Forster Tenpin Bowling Centre

The Forster Bowling Club decided to expand and build a tenpin bowling centre behind the main club; this gave the club a new income stream and offered a new experience for the local community.

The installation was designed and installed with a focus on easy operation and a combination of efficient energy solutions which included a building management system. The BMS was specifically designed to run the centre and highlighted how easy it was to save energy and reduce running costs. Given the success of the tenpin bowl installation, club management decided to expand the system to include both premises. Energy Management practices within the programming of the installation ensured a rapid payback and subsequent savings in energy costs; the retrofit installation pay pack period was 20 months.

The system is programmed to operate around normal day to day trading, little to no staff input is required for the building to operate efficiently; no staff training was required. Management even proclaimed that the building 'runs itself' and upon completion immediately identified numerous advantages over traditional installations.

The project included integration and control of:

❖ Security	❖ Lighting features
❖ Air conditioning	❖ Hot water systems
❖ Water features	❖ Amusement machines
❖ Refrigeration	❖ Exhaust Systems
❖ Fire alarms	❖ Internal and external lighting
❖ Audio Visual	❖ Tenpin bowling lanes ball return

Energy Management is on going and automatic. When staff arrive at work they disarm the alarm and the building automatically switches to 'standby mode'. Sufficient lighting is activated to ensure staff can go about there normal duties.

When the centre opens for business, a staff member simply presses the 'Normal' button and centre springs to life.

During certain times a 'Tenpin Cosmic Mode' is engaged, staff press the 'Cosmic' button to engage lighting and special effects; one button press and a smooth transition happens.

Forster Bowling Club

Forster Tenpin Bowling Club

Tenpin Bowling Bowl Return

Solutions for a changing world

When finished with 'Cosmic' mode staff simply presses the 'Normal' mode button and the centre changes back to normal operation.

When closing for the evening staff turn 'Normal' mode off by setting the alarm as they leave the building; the premises reverts to standby mode immediately saving energy. Lighting, machinery, audio visual and air conditioning is automatically turned off. There is no chance of anything left on accidentally overnight.

Tenpin Bowling Club
Cosmic Mode

Other Key System Features:

- ❖ Hot Water Services are switched on and off automatically to reduce heating during peak energy charge periods and utilise shoulder and off peak cost periods.

- ❖ Infrequently used areas such as offices, meeting and storage rooms have sensors to turn on and off lighting as people enter and exit.

- ❖ Internal Lighting in the restaurant makes use of daylight. At twilight when daylight is reduced sensors ensure lighting is turned on to compensate for lack of natural light. The sensors control the light and turn on slowly using dimming capabilities in doing so also create ambiance within the restaurant.

- ❖ Lighting is programmed to switch from day to night mode automatically setting the mood.

- ❖ A cleaning mode is programmed into the lighting system to ensure that sufficient lighting is provided for cleaning; this stops staff turning on unnecessary lights such as gaming lights.

- ❖ Lane lighting is minimised during standby mode; only one in 5 rows is required to be illuminated during this time of staff operations. This ensures even lamp life and minimises maintenance as lighting to these rows is rotated daily.

- ❖ Operations can quickly be controlled and the status viewed from a touch screen located within the secretary and managers office in the Bowling Club.

- ❖ Air Conditioning (A major energy user) cannot be controlled directly by staff. Only certain staff members have over ride control. This ensures that air conditioning is controlled and not abused.

- ❖ The BMS continually monitors live energy consumption; when the system detects the premises are about to hit the peak demand limit the BMS issues a warning for manual over ride or can be programmed to reduce energy consumption to unimportant devices within the club.

- ❖ During 'quiet' periods, toilet lighting and exhaust systems go into standby mode automatically until someone enters the toilets. Lighting immediately returns to normal without the client even realising.

- ❖ Changes to operation and programming can be quickly loaded as well as systems monitored remotely from our Sydney office saving running costs and service call costs.

