



ENGINSOFT INTERNATIONAL CONFERENCE 2011

CAE TECHNOLOGIES FOR INDUSTRY

ANSYS ITALIAN CONFERENCE 2011

20-21 October 2011

Today Engineering Simulation is radically changing the way products are designed and produced.

The challenge we now face is to transform existing commodity products employed in the design process, into effective production tools tailored to the needs of each individual organization.

To do this we must ensure that our simulation processes are complete, starting from the initial design right through the entire production supply chain; we must ensure that they are reliable and robust. We must focus on ways to detect defects before they become problems, to create models that produce consistent results, to make sure that our optimization models are robust and to never lose focus of the big picture in which we operate.

At EnginSoft we make our best efforts to do all of this.

This conference is intended to provide a forum for debate on the expectation for reliable and robust models, stimulated by the needs of industry and rendered unique by the contributions of all of you here today, whether you are virtual simulation engineers, members of the scientific community working on new theories and methods or commercial software publishers.

www.caeconference.com

First Day 20th October
20 OCTOBER 2011 - MORNING

| PLENARY SESSION | |
|-----------------|---|
| 9.00 | EnginSoft, ANSYS - Welcome Address (S. Odorizzi, C. Gomarasca) |
| 9.20 | ANSYS - Engineering the System with ANSYS (S. Subbiah) |
| 10.00 | SNECMA - Time compression with ANSYS Workbench (I. Vermeersch) |
| 10.20 | ANSALDO - Ansaldo Energia and EnginSoft, an efficient global CAE partnership (S. Santucci) |
| 10.40 | AMD - Combining Performance and Efficiency for HPC with Multicore and Heterogeneous Computing (B. Stefanizzi, R. Dognini) |
| 10.55 | COFFEE BREAK |
| 11.15 | M³E - Advanced numerical methods for environmental modelling (G. Gambolati) |
| 11.35 | ENI - Numericam Modelling in Hydrocarbon exploitation (P. Ruffo) |
| 11.55 | CINECA - The perspective and role of CINECA in HPC targeted to Industry (E. Ferrari) |
| 12.15 | Engineering Simulation and Scientific Software (ESSS) - Development of Custom Turnkey Solutions For Subsurface Application un Oil&Gas (C. Maliska) |
| 12.35 | HP - The new frontiers of HPC: the GPU Computing according to HP (P. Ladik) |
| 12.50 | Nvidia - Accelerate ANSYS Simulations on NVIDIA GPUs (E. Orlotti) |
| 13.05 | BUSINESS LUNCH |

