ANSA
seat coupled movement

Cray
XC30-AC supercomputer

Users' conference
9th European LS-DYNA
June 03- 04, 2013

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FEA Information Inc. is a publishing company founded April 2000, incorporated in the State of California July 2000, and first published October 2000. The initial publication, FEA Information News continues today as FEA Information Engineering Solutions. The publication's aim and scope is to continue publishing technical solutions and information, for the engineering community.

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FEA Information Engineering Journal

FEA Information China Engineering Solutions

FEA Information Engineering Solutions:

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FEA Information China Engineering Solutions

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ANSA

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NAFEMS World Congress

      June 09 – 12th

LSTC One Day Seminars

      If you are interested in the One Day Seminar Series from LSTC on EM, ICFD, Warm Forming, LSTC's One Step Solution, contact classes@lstc.com – LSTC is in the process of setting dates for the next One Day Seminar classes and will use customer suggested dates for California and Michigan.

I will be traveling to the 9th European LS-DYNA Users' Conference June 3rd & 4th. Please stop to say hello and what you would like to see in the FEA Information Engineering Solutions*.   Marsha*

Sincerely, Marsha Victory, Trent Eggleston
FEA Information

April 2013 FEA Information Engineering Solutions

COVER:

China LS-DYNA Users' Conference

For information on the 1st 2013 China LS-DYNA Users' Conference hosted in Dalian China, October 16th-18th contact yanhua@lstc.com

06	NAFEMS World Congress **June 09 – 12th**
07	Release of v14.1.0 of ANSA & µETA **BETA-CAE system S.A. announces the release of v14.1.0 of our ANSA & µETA pre- and –post processing suite**
10	Shanghai Hengstar in China for ESI's software Visual-Environment for LS-DYNA® **Announces that Shanghai Hengstar is now an authorized reseller in China of ESI's software Visual-Environment for LS-DYNA®**
11	Kaizenat and DYNAmore, GmbH Announces Strategic Partnership Agreement **Kaizenat and DYNAmore GmbH announce strategic partnership agreement to include DYNAmore Tools Software.**
14	Comet Solutions Adds Support for LS-DYNA **Comet Solutions Adds Support for LS-DYNA**

Introduction

The Crash and Safety simulations have helped the automotive industry not only to drastically reduce costs and time during the development stages but also to design "safer" products. BETA CAE Systems, through its flagship products ANSA and µETA, has played an important role in the developments in the Crash and Safety CAE discipline on which continues to focus during the development of its products to bring to the market the best CAE software technology.

ANSA, a multi-purpose CAE pre-processor, offers a rich suite of state-of-the-art tools, specialized to Crash and Safety.

This paper presents ANSA's dummy positioning and restraining functionality, which is becoming a standard widely used in the automotive industry.

Supported Dummies

ANSA supports the reading of dummy models, and their hierarchy tree, from all the major dummy providers, such as LSTC, Humanetics, DYNAmore, Simulia, etc. Rigorous software development and verification tests ensure that every ANSA release is up to date with the latest dummy models versions.

Dummy Positioning

The Tool

The ANSA Dummy Positioning Tool allows the engineer to position the dummy on the seat, in a fast and easy way, and to manipulate the dummy's limps. The movements can be done either by graphics interaction or by numerical values input.

Graphical information on the screen provides the user with important data for the completion of the tasks, such as the joint axis, stop angles, current angle etc.

Due to the fact that the dummy is a model validated by its supplier, the user may not want to export it from a pre-processor. ANSA gives the option to input the dummy as a read-only include file. Thus after the dummy positioning process is completed, transformation keywords can be exported relative to the initial position of the dummy.

Figure 1. Graphical information

Dummy-Seat Kinematics

Coupled dummy-seat movements can be performed within ANSA with the use of the ANSA Kinematics tool. The ANSA Kinematics tool is an implicit Multi Body Dynamics Solver, wrapped around a user-friendly interface, that provides the functionality to easily move complex mechanisms such as an automotive seat.

The tool will extract all the kinematic information from the dummy and the seat and allow the user to set up coupled movements.

While movements are performed, the seatbelt can be automatically refitted to the new position of the dummy.

Figure 2. Depicting dummy-seat coupled movement

Seatbelt Tool

ANSA has a very powerful tool that handles the creation of seatbelts. Some of the characteristic capabilities of the tool are:

- The ability to create any type of 1D, 2D, or a combination of 1D and 2D seatbelts
- The full support of modeling a belt with LS_DYNA 2D *ELEMENT_SEATBELT entities.
- The ability to interactively edit the path of the seatbelt, while the seatbelt is already created, in order to route the belt through the desired path
- The seatbelt is an ANSA entity. This means that all the necessary information that is needed for the belt creation is stored in this entity. Thus if the belt needs to be re-created, it can be done with the push of a button.

- The option to automatically create sliprings, retractors, pretentioners at the anchor points of the belts.
- The ability to automatically define the contacts between the belt elements and the dummy.
- Functionality that allows for automatic passing of a 2D belt through a 3D slipring.
- The ability to automatically extract seatbelt information and create a seatbelt entity from a seatbelt that was not created within ANSA.

Seatbelt Path Editing

During the seatbelt creation process it may be difficult to get the desired path at the first try. ANSA's seatbelt tool provides the ability to interactively edit the path by moving control points that appear on the seatbelt. This allows for great control of the belt path, making the belt editing process very easy for the user. The tool remembers the edited path, so if the belt needs to be re-created it will follow the last (edited) path.

