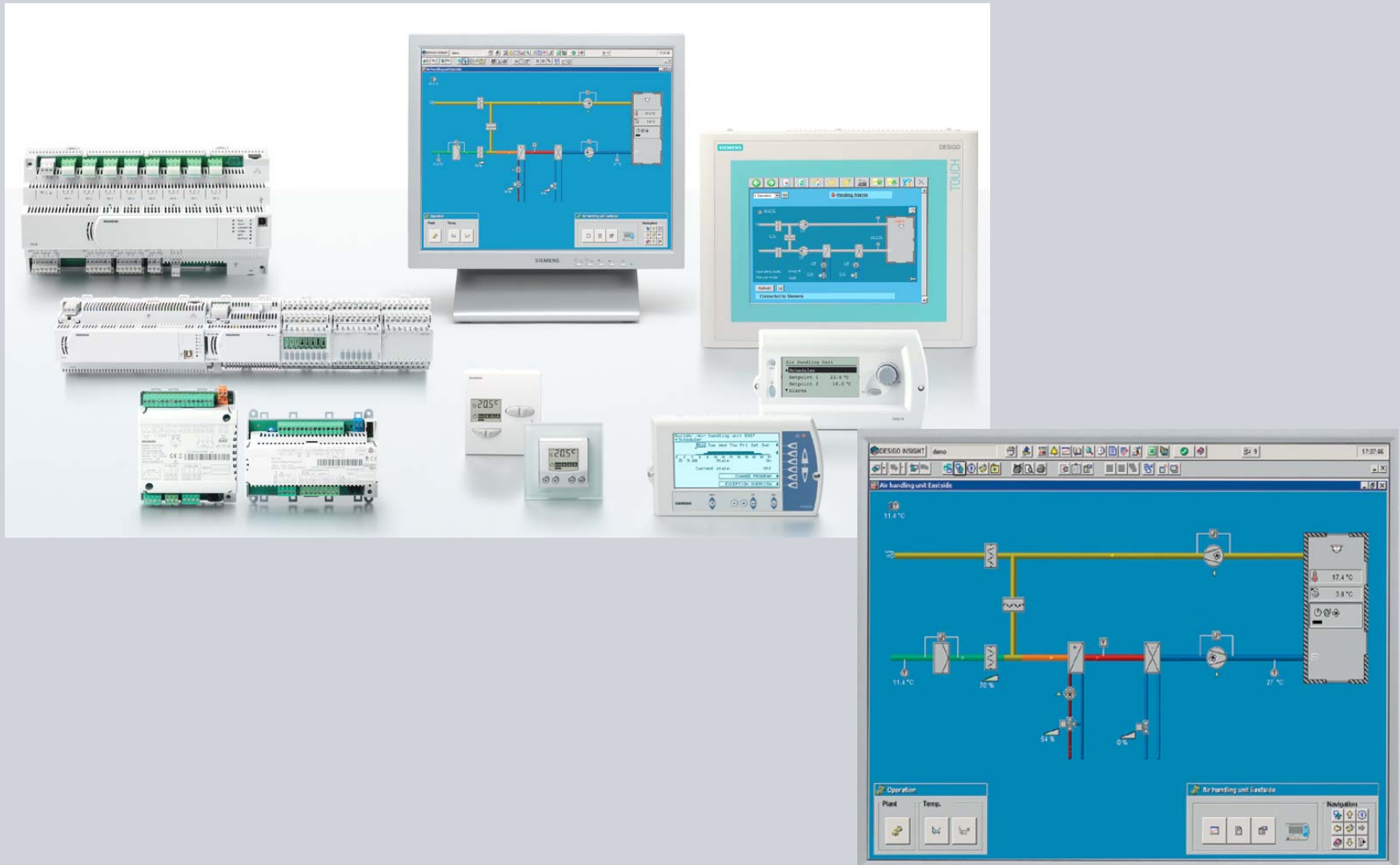
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Executive Office - The true place for the BEMS system