20 OCTOBER 2011 - AFTERNOON

| | MECHANICAL SESSION | | CFD SESSION | | OPTIMIZATION SESSION | ECO-BUILDING Workshop |
|-------|---|--|---|--|---|--|
| 14.00 | EnginSoft - State of the Art in the Mechanical Simulation | | EnginSoft - State of the Art in the CFD Simulation | | EnginSoft - State of the Art in the Multi-Objective Optimization Simulation | EnginSoft - ECO-BUILDING e Tecnologie CAE, la necessità di un incontro |
| 14.25 | Ansaldo Breda - Advanced CAE Design for increasing Railway Vehicles Fire Safety Level | MTA - Numerical Modeling of Automotive Fuses Melting Time | ANSYS UK - Engineering Simulation For Unmanned Vehicle Design and Development | CADFEM Swisse - Comparison of hydrodynamic mass for CFD-coupled analyses | Tetra Pak - Integration of a fully 3D CFD model in a lumped parameter system simulation through the use of an explorative DOE methodology | Habitech/Distretto Tecnologico Trentino - Ruolo delle Tecnologie ICT nell'edilizia sostenibile certificata |
| 14.50 | ANSYS - Overcoming the Challenges of Hybrid/Electric Vehicle Traction Motor Design | IDNOVA - FEM Analysis and Validation through Manufacturing of Electromagnetic devices for communication application using IEEE 1902.1 protocol | University of Genova - Engine exhaust jets redesign for the P180 aircraft using multidisciplinary simulations | Ansaldo Nucleare - Analysis of the Sloshing of a Large Tank with design-basis and Fukushima-like Seismic Excitations | Ferrari - Numerical optimization of the exhaust ow of a high-performance engine | Università di Trento - Utilizzo di metodologie di simulazione energetica dinamica e di ottimizzazione nel progetto di un edificio "near zero energy" |
| 15.15 | Pierburg Pump Technology - Evaluation of the Lifetime of an Automotive Vacuum Pump Housing | Key to Metals - Development of a Database for Stress-Strain Curves and Cyclic Properties | AVIO - Numerical Validation on Aeronautical combustion at high pressure condition | Zeco - Virtual Testing of a Plant with Hydro Francis Turbine | Continental - Multi-Objective Virtual Optimization for a target GDI injector nozzle flow achievement | Università di Trento - Influenza dei dati di input sui risultati delle simulazioni dinamiche delle prestazioni energetiche di un edificio |
| 15.40 | Piaggio - FE analysis of a scooter crankshaft | CADFEM Swisse - Effective Electrothermal Simulation for Battery Pack and Power Electronics in HEV/EV | EnginSoft - MELISSA Project: plant growing environment characterization | Nuovo Pignone - Combined 1D & 3D CFD Approach for GT Ventilation System analysis | Iveco - Tyre set-up for commercial vehicle multibody model: modeFRONTIER as a calibration tool | Università di Trieste - Utilizzo di algoritmi genetici per l'ottimizzazione energetica di superfici vetrate con sistemi solari schermanti |
| 16.05 | COFFEE BREAK | | | | | |
| 16.30 | Lombardini Motori - A novel approach to simplified representation of threaded connections | Trasfor - Fatigue Assessment of a Magnetic Component for Railway Application | Centro Sviluppo Materiali - CFD modelling of regenerative combustion system | SUPSI - Effects of Packed Bed Transport Properties Modeling on CFD Simulations of a Short Contact Time Reactor for Methane Catalytic Partial Oxidation | Ansaldo Breda - Structural optimization of new high speed train | EnginSoft - BENIMPACT SUITE - Piattaforma software per la progettazione integrata di edifici eco-sostenibili |
| 16.55 | Magneti Marelli - Gasket FEA analysis for AIM application | University of Malta - Experimental Validation of Finite Element Simulations to predict Welding Induced Residual Stresses | Tetra Pak - Modelling of a packaging machine filling system using a hierarchical approach | University of Bologna - Improving the design and the separation performances of membrane modules for H2 purification by CFD simulations | Casappa - Optimization of the valveplate geometry for a variable displacement axial piston pump in case of multiple design constraints | EURAC - Uso di strumenti di simulazione dinamica a supporto dello sviluppo di soluzioni innovative per l'edilizia sostenibile |
| 17.20 | Pierburg Pump Technology - Modal Analysis Correlation By Means Of FEM Approaches | Dynamore - New features and future directions in car crash simulations with LS-DYNA | Tecniplast - Laminar flow cabinet study | University of Ferrara - Numerical Analysis of a Micro Gas Turbine Combustor fed by liquid fuels | University of Salento - Numerical and experimental evaluation of structural impact behavior of large pod for nautical applications | Manens-Tifs - Ottimizzazione della prestazione energetica di un edificio con riferimento al protocollo LEED |
| 17.45 | Moldex 3D - Integration of Injection Molding and Structure CAE for Mold Deformation Analysis | Rossi - Research of the maximum energy efficiency for a three phase induction motor by means of slots geometrical optimization. | CINECA - HPC Deployment of OpenFOAM at CINECA for industrial settings | University of Padova - Effect of Airfoil Geometry on Darrieus Vertical-Axis Wind Turbine Performance | EnginSoft GmbH- Morphological Shape Optimization of a Multi-Element, Down-Force Generating Wing | Onleco - La simulazione termo-energetica dinamica e l'integrazione tra prestazione energetica e comfort degli ambienti confinati |
| 19.00 | GALA DINNER (with Microsoft Speech - Software Development: From Concept to Operations) | | | | | |