Figure 3. Interactive editing of the belt's path

LS-DYNA 2D *ELEMENT_SEATBELT

The definition of seatbelts that implement the 2D *ELEMENT_SEATBELT keyword of LS-DYNA can be a very complex process. ANSA's seatbelt tool manages this difficulty for the user and hides the underlying complexity of the needed keywords.
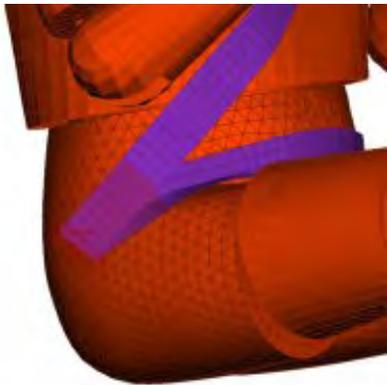
Figure 4. Belt with 2D *ELEMENT_SEATBELT definition

3D Slipring Passing Belt

Modern seatbelt modeling techniques require that a seatbelt follows a 3D slipring and not through an *ELEMENT_SLIPRING. Modeling such type of a belt can be difficult. ANSA provides functionality that will generate the path of the seatbelt through the slipring automatically for the user.
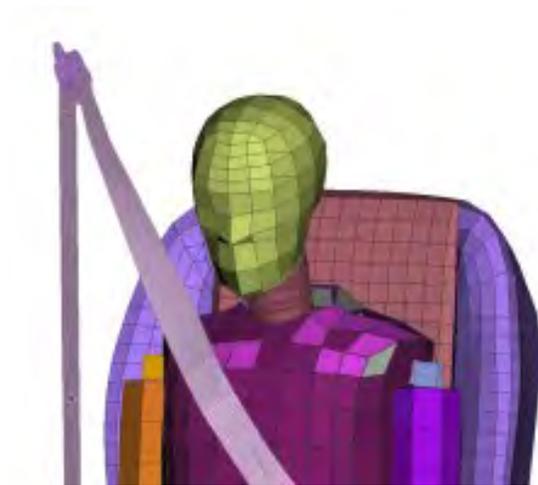
Figure 5. A seatbelt going through a 3D slipring

Dummy-Seat Depenetration

A solver-based tool that takes into account the foam material of the seat performs the Dummy-Seat Depenetration. The foam is compressed as to avoid penetrations between the dummy and the seat.
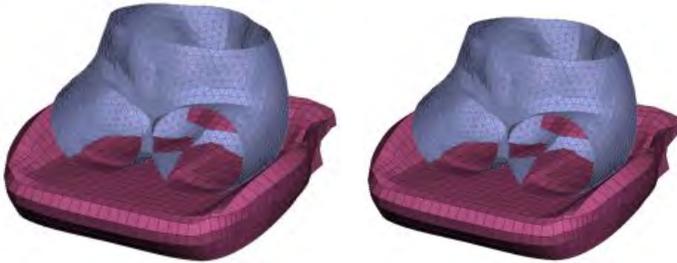

Figure 6. Before and after image of the dummy seat depenetration tool.

Conclusion and Benefits

BETA CAE Systems offers through its software products high-end technology to the Crash and Safety CAE engineer that among other functionalities supports the dummy positioning and restraining. The engineers can be benefited from:

- The reliability, stability of the tools
- The predictability of the results.

- The incorporation of these Tools into ANSA
- The interaction with the rest of the modelling tasks and operations
- Fast model configuration and update
- References

ANSA version 13.2.1 User's Guide, BETA CAE Systems S.A., December 2011

News Release   http://investors.cray.com/phoenix.zhtml?c=98390&p=irol-newsArticle&ID=1816166

Cray Expands Line of Cray XC30 Supercomputers With New Technical Enterprise System

SEATTLE, WA and NAPA, CA -- (Marketwired) -- 05/07/13 -- At the 2013 Cray User Group (CUG) meeting in Napa Valley, California, global supercomputer leader Cray Inc. (NASDAQ: CRAY) today introduced the Cray XC30-AC supercomputer -- the Company's new addition to its series of Cray XC30 systems. Shipping now, the new Cray XC30-AC supercomputer includes all of the advanced high performance computing (HPC) technologies offered in the Cray XC30 system, and features aggressive price points intended to attract a new a class of HPC users -- the technical enterprise.

With prices starting at $500,000, the Cray XC30-AC (air cooled) supercomputer economizes the packaging, networking, cooling and power options of the Cray XC30 system to provide customers with the optimal balance of features and footprint that matches their unique price/performance requirements. The Cray XC30-AC enables technical enterprise HPC users in fields such as manufacturing, life sciences, financial services and energy to apply supercomputing resources towards solving the growing technical and business challenges that can only be addressed with high-end HPC technology.

"Innovation is not limited to Fortune 100 companies. There are many Fortune 1000 companies, and even departments within Fortune 100 companies, with a growing need for a supercomputing system that provides a critical tool for taking advantage of performing complex simulations," said Peg Williams, Cray's senior vice president of high performance computing systems. "With all of the features and functionality of our high-end Cray XC30 systems, our new Cray XC30-AC supercomputer is perfectly suited for technical enterprise customers, giving them the ability to leverage all of the world-class computational resources of a Cray supercomputer at much lower starting price points."

The Cray XC30-AC is not the only Cray solution for technical enterprise customers. The Company's line of industry-standard cluster supercomputer offerings, the Cray CS300 cluster supercomputers, complements the Cray XC30-AC systems and gives customers the ability to choose a Cray solution that best fits the needs of their applications. With Cray XC30-AC and Cray CS300 systems, Cray's portfolio of supercomputers now spans a broad spectrum of customer needs, application performance, price performance and flexibility.

"Cray has a history of leveraging the supercomputing technologies featured in their high-end systems, and economically repackaging those same technologies to offer solutions to fit the needs of HPC users with smaller budgets," said Earl Joseph, IDC program vice president for HPC. "Simulation is no longer bound by the high-end data center, and Cray's new XC30-AC system continues the company's tradition of creating purpose-built systems that appeal to new customers in expanding segments of the supercomputing market."

Early customers for the new Cray XC30-AC system include a global consumer electronics company and a global financial services company -- commercial organizations that are not considered as traditional Cray customers. The Cray XC30-AC supercomputer is not only targeted at new customers in less-traditional HPC segments, but also at a broader class of users in more traditional HPC markets, such as academia, defense and earth sciences -- organizations that need the productivity, reliability and resiliency of a high-end supercomputer, but in a smaller package and at a lower total cost of ownership.