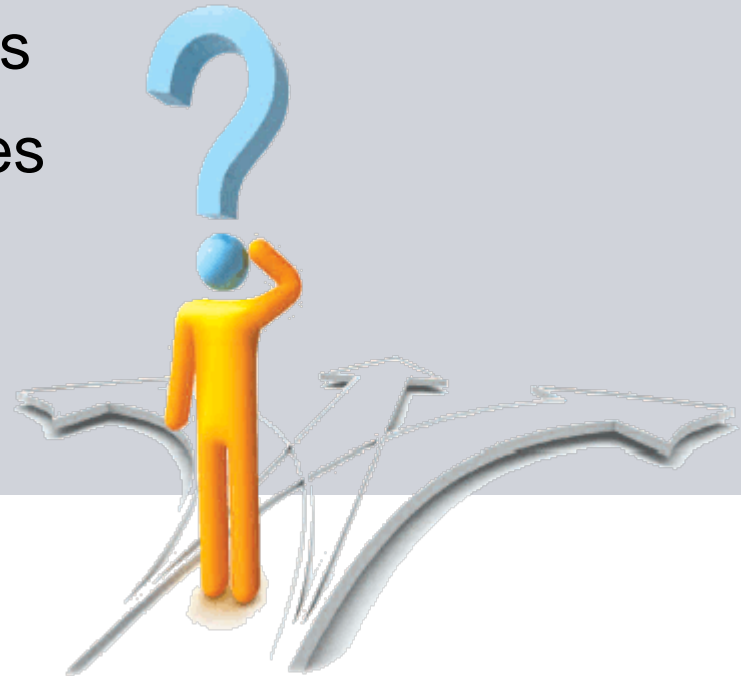
BEMS have developed considerably

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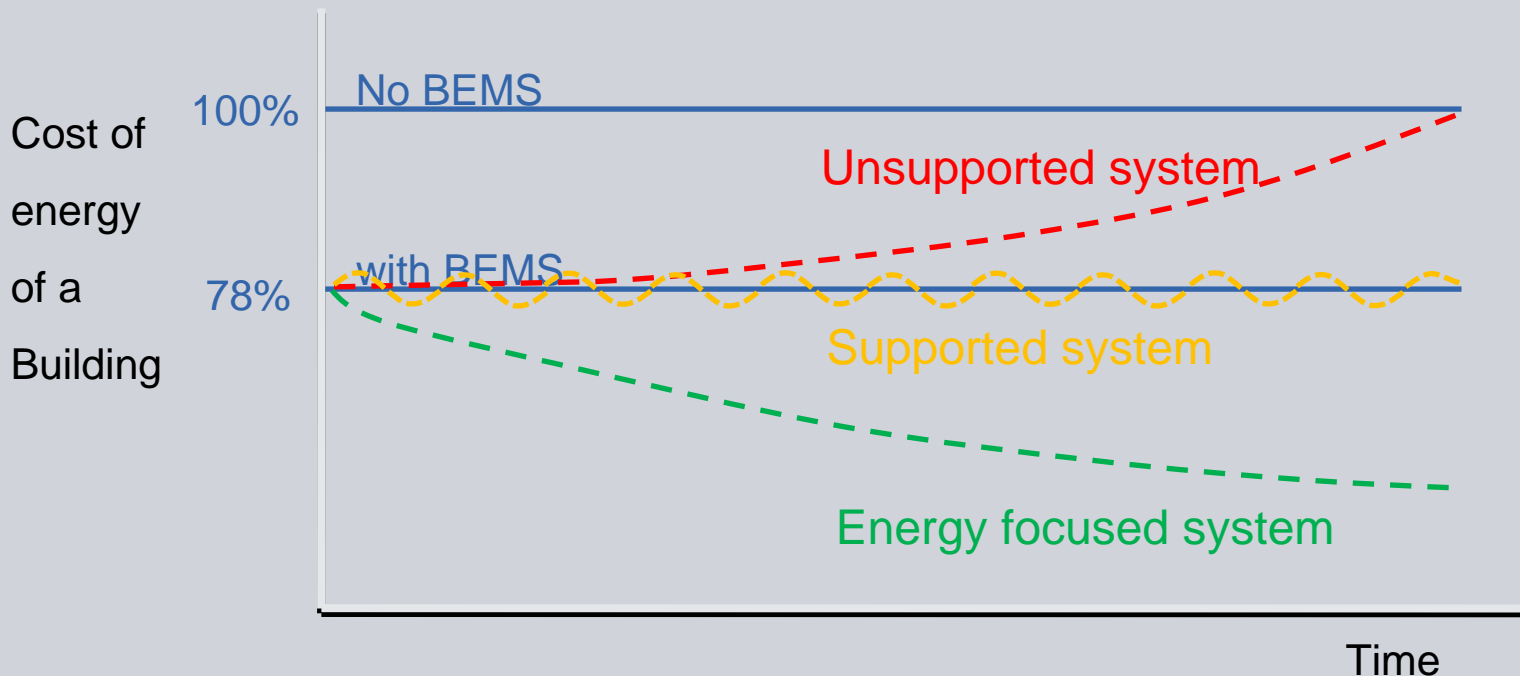
Energy Engineered Solutions