Second Day

21st October

21 OCTOBER 2011 - MORNING

| | MECHANICAL SESSION | CFD SESSION | OPTIMIZATION SESSION | MAGMA Italian Users' Meeting | FORGE Italian Users' Meeting | Workshop Compositi |
|-------|---|---|---|--|---|---|
| 9.30 | Franco Tosi Meccanica - Modeling different contact conditions in blade rows of turbomachinery | Magneti Marelli - SMART COOLING AIM Heat Exchanger Methodologies | CIRA - Synergy between LS-DYNA and modeFRONTIER to predict low velocity impact damage on CFRP plates | MAGMA - Cost savings using simulation | EnginSoft - Introduzione ed esperienze di simulazione a supporto dei clienti italiani - accordo di collaborazione con Hydromec | Introduzione agli strumenti di base nella progettazione dei materiali compositi |
| 9.55 | Ansaldo Energia - New materials and their constitutive models in ANSYS. Experience in plasticity and viscoplasticity through z-ANSYS | Centro Ricerche Fiat - Fluid refrigerant leak in a cabin compartment: risk assessment by CFD approach | University of Salento - Carburizing and Nitriding of steel components: experimental and numerical analysis | Fonderie Mario Mazzucconi - Limitare la formazione di bava: analisi deformativa di uno stampo LPDC a regime termico | Deutsche Edelstahlwerke, Germany - Presented by Transvalor - Numerical forming simulation at Deutsche Edelstahlwerke | |
| 10.20 | INFN - A liquid Xenon calorimeter project for the Paul Scherrer Institute Switzerland | Piaggio - The use of ANSYS CFX to optimise the cooling circuit of an internal combustion engine - 2nd part: thermal analysis | ESTECO - Multi-Objective Optimization of Electromagnetical Devices Integrating modeFRONTIER with ANSYS Maxwell | Saen - Ottimizzazione del processo di pressocolata attraverso l'integrazione tra la simulazione, la campionatura e il laboratorio | FEAT Group - La simulazione del processo di stampaggio a caldo di acciaio mediante pressa: prevedere con la simulazione i problemi consente di risolverli a-priori, risparmiando nelle campionature e nei fermo-macchina | Quadro descrittivo della logica integrata di progettazione delle strutture in composito |
| 10.45 | University of Padova - Simulation and energy saving in simple solar collector with reflective panels and boiler | Ansaldo Breda - Thermal comfort in Driverless Light Metro: CFD simulations versus experimental data from climate chamber tests | University of Salento - modeFRONTIER analysis for reducing emissions of PCDD/F in a sintering ore plant | IFI/Gruppo Cividale - Taratura sperimentale di MAGMAsoft per il processo di fusione a cera persa | Transvalor - FORGE2011 - Processes - Transvalor | |
| 11.10 | COFFEE BREAK | | | | | |
| 11.40 | Saipem - Aqwa code and its capabilities to solve offshore operation requirements | Magneti Marelli - Design Optimization Inverter Device | University of Salento - Optimized solar collectors for nanofluids applications | Università di Padova/DTG - Optimising a step casting geometry to evaluate the mechanical properties of AM60B Magnesium Alloy | Transvalor - FORGE2011 - Prediction of Forging Defects | Sviluppo delle performance tramite i software numerici di progettazione |
| 12.05 | CIRA - Cohesive Zone Material model in ANSYS: a sensitivity analysis on a DCB test cast | University of Roma "Tor Vergata" - Fluid Structure Interaction (FSI) with RBF Morph: a Generic Formula 1 Front End | M3E - Evaluation of the environmental impact of underground gas storage and sequestration | Teksid Aluminum - Ottimizzazione del regime termico di una conchiglia a due figure per colata a gravità di una testa cilindri | Transvalor - ColdForm2011 - Examples of Cold forming processes simulations | Tutorial ed applicazioni industriali |
| 12.35 | CERN, EnginSoft, Brembana - Conceptual design of insulated modular LAr TPC detector for LBNE | Politecnico di Milano - Churning power losses in planetary speed reducer: computational-experimental analysis | University of Cassino - Identification of the JH-2 constitutive model parameters for the fused silica using modeFRONTIER | Costampress - Quando lo stampista diventa valore aggiunto, esempio di collaborazione | IFUM Hanover, Germany - Presented by Transvalor - Numerical Investigations on the Fatigue Failure of Forging Tools due to Thermo-Mechanical Cyclic Loading | |
| 13.00 | BUSINESS LUNCH | | | | | |

21 OCTOBER 2011 - AFTERNOON

| | MECHANICAL SESSION | CFD SESSION | OPTIMIZATION SESSION | MAGMA Italian Users' Meeting | FORGE Italian Users' Meeting | MECHANICAL SESSION |
|-------|--|--|---|--|---|---|
| 14.00 | SOFTWARE UPDATE EnginSoft - Mechanical | SOFTWARE UPDATE EnginSoft - ANSYS Workbench: simulation and design environment, and new meshing paradigm | Hill&Smith - Solar Panel Support Frame Development using modeFRONTIER | SOFTWARE UPDATE MAGMA c+m: simulation of Core Shooting and Curing | DIMEG - Università di Padova - La simulazione numerica nell'ottimizzazione dei processi di forgiatura (Process simulation in metalforming) | SOFTWARE UPDATE ANSYS - Electromagnetism |
| 14.20 | | SOFTWARE UPDATE EnginSoft - ANSYS CFD: advanced CFD set-up and solution | Reactive Search - The Grapheur tool for data analysis and visualization: 7D plot and similarity maps | | Riganti SpA - Simulare lo stampaggio al maglio: vantaggi dalla preventivazione, alla calibrazione del processo, all'ottimizzazione della qualità di particolari di grosse dimensioni | |
| 14.40 | | EnginSoft Nordic - Multiobjective optimization with modeFRONTIER applied to systems biology | | | | |
| 15.00 | SOFTWARE UPDATE ANSYS - Meshing | SOFTWARE UPDATE ANSYS - Solver | SOFTWARE UPDATE What's new in modeFRONTIER 4.4 | SOFTWARE UPDATE MAGMAstress: simulation of stress and distortion in casting and heat treatment | Transvalor - FORGE2011 – Pre & Post Enhancements | SOFTWARE UPDATE EnginSoft - Low Frequency |
| 15.30 | SOFTWARE UPDATE EnginSoft - AnsyStrip | SOFTWARE UPDATE ANSYS - Meshing | SOFTWARE UPDATE Roadmap of next modeFRONTIER releases | SOFTWARE UPDATE MAGMAhpc: Full Die simulation in High pressure die casting | Transvalor - FORGE2011 – Optimization through CAD systems | SOFTWARE UPDATE ANSYS - High Frequency |
| 16.00 | | | | | Transvalor - FORGE Prospective Road Map | |
| 16.30 | Questions & Answers | Questions & Answers | Questions & Answers | SOFTWARE UPDATE MAGMAsteel and MAGMAiron: casting quality improvement using simulation | Round table - users' requests | Questions & Answers |
| 17.00 | | | | SOFTWARE UPDATE MAGMA developments and outlook | | |