The Cray XC30-AC supercomputer features the same key traits of the Cray XC30 system -- Adaptive Supercomputing, scalable performance and tight system-level integration. Both supercomputing solutions feature the Aries system interconnect; a Dragonfly network topology that frees applications from locality constraints; the next-generation of the scalable, high performance Cray Linux Environment that also supports a wide range of ISV applications; Cray's HPC optimized programming environment; and the ability to handle a wide variety of processor types, including Intel® Xeon® processors, Intel® Xeon Phi™ coprocessors, and NVIDIA® Tesla® GPU accelerators.

The key differentiator between the two products is the economized packaging, networking, cooling and power options. The Cray XC30-AC system features:

•an air-cooled, self-sufficient cabinet architecture;
•physically smaller compute cabinets with 16 vertical blades per cabinet;
•a single fan for bottom-to-top vertical air flow;
•no requirements for liquid coolants;
•lower network costs without the need for optical cables;
•and lower power option supporting either 480V or 208V operation.

Additional information on the Cray XC30 and the Cray XC30-AC supercomputers can be found on the Cray XC30 systems page on the Cray website.

About Cray Inc.
Global supercomputing leader Cray Inc. (NASDAQ: CRAY) provides innovative systems and solutions enabling scientists and engineers in industry, academia and government to meet existing and future simulation and analytics challenges. Leveraging 40 years of experience in developing and servicing the world's most advanced supercomputers, Cray offers a comprehensive portfolio of supercomputers and Big Data solutions delivering unrivaled performance, efficiency and scalability. Cray's Adaptive Supercomputing vision is focused on delivering innovative next-generation products that integrate diverse processing technologies into a unified architecture, allowing customers to surpass today's limitations and meeting the market's continued demand for realized performance. Go to www.cray.com for more information.

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DatapointLabs provides expert material testing services to a global client base of over 800 companies. We serve material properties to every industry segment where quality product development occurs. Below, we showcase some of our major client verticals. Please visit the DatapointLabs site for the links to view an industry-specific experience of the following:

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Aerospace/Defense

Testing for Aerospace/Defense The aerospace industry focuses on high performance light weight materials where strength, stiffness and dynamic properties are important. Metals, seals, plastics, films, coatings, foams, ceramics are commonly tested. Properties measured include high speed tensile rate dependent properties of canopy plastics, hyperelastic properties of rubber seals and gaskets, thermal properties of fuels, creep and fatigue of plastics, metals and composites. ...

Automotive

Testing for Automotive The auto industry has been moving from metals to newer non-linear materials in a wide range of applications, from the bumper, to the fuel cell. We have tested fuel soaked plastic, foams, rubber, elastomers, composites, painted coatings, films, textiles. Applications range from interior, to under the hood to exterior, with specializations in instrument panels, seats, doors, bumper, floors, hoses, radiators, fuel tanks and seals. In 2008, we served 17 Fortune 500 companies in this vertical.

Biomedical

Testing for Biomedical We have measured properties of materials used in biomedical applications that include in-vivo, durable medical products and disposable ware. Applications have ranged from impact resistance of artificial orthopedic parts, hyperelastic properties of eye care components in saline, properties of materials used in hospital equipment, dental implants, encapsulation materials for pharmaceuticals. ...

Building Materials

Testing for Building Materials The building materials industry uses a wide range of materials with an increasing interest in non-conventional materials. Applications range from creep and fatigue to impact sustainability. The need to process novel materials generates a need for process simulation data. ...

Consumer Products

Testing for Consumer Products The properties of cosmetic and household product bottles, packaging, foils and films. Materials such as plastics, sheet metal, rubber and foam used in used in small and large appliances, computers, cell phones and toys. Design considerations include short term behavior, impact, as well as long term creep and fatigue characteristics. ...

Energy & Petroleum

Testing for Energy & Petroleum The properties of rubber for hoses, gaskets and seals, foams for insulation, steels for structural applications are important to this industry. Additionally, the complex properties of consumables such as drilling muds and cements must be well understood for the challenging environments they will face in real life. ...

Food

Testing for Food The testing needs of the food industry are in evolution, extending beyond classical evaluations such as taste and feel, to now include the quantification of physical properties. This new area allows for improved and novel processing of foods and better packaging to prevent loss from breakage. ...

Material Supplier

Testing for Material Supplier Metals, plastics, rubber, plastics, films, foam, paper, ceramics and composites represent some of the major classes of materials produced today. Material suppliers make materials that are designed to perform under highly demanding situations. ...

May 15, 2013 Fujitsu Limited

Fujitsu Receives Supercomputer Order from Nagoya University

Combines
PRIMEHPC FX10
and
PRIMERGY CX400
to reach theoretical peak
performance of
561.4 teraflops

Tokyo, May 15, 2013 — Fujitsu today announced that it has received an order from Nagoya University's Information Technology Center for a "high-performance supercomputer for academic research."

The system will have a hybrid configuration, composed of a FUJITSU Supercomputer PRIMEHPC FX10 and an HPC cluster comprised of FUJITSU Server PRIMERGY CX400. At deployment, it will have a theoretical peak performance of 561.4 teraflops, and will be scaled up in the future to 3,662.5 teraflops, making it one of the biggest systems in Japan and the largest in the Tokai region where Nagoya is situated.

The new system is due to start running from October 2013 and will be used for advanced research and academic purposes at Nagoya University's Information Technology Center.

Background

Nagoya University, the largest national university in the Tokai region and a center of academics and research there, is home to the Information Technology Center, a shared resource for universities and researchers conducting academic research throughout Japan. Since December 1981, numerous researchers have used the mainframe computers and supercomputers deployed there, mostly for work on science and technology.

The new system consolidates the Information Technology Center's three existing systems: the supercomputer system, application server, and information-academics platform. It was designed to meet demands for more computing capacity, to make computing resources in other academic areas, to create new computational services, and to help educate people who will reach into new areas of inquiry.

Fujitsu's concept for the system was that of a hybrid, specifically, the combination of a PRIMEHPC FX10 and a cluster-type supercomputer comprised of PRIMERGY CX400 servers. The PRIMEHPC FX10 system features high computational capacity, energy efficiency, computing performance, and high availability. The PRIMEHPC FX10 should act as a bridge to exa-scale computing, performing as a computing resource under the auspices of the Ministry of Education, Culture, Sports, Science, and Technology's High Performance Computing Infrastructure(1), thanks to compatibility with the K computer. As for the HPC cluster with Intel CPUs, it can run a wide range of ISV applications and free-software projects.

