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ICT, Smart Buildings, EE and PQ

by **Engr. Mah Soo**, FIEM, P. Eng.

Chairman, Electrical Engineering Technical Division

'OPEN Sesame' and the front gates open automatically. Such are the fantasies of ICT development when incorporated with voice recognition peripherals or by just pressing a button. The rapid advancement in ICT has taken the world like a tsunami and has turned many wild imaginations into reality.

Smart ICT applications have changed the way of life for the digital e-savvy new generation. Be it in the arena of smart homes, smart buildings, smart 'gizmos' and smart cards. Many young wiz kids who transform such new opportunities into economic growth have become millionaires or billionaires.

Development of ICT is more commonly used to create greater connectivity through smart phones and the internet, e-commerce, comfort through the smart homes concept and entertainment such as high-tech portable music both via audio and video, and electronic games contraptions. Such heavy usage of these ICT products consumes a great capital outlay and electricity demand.

Additional keywords such as 'Energy Efficiency (EE)' and 'Power Quality (PQ)' have been included in the theme to remind us of sustainable development and our reliance on electricity. It would be worthwhile to ponder why not much publicity is given to the applications of such facilities channelled towards EE in the form of the smart control of institutions and commercial buildings, equipment and appliances that could optimise electricity usage in lighting, air-conditioning and ventilation, and other forms of facility management.

One example is that many people wear coats, jackets and extra clothing when working in centralised air-conditioning offices or attending functions in hotels because of the freezing cold environment which is far off from the intended comfort temperature. We hope engineers will take this cue and take up the corporate social responsibility to promote the energy efficiency culture and mindset in the industry, commercial and domestic sectors in their designs and applications.

The recent introduction of heavy usage of electronic devices has posed many silent but serious power quality (PQ) problems. These not only disrupt electricity supply to the facility or plant, but also often cause damage to equipment and appliances. PQ problems are not that easy to solve unless there is a good understanding of the overall electrical system. Hence, we engineers have to update our knowledge to keep up with the times to ensure that we, as a responsible member of society, deliver our professional services in ensuring safety, reliability and also in the efficient utilisation of energy for a better sustainable future. ■

FUTURE THEMES

January 2010

Soil and Geotechnical Engineering (Submission by early November 2009)

February 2010

Water Resources Engineering (Submission by early December 2009)

March 2010

Mining and Quarry Engineering (Submission by early January 2009)