

CFD Simulation for Building and HVAC Industries

Introduction

Contrary to most industries, as there is no prototype for civil engineering and build environment, you have to be right the first time. Even before the construction begins, upon submitting the project proposal, you need to prove that your design is better than your competitor's.

Nowadays, computational fluid dynamics (CFD) code, such as ANSYS CFD is becoming one of the common industry approaches. Yet its adoption in a Simulation Driven Building Design (SDBP) is still limited to a few leading companies. As Singapore is becoming digital hub of Asia, data centres are emerging and Green Mark Award can be achieved with the help of CFD simulation. Simulation is also helpful for continuous improvement of thermal efficiency to reduce hotspots.

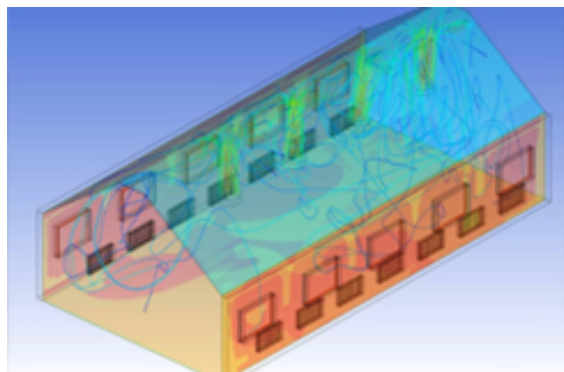
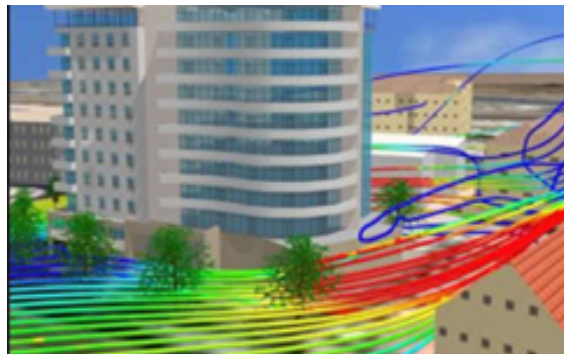
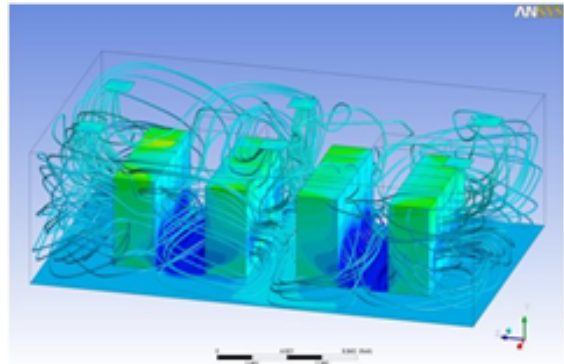
By applying industry specific best practices, early adopters of engineering simulation are making a difference by replacing some costly trial and error methods with quick and comprehensive modelling to emerge as leaders.

Objectives

This seminar provides an overview of ANSYS CFD in applications involving fluid dynamics analysis (on 3D air flow distribution, temperature distribution, smoke propagation and solar loading) for building and HVAC industry. Hands on sessions will be provided to ensure better understanding.

Benefits of using ANSYS Fluent and ANSYS CFD-Flo

- ANSYS Fluent is a very powerful and well established fluid dynamics solver which can help users obtain useful results. This includes: flow structure, pressure, velocity, aero-acoustic and temperature distribution within the fluid volume, solar loading as well as combustion analysis.
- ANSYS CFD-Flo is an affordable fluid dynamic solver that gives best in class accuracy level. It helps users to obtain flow structure, temperature distribution and smoke propagation, all of which are basic study parameters for the HVAC industry.



Who should attend?

Directors, Managers, Engineers and Researchers in Building and HVAC Industries. There will be 12 seats only open for first come, first served basis.

What customers say about our solutions

"Engineers who scoffed at CFD analysis a year and a half ago now prefer that design changes be evaluated using CFD before being tried in that field."

Dr Phil Staples, E.I. Dupont

"Simulation results assist us in the process of developing and evaluating design concepts as well as contributing to the evidence that a proposed design meets various rating criteria. Moreover, we use the software to produce visualisation for marketing purposes to enhance our communication with prospective clients. I don't see our use of this tool letting up any time soon."

John Costello, LEED A P, Mechanical, Dunham Associates

"Without ANSYS, we would go in blind designing new reactors or making modifications to existing equipment. The confidence level that we get from using simulation is very high: We generally understand the preferred direction to pursue, rather than going in all possible directions."

Matteo Fumagalli, Innovation Engineer, MEMC

Presenter Profile



Dr Vincent Chai is currently a technical sales consultant in CAD-IT Consultants. He is part of the technical team that support customers in various disciplines. He graduated from NTU with a Ph.D. Degree in Mechanical and Aerospace Engineering, where his thesis was focused on flapping wings aerodynamics for unmanned vehicles. He has worked as a project officer for DSTA project on debris flight analysis and Research Engineer for NIDEC Singapore.

Event Information

Date : 24 February 2016
Time : 2:00 pm - 5:30 pm
Venue : CAD-IT Consultants (Asia) Pte Ltd
159 Sin Ming Road, #03-05 Amtech Building, Singapore 575625 ([view map](#))

Agenda	Time	Activity
	2:00 – 2:30 pm	Registration
	2:30 – 3:00 pm	Introduction to ANSYS CFD simulation in Building and HVAC industry
	3:00 – 4:00 pm	Hands on session of ANSYS CFD-Flo (Multi-Species flow model for car engine fire in ventilated parking garage)
	4:00 – 4:15 pm	Break
	4:15 – 5:30 pm	Hands on Session of ANSYS Icepak (Data Centre Cooling)

[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

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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