About the New System

In its initial configuration, the new system will comprise 384 PRIMEHPC FX10 nodes and 552 PRIMERGY CX400 nodes, which have a theoretical performance of 561.4 teraflops. In the future, it will be scaled up to 3,662.5 teraflops, making it one of the most powerful supercomputers in Japan and the most powerful in the Tokai region.

The PRIMEHPC FX10 supercomputer is an upgraded version of the technology used in the K computer, with outstanding scalability, reliability, and power consumption to performance ratio.

The PRIMERGYCX400 server is an x86 server suitable for HPC applications that allows high-density mounting, with 84 nodes per rack, .

roughly double a typical 1U server. Of the 552 nodes that this system uses, 184 are equipped with Intel® Xeon Phi™ Coprocessors, for high performance at low cost and low power consumption. This system also employs ScaleMP's vSMP Foundation software which enables the aggregation of multiple nodes as a virtual single large compute node.

As part of HPC middleware, the system is being rolled out together with the Technical Computing Suite for peta-scale system support(2). The system has a total of 6.0 petabytes of storage, configured using the high-performance distributed FEFS file system(3) for capacity and performance.

Comment from Prof. Yoshito Itoh, Director of the Information Technology Center at Nagoya University

"As a shared resource available for use nationwide, a home for joint research, and a resource-providing institution in the HPCI, Nagoya University's Information Technology Center chose to deploy the PRIMEHPC FX10, with high computing performance and energy efficiency, and the PRIMERGY CX400, with multi-core processors, to accelerate the use of high-performance computing in more and more fields, from initial-stage research to large-scale studies and industrial applications. It can be expected to expand and invigorate the computational-science community, which includes the next generation of researchers, and return benefits to society through scientific results

"The new system will also comprehensively support large-scale simulations using massive storage systems and giant 3D screen virtual-reality systems. Additionally, planned system upgrades will bring sought after computational services along with even better energy efficiency."

Glossary and Notes

1 HPCI:The High-performance Computing Initiative ties together major supercomputers throughout Japan, including the K computer, through a network, resulting in a computing-environment platform that can meet a wide range of needs.2 Technical Computing Suite:Fujitsu's proprietary HPC middleware, which includes system management and job operation management functions, FEFS, as well as a compiler and library, resulting in high execution performance for massively parallel applications.3 FEFS:Fujitsu Exabyte File System. A high-performance distributed file system that enables sharing across 100,000 nodes.

About Fujitsu

Fujitsu is the leading Japanese information and communication technology (ICT) company offering a full range of technology products, solutions and services. Approximately 170,000 Fujitsu people support customers in more than 100 countries. We use our experience and the power of ICT to shape the future of society with our customers. Fujitsu Limited (TSE: 6702) reported consolidated revenues of 4.4 trillion yen (US$47 billion) for the fiscal year ended March 31, 2013. For more information, please see http://www.fujitsu.com.

Press Contacts

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www.gns-mbh.com

GNS - Gesellschaft für Numerische Simulation mbH was founded as a German-based engineering company by a group of engineering analysis experts in 1994.

Originally dedicated to offering customer service for the automotive industry in the fields of crash analysis and forming simulation, GNS is now a competent partner in a wide range of engineering analysis applications.

With its team of more than 150 engineering analysis experts, GNS provides numerical analysis for a great range of engineering problems using state-of-the-art finite element and boundary element codes.

GNS also develops customized software tools, mainly in order to optimize virtual development processes, and advises companies on how to integrate numerical analysis in their design process in an efficient and cost-effective way.

Furthermore, GNS is engaged in the development of constitutive models and numerical algorithms for advanced engineering .

materials, such as composites, foams or honeycomb structures.

GNS develops and supports a number of advanced commercial software products such as Animator4, Generator2, Indeed, and OpenForm, each tailored to meet the needs of its most demanding clients and the industry's toughest engineering problems.

GNS software products are developed by engineering analysts and software specialists with a deep insight into the requirements of numerical simulation and years of practical experience in solving sophisticated engineering problems. All software products are continuously tested by the company's own engineers within consulting and development projects. This guarantees maximum performance, functionality, practicality and robustness of the software.

PreSys is an engineering simulation solution for the development of finite element analysis models. It offers an intuitive user interface with many streamlined functions, allowing fewer operation steps with a minimum amount of data entry along the way. Using PreSys, the user can analyze product designs, view simulation results and analyze/predict how the product will perform in a given circumstance.

PreSys works the way you do. The PreSys interface is fully customizable to suit user-specific needs. Also, a model explorer feature provides streamlined data navigation.

Menus, toolbars & many other user interface features can be customized by the user to streamline the guided user interface.

Developed by the leader in the creation & implementation of new CAE tools & methodology, PreSys is ETA's 4th generation Pre/Post Processor. It delivers the capability to handle finite element modeling with ease.

Complete finite element modeling toolset
- Task manager guides the user through operations
- Surface automeshing
- Boundary condition definition

- Automated solid meshing
- Material library
- Unlimited model size
- Direct interface with LS-DYNA, NEi Nastran, MSC NASTRAN, NISA
- Interactive mesh editing
- Model check and repair tools
- Continuous data error checking

Fully configurable user interface
- Native Windows XP/Vista/7 & 64-bit OS support
- High performance, openGL-based graphics
- Ability to open & control multiple models simultaneously
- Shortcut keys definable by user

Complete results visualization

- Stress/strain contour plotting
- Animation of deformations & stress/strain data
- Graphing tools for complete data analysis
- 3D view application for stand-alone viewing of
- models & results

Interfaces with CAD software via standard formats

- IGES, STEP, SAT, CATIA, DXF, UG NX, ProE,Solidworks & Parasolid
- Import/export capability

Model data displayed in a tree-structure

- Quickly & efficiently access all model entities

Card image view to create/edit non-graphical data

Scripting interface for all commands

Macro capability write/edit/replay

Language localization

Why PreSys?