- Take a holistic look at all of your BMS controlled energy consumption
- Enhance your system to provide greater energy efficiency
- Utilise improved control technologies
- Implement new low carbon strategies



System Support

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“support should optimise the running efficiency of plant and help reduce energy consumption”

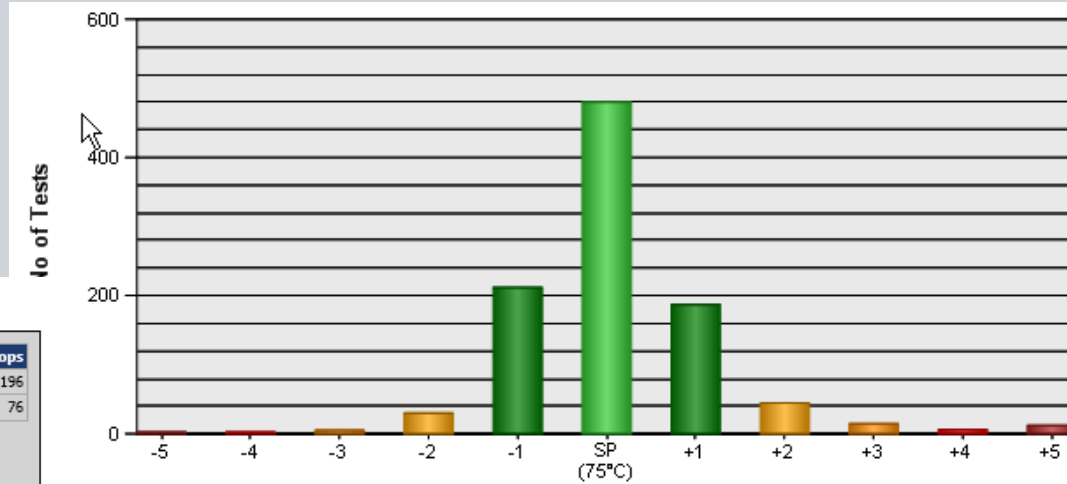
Intelligent Support

Combination of remote assistance and conditioned based support

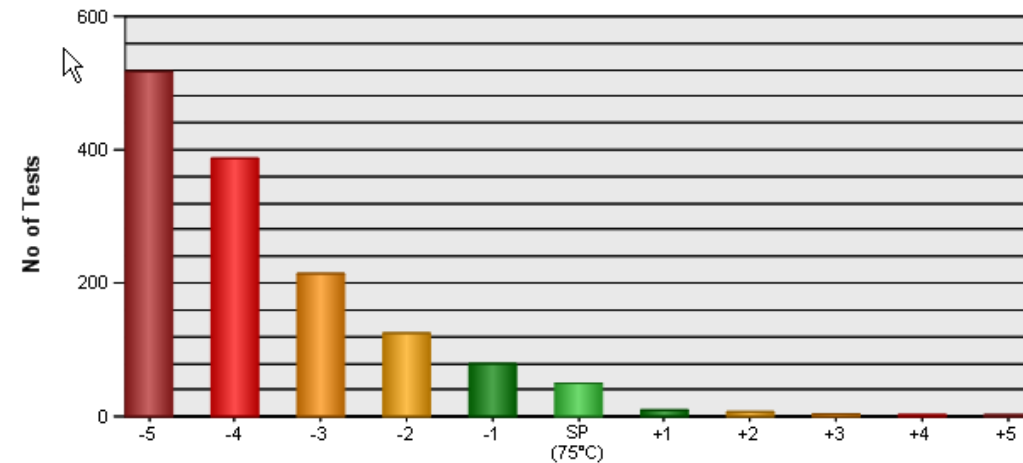
- Visible system performance
- Highlights system errors
- Target problem areas
- Maximise engineering efficiency
- Enhances comfort levels
- Saves energy

