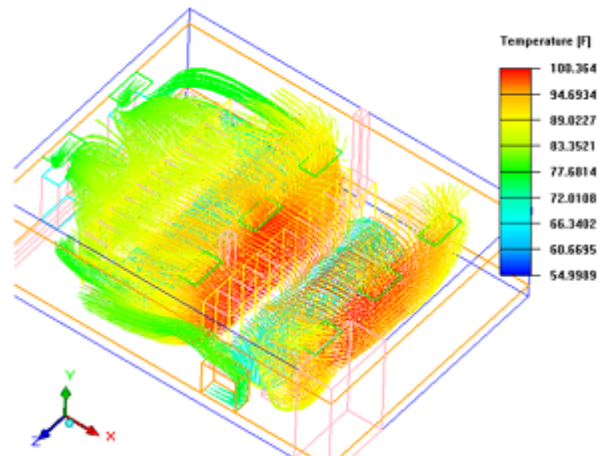


## Staying Cool with ANSYS Icepak

### Introduction

In today's highly competitive electronics industry, engineers face numerous design and manufacturing challenges. Electronic devices have smaller footprints and unique power requirements. Overheated components degrade product reliability, resulting in costly redesigns. High temperatures detrimentally affect electrical performance of printed circuit boards. To ensure adequate cooling of IC packages, PCBs and complete electronic systems, engineers rely on ANSYS Icepak to validate thermal designs before building any hardware.

Apart from electronics applications, data centres can also benefit from ANSYS Icepak. Thermal simulation provides a detailed 3-D analysis of how cold air is moving through a data center, identifying potential "hot spots" where equipment is receiving too little airflow. Thermal mapping can also help identify areas that are receiving more cold air than needed. This allows you to better manage resources to reduce data centre operation and maintenance costs in the most efficient way possible.



Particle track of airflow in a data center using ANSYS

### Objectives

The primary goal of this seminar is to provide an update on the latest leading edge technologies for electronics thermal modeling and data centre cooling. Best practices will be shared on various thermal modeling applications with time for Q&A.

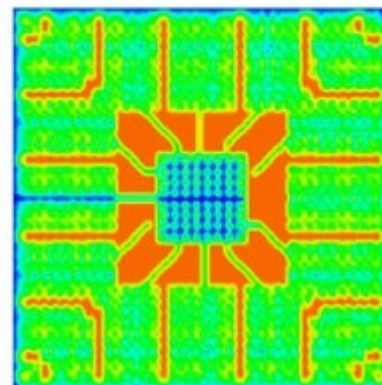
### Benefits

By attending this seminar you are able to learn:-

- What sets ANSYS Icepak a class apart from other solutions available in the market
- How you are able to improve design performance, reduce the need for physical prototypes and shorten time to market by having the ability to predict air flow and heat transfer at the component, board or system level.

### Who Should Attend

Engineers, Managers involved in thermal management for electronic product designs and data centre.



Orthotropic thermal conductivity determined from trace and via information for bottom layer of BGA package substrate

## What customers say about our solutions

"In developing a **revolutionary** fan concept, the Dyson team **investigated 200 different design iterations** using simulation, which was 10 times the number that would have been possible had physical prototyping been the primary design tool."

**Richard Mason, Research Design and Development Manager, Dyson**

"ANSYS Icepak provides a **quick, accurate and reliable** tool for the thermal management design and analysis of our products."

**Dr Matteo Fabbri, Scientist, Corporate Research ABB Switzerland Ltd**

"All our customers want answers to their questions really fast. And it's implicit that they want accurate answers. There are plenty of tools around that give you an answer very quickly, but it's more difficult to find a tool that is **both accurate and quick at the same time**. That's ANSYS."

**Jonas Persson, Technical Manager, ST-Ericsson**

## Presenter Profile



Vamsi Krishna has worked in ANSYS for the last 8 ½ years providing high quality technical support and services solutions to electronics customers worldwide. He is also lead developer for Icepak Macros and leads a team of worldwide Engineers for bringing in new applications and models in to Icepak interface for every release. He also manages high-end services projects with ANSYS customers in area of Thermal reliability and Multiphysics. He received his Engineering degree in Mechanical stream from Jawaharal Nehru University and his Masters in Technology Degree in Computation Fluid Dynamics and Thermal from Indian Institute of Technology Kanpur.

## Event Information

**Date** : 30th November 2015 (Monday)  
**Time** : 8:30 am - 4:30 pm  
**Venue** : CAD-IT Consultants (Asia) Pte Ltd  
159 Sin Ming Road, #03-05 Amtech Building, Singapore 575625 ([view map](#))

### Agenda

8:30 – 9:00 am	Registration
9:00 – 9:30 am	Thermal characterization of IC packages and 3D-IC
9:30 – 10:00 am	Board level thermal analysis
10:00 – 10:30 am	Break
10:30 – 11:00 am	System level thermal analysis
11:00 – 11:45 am	Q&A
11:45am	Lunch Break
1:30 – 2:00 pm	Data centre cooling
2:00 – 2:30 pm	ANSYS R17 new features update and ANSYS Icepak advantages
2:30 – 3:00 pm	ANSYS Icepak integration with Slwave
3:00 – 3:30 pm	Break
3:30 – 4:00 pm	Multiphysics optimization using ANSYS
4:00 – 4:30 pm	Wrap-up/ Q&A

**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 (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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