ETA's PreSys™ is a solver and CAD-neutral Finite Element modeling and analysis solution. A price/performance leader, the tool delivers precise modeling results with advanced graphics capabilities. With fewer steps, a customizable interface, streamlined functions and scripting access, the user can simulate and analyze designs quicker than ever. PreSys™ also offers vertical application toolsets which drill-down to application-specific requirements, including drop testing and fluid-structure interaction analysis.

www.ls-dynaconsulting.com

www.d3view.com

BETA CAE Systems S.A.   <u>**www.beta-cae.gr**</u>

BETA CAE Systems S.A.– ANSA

Is an advanced multidisciplinary CAE pre-processing tool that provides all the necessary functionality for full-model build up, from CAD data to ready-to-run solver input file, in a single integrated environment. ANSA is a full product modeler for LS-DYNA, with integrated Data Management and Process Automation. ANSA can also be directly coupled with LS-OPT of LSTC to provide an integrated solution in the field of optimization.

BETA CAE Systems S.A.– μETA

Is a multi-purpose post-processor meeting diverging needs from various CAE disciplines. It owes its success to its impressive performance, innovative features and capabilities of interaction between animations, plots, videos, reports and other objects. It offers extensive support and handling of LS-DYNA 2D and 3D results, including those compressed with SCAI's FEMZIP software

CRAY

http://www.cray.com/Products/Products.aspx

www.cray.com

The Cray XK6

The Cray XK6 supercomputer combines Cray's proven Gemini interconnect, AMD's leading multi-core scalar processors and NVIDIA's powerful many-core GPU processors to create a true, productive, hybrid supercomputer

Cray XE6™ and Cray XE6m™ Supercomputers

The Cray XE6 scalable supercomputer is engineered to meet the demanding needs of capability-class HPC applications. The Cray XE6m is optimized to support scalable workloads in the midrange market.

Cray XMT™ System YarcData uRiKA™ Graph Appliance

The YarcData uRiKA graph appliance is a purpose built solution for Big Data

relationship analytics. uRiKA enables enterprises to discover unknown and hidden relationships in Big Data, perform real-time analytics on Big Data graph problems, and realize rapid time to value on Big Data solutions.

The uRiKA graph appliance complements an existing data warehouse or Hadoop cluster.

Cray Sonexion 1300™ Storage System

The Cray Sonexion 1300 system is an integrated, high performance storage system that features next-generation modular technology to maximize the performance and capacity scaling capabilities of the Lustre file system.

Cray also offers custom and third-party storage and data management solutions

DatapointLabs   **www.datapointlabs.com**

Testing over 1000 materials per year for a wide range of physical properties, DatapointLabs is a center of excellence providing global support to industries engaged in new product development and R&D.

Core competencies include mechanical, thermal and flow properties of materials with a focus on precision properties for use in product development and R&D.

The compary meets the material property needs of CAE/FEA analysts, with a specialized product line, TestPaks®, which allow CAE analysts to easily order material testing for the calibration of over 100 different material models.

Engineering Design Data including material model calibrations for CAE Research Support Services, your personal expert testing laboratory Lab Facilities gives you a glimpse of our extensive test facilities Test Catalog gets you instant quotes for over 200 physical properties.

DatapointLabs maintains a world-class testing facility with expertise in physical properties of plastics, rubber, food, ceramics, and metals.

ETA – Engineering Technology Associates   www.eta.com
etainfo@eta.com

Inventium Suite™

Inventium Suite™ is an enterprise-level CAE software solution, enabling concept to product. Inventium's first set of tools will be released soon, in the form of an advanced Pre & Post processor, called PreSys.

Inventium's unified and streamlined product architecture will provide users access to all of the suite's software tools. By design, its products will offer a high performance modeling and post-processing system, while providing a robust path for the integration of new tools and third party applications.

PreSys

Inventium's core FE modeling toolset. It is the successor to ETA's VPG/PrePost and FEMB products. PreSys offers an easy to use interface, with drop-down menus and toolbars, increased graphics speed and detailed graphics capabilities. These types of capabilities are combined with powerful, robust and accurate modeling functions.

VPG

Advanced systems analysis package. VPG delivers a unique set of tools which allow engineers to create and visualize, through its modules--structure, safety, drop test, and blast analyses.

DYNAFORM

Complete Die System Simulation Solution. The most accurate die analysis solution available today. Its formability simulation creates a "virtual tryout", predicting forming problems such as cracking, wrinkling, thinning and spring-back before any physical tooling is produced

ESI Group   www.esi-group.com

Visual-Environment: Visual-Environment is an integrated suite of solutions which operate either concurrently or standalone within a common environment. It aims at delivering an open collaborative engineering framework. As such, it is constantly evolving to address various disciplines and available solvers.

Visual-Crash is a dedicated environment for crash simulation: It helps engineers get their job done in the smoothest and fastest possible way by offering an intuitive windows-based graphical interface with customizable toolbars and complete session support.

For LS-DYNA users, Visual-Crash DYNA allows to focus and rely on high quality digital models, from start to finish as it addresses the coupling with competitive finite element or rigid body based software. This very open and versatile environment simplifies the work of CAE engineers across the enterprise by facilitating collaboration and data sharing.

Further tools are integrated in Visual-Environment enhancing CAE engineers work tasks most efficiently.

Visual-Mesh generates 1D, 2D and 3D elements for any kind of simulation.
Visual-Mesh provides automatic and guided surfaces clean up, application specific mesh generation and intuitive post mesh editing features..

Visual-Viewer is a complete, productive and innovative post-processing environment for CAE applications.

Visual-Viewer delivers a dedicated plotting and animation control solution. It offers a multi page, multi plot environment, allowing to group data into pages and plots. It is designed with a Windows GUI based on an intuitive and sleek user interface.

Visual-Process Executive is an advanced CAE environment for process customization and automation.

VisualDSS is an End-to-End Decision Support System for CAE. Manufacturers widely resort to Simulation-Based Design to gain a competitive edge in product development.

