

# Latest Large Inverter Drive Technology

Joint Electrical Institutions Sydney - Engineers Australia, IEEE, IET



<b>Date:</b>	Thursday, 24 October 2013
<b>Time:</b>	5:30 for 6:00 pm
<b>Venue:</b>	Engineers Australia Auditorium, Ground Floor, 8 Thomas St, Chatswood.
<b>Speaker:</b>	Chathura Mudannayake - Toshiba International Corporation
<b>RSVP:</b>	<a href="https://engineersaustralia.wufoo.com/forms/joint-electrical-seminar-24-october-2013/">https://engineersaustralia.wufoo.com/forms/joint-electrical-seminar-24-october-2013/</a>
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Large (up to 120MVA) High Voltage inverter drive technology is becoming more economical and practically viable due to the improvement in large capacity power electronic devices, new power circuit topologies and standardisation of subsystems. As a result, large inverter drives are finding new applications that are traditionally utilized fixed speed motors or mechanical prime movers. Inverter drives of power ratings of up to 120MVA and voltages up to 11kV are now commercially available. These large drives find their applications mainly in mining, steel, petrochemical, oil & gas industries, ship propulsion and pumping. There are many technical aspects that need to be considered when applying a large capacity variable speed drive application. Some of them are: reliability, desired torque control performance, harmonic characteristics, regenerative power consumption, torque ripples, efficiency, cooling methodology, space requirement, maintainability and etc. These characteristics greatly depend on power circuit topology, design philosophy and manufacturing quality control of the inverter drive system.

## About the lecture: "Latest Large Inverter Drive Technology"

The lecture will introduce large capacity power electronic devices such as IGBT, IEGT GCT, and power circuit topologies that enabled achieving latest large inverter drives. Multilevel modulation technologies that are utilized in large capacity drives will also be briefly introduced.

The lecture will cover some application engineering aspects of large drive system and typical applications in mining and oil & gas industries.

**About the Presenter:** Chathura Mudannayake graduated from University of Moratuwa in 2000, and then obtained his Master and PhD degrees from University of New south Wales, in 2002 and 2009 respectively, majoring in power electronics and drive systems. He is with Toshiba International Corporation since 2005 and currently, Engineering Manager for High Voltage Motors and Variable Speed Drives Department.

**NOTE:** Attendance may be credited towards Engineers Australia's Continuing Professional Development (CPD) points. Engineers Australia members are required to undertake a minimum of 150 hours CPD every three (3) years & are responsible for recording CPD for audit.