Solutions for a changing world

Technical Information

The lighting control system is based on a bus system which incorporates other electrical devices including air conditioning, blind control, automated windows etc.

Energy levels are documented using a monitoring device connected at the switchboard at power entry point on the premises. This information is relayed to the PC software where it is analysed and formatted into a readable graph of live energy usage (see table 1). This information is then transferred to the data logger where all the electrical devices on the system are monitored for energy consumption.
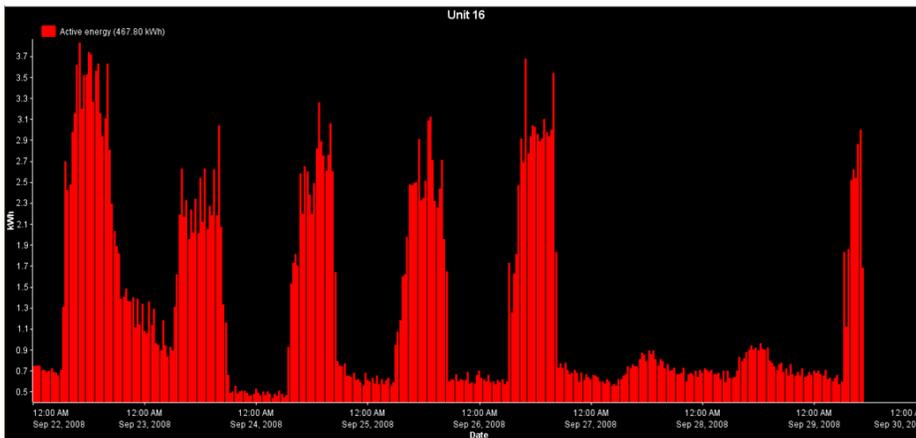

Table 1

On screen graphic representation of live energy use over a period of one week

You can see at a glance the usage pattern of the lighting, HVAC and other devices on the system. Table 2 below portrays these in 15 minute blocks however, this can be varied to suit individual requirements. This is beneficial to ascertain use patterns and where inconsistencies exist to optimise energy management within premises. The system can be programmed to over ride or reduce energy consumption of electrical devices when peak demand levels approach therefore saving considerable costs in energy charges from your supplier.
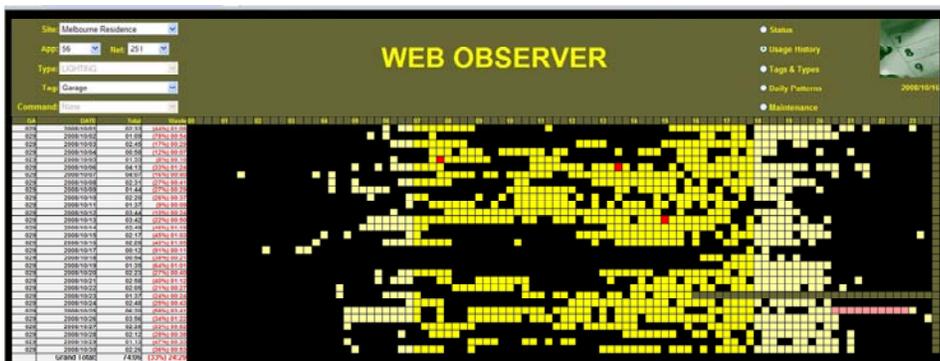
This image shows the usage of each individual device on the system in time increments as determined by the client, yellow indicates items are switched on in that time period.

Solutions for a changing world

mySmart group of companies offer energy reduction and energy management solutions for the building industry. The need to become energy efficient is paramount given the environmental and economic impacts of climate change.

mySmart supply and develop specialised products for various sectors within the building industry, including hotels, aged care facilities, and commercial developments, as well as the domestic market. Each sector has different requirements in regards to energy efficient products and services.

mysmart hotel

mysmart energy

mysmart living

mysmart home

www.**my**smart.com.au

Ph: 1300 697 627

SYDNEY   MELBOURNE   BRISBANE   CANBERRA   PERTH

Solutions for a changing world