GNS - Gesellschaft für Numerische Simulation mbH   www.gns-mbh.com

Animator4

A general finite element post-processor and holds a leading position in its field. Animator4 is used worldwide by almost all automotive companies, a great number of aerospace companies, and within the chemical industry.

Generator2.

A specialized pre-processor for crashworthiness applications and has become very successful in the field of passenger safety and pedestrian protection. It is mainly used as a positioning tool for finite element component models by a great number of automobile companies throughout the world.

Indeed

An easy-to-use, highly accurate virtual manufacturing software that specializes in the simulation of sheet metal forming processes. Indeed is part of the GNS software suite and works concurrently with all other GNS software products.

OpenForm

A pre- and post-processor independently of a particular finite element forming simulation package. The software is extremely easy to handle and can be used as was designed to enable those who are not finite element experts to carry out multi-stage forming simulations with even complex multi purpose finite element codes.

Gompute on demand®/ Gridcore AB Sweden
www.gompute.com   www.gridcore.se

Gompute is owned, developed and operated by Gridcore AB in Sweden. Founded in 2002, Gridcore is active in three areas: Systems Integration, Research & Development and HPC as a service.

Gridcore has wide experience of different industries and applications, developed a stable product portfolio to simplify an engineer/scientist's use of computers, and has established a large network of partners and collaborations, where we together solve the most demanding computing tasks for our customers. Gridcore has offices in Gothenburg
.

(Sweden), Stuttgart (Germany), Durham NC (USA) and sales operations in The Netherlands and Norway.

The Gridcore developed E-Gompute software for internal HPC resources gives end users (the engineers) an easy-to-use and complete environment when using HPC resources in their daily work, and enables collaboration, advanced application integrations, remote pre/post, accounting/billing of multiple teams, license tracking, and more, accelerating our customers usage of virtual prototyping

JSOL Corporation

HYCRASH

Easy-to-use one step solver, for Stamping-Crash Coupled Analysis. HYCRASH only requires the panels' geometry to calculate manufacturing process effect, geometry of die are not necessary. Additionally, as this is target to usage of crash/strength analysis, even forming analysis data is not needed. If only crash/strength analysis data exists and panel ids is defined. HYCRASH extract panels to calculate it's strain, thickness, and map them to the original data.

JSTAMP/NV

As an integrated press forming simulation system for virtual tool shop the JSTAMP/NV meets the various industrial needs from the areas of automobile, electronics, iron and steel, etc. The JSTAMP/NV gives satisfaction to engineers, reliability to products, and robustness to tool shop via the advanced technology of the JSOL Corporation.

JMAG

JMAG uses the latest techniques to accurately model complex geometries, material properties, and thermal and structural phenomena associated with electromagnetic fields. With its excellent analysis capabilities, JMAG assists your manufacturing process

Livermore Software Technology Corp.   www.lstc.com

LS-DYNA

A general-purpose finite element program capable of simulating complex real world problems. It is used by the automobile, aerospace, construction, military, manufacturing, and bioengineering industries. LS-DYNA is optimized for shared and distributed memory Unix, Linux, and Windows based, platforms, and it is fully QA'd by LSTC. The code's origins lie in highly nonlinear, transient dynamic finite element analysis using explicit time integration.

LS-PrePost

An advanced pre and post-processor that is delivered free with LS-DYNA. The user interface is designed to be both efficient and intuitive. LS-PrePost runs on Windows, Linux, and Macs utilizing OpenGL graphics to achieve fast rendering and XY plotting.

LS-OPT

LS-OPT is a standalone Design Optimization and Probabilistic Analysis package with an interface to LS-DYNA.

The graphical preprocessor LS-OPTui facilitates definition of the design input and the creation of a command file while the postprocessor provides output such as approximation accuracy, optimization convergence, tradeoff curves, anthill plots and the relative importance of design variables.

LS-TaSC

A Topology and Shape Computation tool. Developed for engineering analysts who need to optimize structures, LS-TaSC works with both the implicit and explicit solvers of LS-DYNA. LS-TaSC handles topology optimization of large non-linear problems, involving dynamic loads and contact conditions.

LSTC Dummy Models

Anthropomorphic Test Devices (ATDs), as known as "crash test dummies", are life-size mannequins equipped with sensors that measure forces, moments, displacements, and accelerations.

LSTC Barrier Models

LSTC offers several Offset Deformable Barrier (ODB) and Movable Deformable Barrier (MDB) model.

Oasys, Ltd

www.oasys-software.com/dyna

Oasys LS-DYNA® Environment

The Oasys Suite of software, exclusively written for LS-DYNA®, is at the leading edge of the market and is used worldwide by many of the largest LS-DYNA® customers.

Oasys PRIMER is a model preparation tool that is fully compatible with the latest version of LS-DYNA®, eliminating the risk of data loss or corruption when a file is manipulated, no matter what operations are performed on it:

Key benefits:

- Maintains data integrity
- Finds and fixes model errors (currently over 5000 checks)
- Specialist tools for dummy positioning, seatbelt fitting, mechanisms, interior head impact etc.
- Connection manager for spotwelds, bolts, adhesive etc.
- Intelligent editing, deletion and merging of data
- Customisable with macros and JavaScript.

Oasys D3PLOT is a powerful 3D visualization package for post-processing LS-DYNA® analyses

Key benefits:

- Fast, high quality graphics
- Easy, in-depth access to all LS-DYNA® results.
- User defined data components
- Customisable with JavaScript.

Oasys T/HIS is an X-Y graph plotting package for LS-DYNA®

Key benefits:

1. Automatically reads all LS-DYNA® results.
2. Wide range of functions and injury criteria.
3. Easy handling of data from multiple models
4. Scriptable for automatic post-processing

Oasys REPORTER is an automatic report generation tool, for use with LS-DYNA®. which allows fast automatic report creation for analyses.

Shanghai Hengstar   www.hengstar.com

Center of Excellence

Hengstar Technology is the first LS-DYNA training center of excellence in China. As part of its expanding commitment to helping CAE Engineers, Hengstar Technology will continue to organize high level training courses and seminars in 2012.

