

## Low Frequency Electromagnetics Simulation with Maxwell

### Introduction

Engineers who design electric machines need simulation tools that can be employed for quick, accurate product development. By employing finite element methods early in the design process, they can accelerate development and achieve higher machine efficiencies using less material, which reduces costs.

Furthermore, to achieve an optimal motor design demands a full multiphysics analysis workflow. Assuming that the machine will remain in the intended operating range can lead to poor design choices, redesign late in the development cycle or product failure. ANSYS electromagnetic simulation software can precisely characterize the nonlinear, transient motion of electromagnetic components such as magnetic actuators, transformers, sensors and induction heating.

As microprocessors gain speed and reliability, more electronic controls and electrical content are being applied to traditional mechanical and hydraulic processes. ANSYS SImplorer enables engineers to accurately and quickly design complex power electronic and electrically controlled systems. It is an intuitive, multidomain, multitechnology simulation program used to simulate, analyze, and optimize complex systems, including electromechanical, electromagnetic, power and other mechatronic designs.

### Objectives

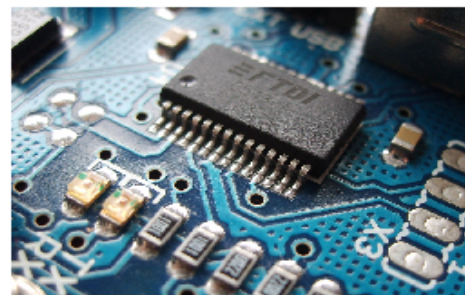
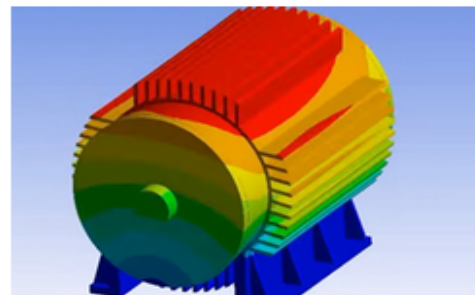
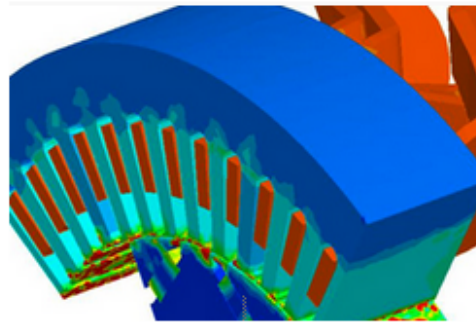
This seminar provides an overview of ANSYS low frequency in applications such as electric machines, power electronics and EMI/EMC simulation.

### Benefits

- ANSYS' electric machine design flow provides a complete virtual prototyping laboratory for machine design and development.
- ANSYS highly automated workflow enables you to speed the development of innovative products and meet time-to-market and cost objectives.

### Who should attend?

Directors, Managers, Engineers and Researchers in the area of motor development and power electronics.



## What customers say about our solutions

"Simulation made it possible to achieve this challenging performance goal in less than half the time that would have been required using conventional build and-test methods. The simulation predictions correlated well with physical testing, providing confidence that Indar can use simulation to optimize its products to deliver high performance under the most demanding conditions."

**Jon Vaquerizo, Project Manager, Indar Electric**

"Our technical team was challenged to develop a fast, efficient and innovative way to design a turbine that would give us a competitive advantage. We chose ANSYS for coupling multiphysics analysis where needed, at the aerodynamic, structural, component and electromechanical levels."

**Miguel Hoyos, Technical Director, Norvento Energía Distribuida**

"ANSYS has certain features that we really like. We can import CAD models directly into the ANSYS electromagnetic simulation package. The coupled thermal and electromagnetic tools provide us with insight into interactions between pacemakers and MRI scanners, which is a complex problem. Using simulation allows us to really understand the problem, so that we can mitigate the hazards"

**Mariya Lazebnik, Senior Scientist, Medtronic**

## Presenter Profile



Kamorn Bandudej is currently an application specialist in Thailand. He received his B. Eng. and M. Eng. from Mahanakorn University of Technology (MUT). His research included application of Microwave technology. He was also involved in IC packaging design, MMICs characterization, and EVB design for high data rate application of up to 40Gb/s. At CAD-IT, he is responsible for pre and post sales support of ANSYS Electromagnetics solutions and the ANSYS range of solutions for the Electronics sector.

## Event Information

**Date** : 4 April 2016  
**Time** : 2:00 pm - 5:00 pm  
**Venue** : CAD-IT Consultants (Asia) Pte Ltd  
159 Sin Ming Road, #03-05 Amtech Building, Singapore 575625 ([view map](#))

Agenda	Time	Topic
	2:00 – 2:30 pm	Registration
	2:30 – 3:15 pm	Introduction to Low frequency application ANSYS Maxwell, ANSYS RMxpert, ANSYS PExprt, ANSYS SImplorer, ANSYS Multi-Physics simulation
	3:15 – 4:00 pm	Motor/Alternator design methodology
	4:00 – 4:15 pm	Break
	4:15 – 5:00 pm	Power electronics and EMI/EMC application

**Register NOW**

- Register online for this **free** event.
- CAD-IT Consultants reserves the right to cancel or postpone the event due to unforeseen circumstances.

**For enquiries, please call 6508-7575 or email at [caditevents@cadit.com.sg](mailto:caditevents@cadit.com.sg)**

## About CAD-IT Consultants

Founded in 1991, CAD-IT is a leading global ISO 9001:2008 certified Product Life Cycle Management (PLM), manufacturing and education provider. CAD-IT's mission is to provide world-class solutions and services that enable companies and their supply chains to achieve greater product innovation, quality and productivity with drastically reduced time-to-market and costs.

CAD-IT is honored to have received over 80 international and national awards since its inception for marketing and service

excellence. Among its most recent accolades are the Singapore Enterprise 50 Award (2015, 2014, 2013, 2012), Singapore SME 1000 (2014, 2013, 2012, 2011), Asia Pacific Entrepreneur Award (APEA) - Outstanding Entrepreneur Award (2012, 2010, 2009), the Singapore Prestige Brand Award SPBA - Established Brand Award (2012, 2011, 2010, 2009), SPBA - Regional Brand Award 2012 and SPBA - Hall of Fame 2012.

CAD-IT Consultants' suite of PLM solutions include ANSYS (System-level, Multiphysics Simulation), Goldfire Innovator (Innovation Process Management), Moldflow (Plastics CAE), Stampack (Sheet Metal Forming), Deform (Bulk Metal Forming CAE), SpaceClaim (3D Direct Modeler), Mentor Graphics Valor DFM (Design For Manufacturing), Valor MSS (Complete Manufacturing Execution Suite) and Cortona3D (3D Technical Documentation).

Since February 2010, CAD-IT has partnered the Singapore Workforce Development Agency (WDA) to offer Advanced Certificate courses in PLM and Engineering Simulation, under the Workforce Skills Qualifications (WSQ) framework, with the charter to upgrade the technological capabilities of organizations in Singapore so as to enable them to undertake high value-add design, engineering, manufacturing and R&D activities.



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