Typical Information

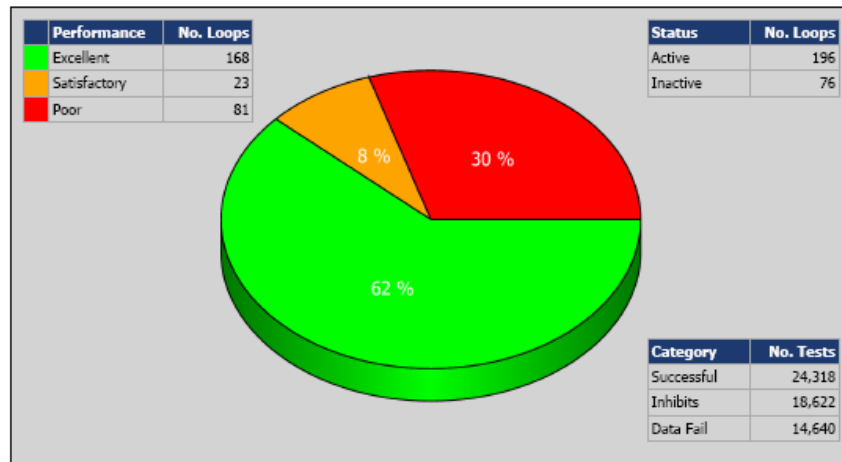
Good control loop performance



Poor control loop performance



Control Loop Summary

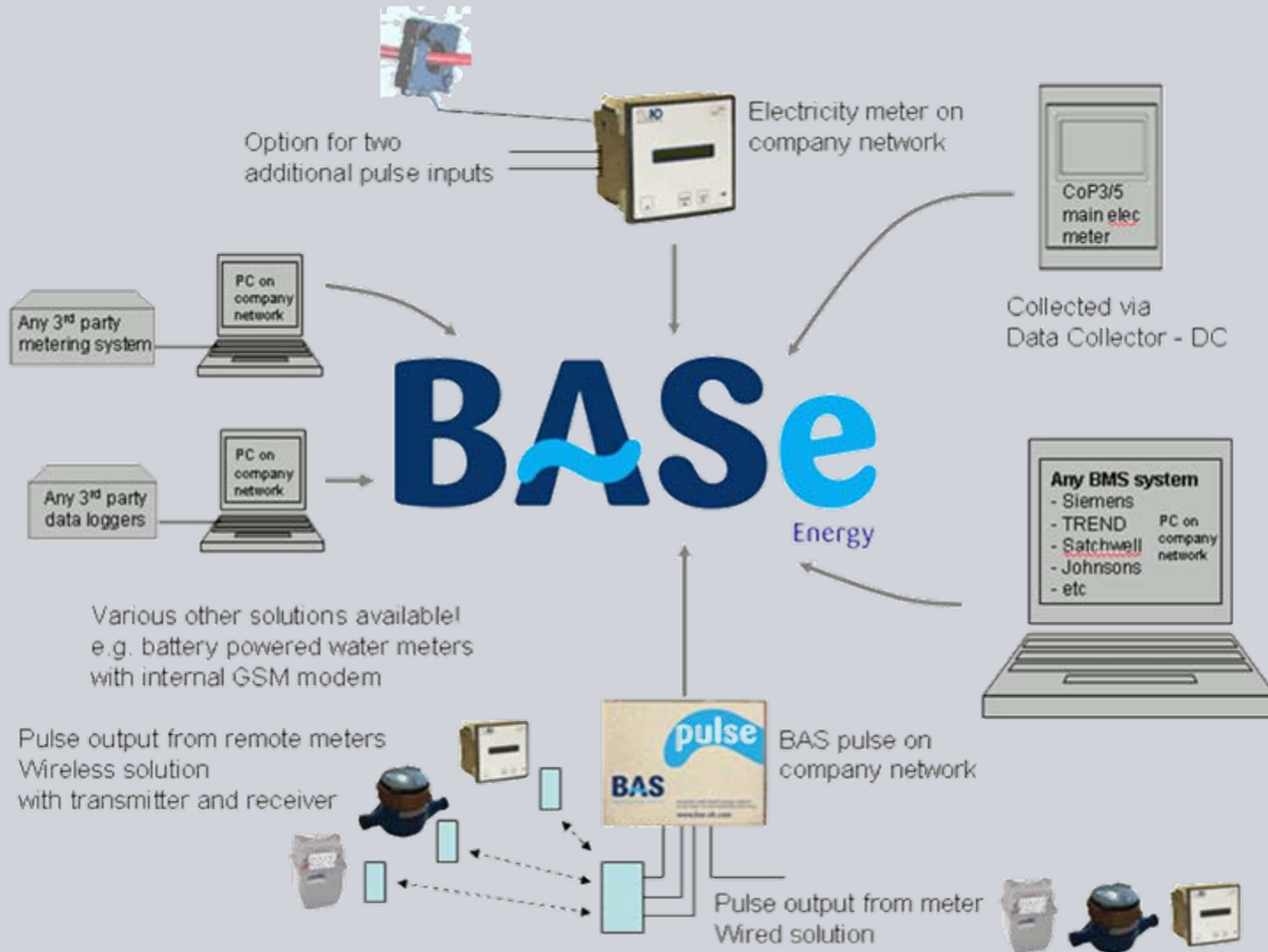


aM&T

- Identify and explain changes in energy use
- Draw energy consumption trends and benchmark