The lectures/training are taught by senior engineers and experts mainly from LSTC, Carhs, OEMs, and other consulting groups.

On Site Training

Hengstar also provides customer customized training programs on-site at the company facility.

Training is tailored for company needs using LS-DYNA or the additional software products by LSTC.

Distribution & Support

Hengstar Distributes and supports LS-DYNA, LS-OPT, LS-PrePost, LS-TaSC. Hongsheng Lu, previously was directly employed by LSTC before opening his distributorship in China for LSTC software.

Hongsheng travels to LSTC often to keep current on the latest software features and support to continue to grow Hengstar as a CAE consulting group.

Comet Solutions   **www.cometsolutions.com**

Comet enables rapid and robust design space exploration from concept discovery and selection through concept validation using a model-based engineering approach. We empower our customers to discover an array of possible design concepts, evaluate which ones are feasible, then select the best.

 Comet software is a tool-open, extensible, vendor-neutral performance engineering workspace that lets engineers and engineering project teams readily carry out multi-fidelity, multi-physics modeling and simulation.

 In the Comet workspace, companies can better leverage all of their simulation assets – "best practices" expertise, COTS as well as in-house engineering tools, and product performance data.

Canada	**Metal Forming Analysis Corp MFAC**		galb@mfac.com	
	www.mfac.com			
	LS-DYNA	LS-OPT	LS-PrePost	LS-TaSC
	LSTC Dummy Models	LSTC Barrier Models	eta/VPG	
	eta/DYNAFORM	INVENTIUM/PreSys		
United States	**CAE Associates Inc.** www.caeai.com		info@caeai.com	
	ANSYS Products	CivilFem	Consulting ANSYS	
			Consulting LS-DYNA	
United States	**DYNAMAX** www.dynamax-inc.com		sales@dynamax-inc.com	
	LS-DYNA	LS-OPT	LS-PrePost	LS-TaSC
	LSTC Dummy Models		LSTC Barrier Models	

United States

ESI-Group N.A

www.esi-group.com

QuikCAST	SYSWELD	PAM-RTM	PAM-CEM
VA One	CFD-ACE+	ProCAST Process	Visual-
VisualDSS	Weld Planner	Visual-Environment	IC.IDO

United States

Engineering Technology Associates – ETA
www.eta.com   etainfo@eta.com

INVENTIUM/PreSy	NISA	VPG	LS-DYNA
LS-OPT	DYNAform		

United States

Gompute
www.gompute.com   info@gompute.com

LS-DYNA Cloud Service	Additional software
Additional Services	

United States

Comet Solutions   steve.brown@cometsolutions.com

Comet Software

Distribution & Consulting	North America	Distribution & Consulting

United States

Livermore Software Technology Corp   sales@lstc.com

LSTC   www.lstc.com

LS-DYNA	LS-OPT	LS-PrePost	LS-TaSC
LSTC Dummy Models	LSTC Barrier Models	TOYOTA THUMS	

United States

Predictive Engineering   george.laird@predictiveengineering.com
www.predictiveengineering.com

FEMAP	NX Nastran	LS-DYNA	LS-OPT
LS-PrePost	LS-TaSC	LSTC Dummy Models	
		LSTC Barrier Models	

Distribution & Consulting	Europe	Distribution & Consulting

France   **DynAS+**   v.lapoujade@dynasplus.com

www.dynasplus.com

LS-DYNA	LS-OPT	LS-PrePost	LS-TaSC
DYNAFORM	VPG	MEDINA	
LSTC Dummy Models		LSTC Barrier Models	

Germany   **CADFEM GmbH**   lsdyna@cadfem.de

www.cadfem.de

ANSYS	LS-DYNA	optiSLang
ESAComp	AnyBody	
FTI FormingSuite		

Distribution & Consulting	Europe	Distribution & Consulting	

Germany **DYNAmore GmbH** uli.franz@dynamore.de

www.dynamore.de

PRIMER	LS-DYNA	FTSS	VisualDoc
LS-OPT	LS-PrePost	LS-TaSC	DYNAFORM
Primer	FEMZIP	GENESIS	
TOYOTA THUMS		LSTC Dummy & Barrier Models	

Germany **GNS** mbox@gns-mbh.com

www.gns-mbh.com

Animator	Generator	Indeed	OpenForm

The Netherlands **Infinite Simulation Systems B.V** j.mathijssen@infinite.nl

www.infinite.nl

ANSYS Products	CivilFem	CFX	Fluent
LS-DYNA	LS-PrePost	LS-OPT	LS-TaSC

Italy **EnginSoft SpA** info@enginsoft.it

www.enginsoft.it

ANSYS	MAGMA	Flowmaster	FORGE
CADfix	LS-DYNA	Dynaform	Sculptor
ESAComp	AnyBody	FTI Software	
AdvantEdge	Straus7	LMS Virtual.Lab	ModeFRONTIER

Russia **STRELA** info@dynarussia.com

LS-DYNA	LS-TaSC	LS-OPT	LS-PrePost
LSTC Dummy Models		LSTC Barrier Models	

Sweden **DYNAmore Nordic** marcus.redhe@dynamore.se

www.dynamore.se

ANSA	µETA	LS-DYNA	LS-OPT
LS-PrePost	LS-TaSC	FastFORM	DYNAform
FormingSuite		LSTC Dummy Models	
		LSTC Barrier Models	

Sweden **GRIDCORE** info@gridcore.com

www.gridcore.se

LS-DYNA Cloud Service   Additional software

Distribution & Consulting	Europe	Distribution & Consulting	

Switzerland **DYNAmoreSwiss GmbH** info@dynamore.ch

www.dynamore.ch

LS-DYNA	LS-OPT	LS-PrePost
LS-TaSC	LSTC Dummy Models	
	LSTC Barrier Models	

UK **Ove Arup & Partners** dyna.sales@arup.com

www.oasys-software.com/dyna

LS-DYNA		LS-OPT	LS-PrePost
LS-TaSC	PRIMER	D3PLOT	T/HIS
REPORTER	SHELL	FEMZIP	HYCRASH
DIGIMAT	Simpleware	LSTC Dummy Models	
		LSTC Barrier Models	

