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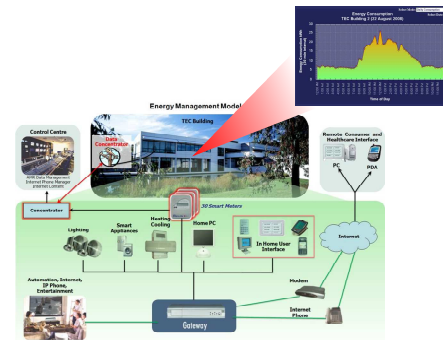
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“Fostering high-tech industry development”

OVERVIEW

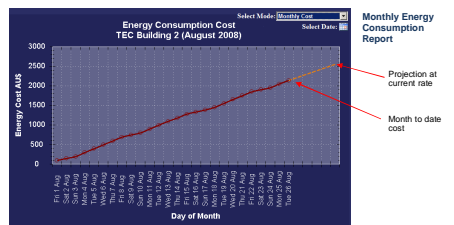
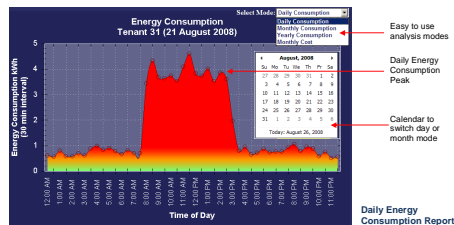
Peak energy usage occurs during the morning and in the evenings, especially in residential properties. At the current rate of expansion, power plants would have to be built at an exponential rate to accommodate the current energy usage. Therefore, it will be more cost effective to manage energy usage consistently throughout the day than to increase the power plant's generation capacity.

Centre for Technology Infusion at La Trobe University and Semitech Innovations have deployed smart energy monitoring and management pilot at the University's R&D Park.



Model of the Smart Energy Management Pilot

The pilot includes complete automation of energy measurements and load management of the entire building in the Technology Enterprise Centre on a real-time basis, by using 30 smart meters and a data concentrator, powered by SiMAC platform. The smart meters and data management concentrator offer measurement of power consumption in real-time for each tenant suite as an instantaneous value as well as the entire energy consumption history at 30 minute intervals.



Examples of Real-time Graphs

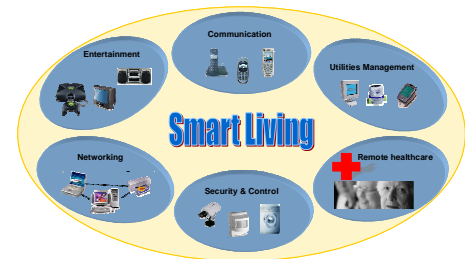
The monitoring system includes a configurable data collection scheduler which collects the data readings for all nodes and stores it systematically in a database server.

A specialised user interface, based on context-aware and persuasive software technologies, has been integrated to influence users to change their behaviour and encourage energy conservation, resulting in reduction of green house gas emission. The user interface offers graphical information about energy consumption in the building in a hierarchical manner and provides users and administrators the ability to drill down into detailed analysis of power consumption, load management and cost.

An advanced interactive display system employing touch-screen and remote control capability has been developed to enable users an easy way of access. The pilot can also be accessible anywhere in the world via an advanced web-based interface, using PCs, PDAs, laptops, mobile devices, etc.

SMART LIVING – FUTURE DEVELOPMENT

The project is an effort to contribute towards not only the reduction of energy demand, thus addressing its impacts on the environment, but also the development of the next-generation smart living environment. Smart living is the bridging of boundaries between technology and lifestyle beyond the confines of convenience, entertainment and comfort.



Smart Living Environment

Smart living creates a conducive environment compelling users to make right lifestyle choices, which not only have positive health impacts but also offer cost saving and reduce environmental impacts.

Current research being carried out at La Trobe University is to integrate wireless capability onto PLC microchips to provide a complete solution for smart home/industrial resource management, including gas, water, electricity and appliances.

FURTHER INFORMATION

Email: CTI@latrobe.edu.au
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