- Diagnose specific areas of wasted energy
- Develop performance targets for energy management programs
- Implement programs and track results
- Manage their energy consumption



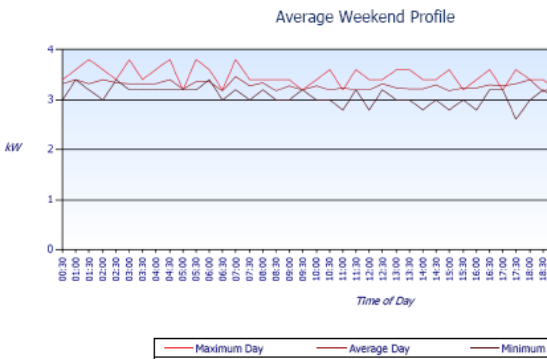
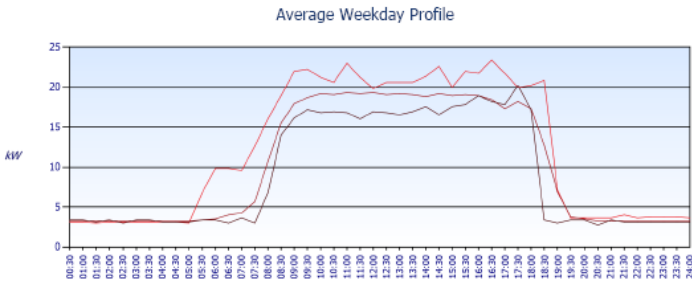
An example of an integrated system



Analysis

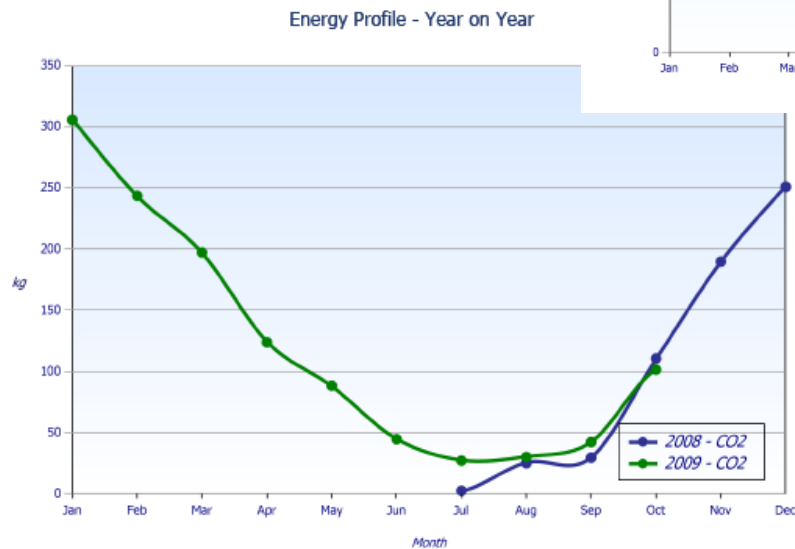
Average Daily Profiles (Main Meters)

Ocean Court (Electric)



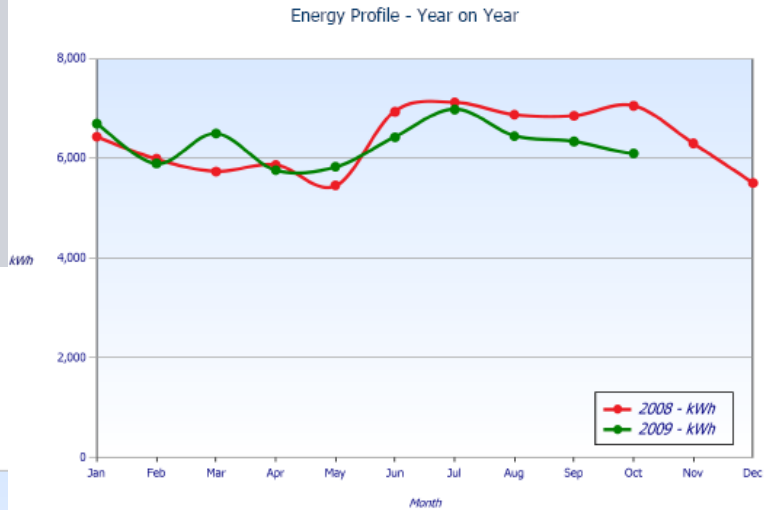
CO2 Analysis (Main Meters)

Ocean Court (Gas)



Electric Analysis (Main Meters)

Ocean Court (Electric)



Summary

Businesses will have to take action to reduce Carbon and improve energy efficiency.

Your actions can only be guided by the information you have.

Your BMS and aM&T solution can prove crucial in driving the carbon emissions down.



Thank You

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