Australia   **LEAP**

www.leapaust.com.au

ANSYS Mechanical	ANSYS CFD	ANSYS EKM	Recurdyn
ANSYS DesignXplorer	ANSYS HPC	FlowMaster	Ensigh
LS DYNA	DYNAform	Moldex 3D	FE-Safe

China   **ETA – China**   lma@eta.com.cn

www.eta.com/cn

Inventium	VPG	DYNAFORM	NISA
LS-DYNA	LS-OPT	LSTC Dummy Models	LS-PrePost
		LSTC Barrier Models	LS-TaSC

China   **Oasys Ltd. China**   Stephen.zhao@arup.com

www.oasys-software.com/dyna

PRIMER	D3PLOT	HYCRASH	T/HIS	REPORTER	SHELL
LS-DYNA		LS-OPT	LSTC Dummy Models		LS-PrePost
DIGIMAT		FEMZIP	LSTC Barrier Models		LS-TaSC

China   **Shanghai Hengstar Technology**   info@hengstar.com

www.hengstar.com

LS-DYNA	LS-TaSC	LSTC Barrier Models	
LS-DYNA Courses	LS-OPT	LSTC Dummy Models	LS-PrePost

India　　**Oasys Ltd. India**　　　lavendra.singh@arup.com

www.oasys-software.com/dyna

PRIMER	D3PLOT	T/HIS		
		LS-OPT	LSTC Dummy Models	LS-PrePost
		LS-DYNA	LSTC Barrier Models	LS-TaSC

India　　**CADFEM Eng. Svce**　　　info@cadfem.in

www.cadfem.in

ANSYS	VPS	optiSLang	ESAComp	DIGIMAT
LS-DYNA		LS-OPT	LSTC Dummy Models	LS-PrePost
FTI FormingSuite		AnyBody	LSTC Barrier Models	LS-TaSC

India　　**Kaizenat Technologies Pvt. Ltd**　　　support@kaizenat.com

http://kaizenat.com /

LS-DYNA	LS-OPT	LSTC Dummy Models	LS-PrePost
Dedicated to LSTC Software		LSTC Barrier Models	LS-TaSC

Distribution & Consulting	Asia Pacific	Distribution & Consulting	

Japan   **ITOCHU**   LS-dyna@ctc-g.co.jp

www.engineering-eye.com

LS-DYNA	LS-OPT	LS-PrePost	LS-TaSC
LSTC Dummy Models	LSTC Barrier Models	CmWAVE	

Japan   **JSOL**

www.jsol.co.jp/english/cae

JSTAMP	HYCRASH	JMAG	
LS-DYNA	LS-OPT	LS-PrePost	LS-TaSC
LSTC Dummy Models	LSTC Barrier Models	TOYOTA THUMS	

Japan   **FUJITSU**

http://jp.fujitsu.com/solutions/hpc/app/lsdyna

LS-DYNA	LS-OPT	LS-PrePost	LS-TaSC
LSTC Dummy Models	LSTC Barrier Models	CLOUD Services	

Japan   **LANCEMORE**   info@lancemore.jp

www.lancemore.jp/index_en.html

Consulting LS-DYNA

Distribution & Consulting	Asia Pacific	Distribution & Consulting

Korea **THEME** wschung@kornet.com

www.lsdyna.co.kr

LS-DYNA	LS-OPT	LS-PrePost	LS-TaSC
LSTC Dummy Models	LSTC Barrier Models	eta/VPG	Planets
eta/DYNAFORM	FormingSuite	Simblow	TrueGRID
JSTAMP/NV	Scan IP	Scan FE	Scan CAD
FEMZIP			

Korea **KOSTECH** young@kostech.co.kr

www.kostech.co.kr

LS-DYNA	LS-OPT	LS-PrePost	LS-TaSC
LSTC Dummy Models	LSTC Barrier Models	eta/VPG	FCM
eta/DYNAFORM	DIGIMAT	Simuform	Simpack
AxStream	TrueGrid	FEMZIP	

Distribution & Consulting	Asia Pacific	Distribution & Consulting	

Taiwan   **Flotrend**   gary@flotrend.tw

www.flotrend.com.tw

LS-DYNA	LS-OPT	LS-PrePost	LS-TaSC
LSTC Dummy Models	LSTC Barrier Models	eta/VPG	FCM

Taiwan   **APIC**

www.apic.com.tw

LS-DYNA	LS-OPT	LS-PrePost	LS-TaSC
LSTC Dummy Models	LSTC Barrier Models	eta/VPG	FCM

Cloud Service	LS-DYNA	Cloud Services
Germany	Gridcore www.gridcore.se	
Sweden	Gridcore www.gridcore.se	
United States	Gompute www.gompute.com	

Training Classes	**Germany CADFEM GmbH**	**Training Classes**

The Complete Courses Offered Can Be Found At: www.cadfem.de

Training Classes	**Germany DYNAmore**	**Training Classes**

The Complete Courses Offered Can Be Found At: www.dynamore.de/en

Training Classes	**United States LSTC**	**Training Classes**

The Complete Courses Offered Can Be Found At: www.lstc.com

Training Classes	**Sweden DYNAmore Nordic**	**Training Classes**

The Complete Courses Offered Can Be Found At: www.dynamore.se

Training Classes	**France DynAS+**	**Training Classes**

The complete Training Courses offered can be found at www.dynasplus.com

Training Classes	Thailand	Training Classes

Complete Courses offered can be found at: **http://www.dfe-tech.com/training.html**

Training Classes	United States ETA	Training Classes

The Complete Courses Offered Can Be Found At: www.eta.com   etainfo@eta.com

Training Classes	United States CAE Associates	Training Classes

The Complete Courses Offered Can Be Found At: www.caeai.com

Training Classes	France Alyotech Technologies	Training Classes

For course location visit www.alyotech.fr

June 19 - 21, 2013   www.usersmeeting.com/en.

Invitation & Call For Papers
ANSYS Conference & 31st CADFEM Users' Meeting 2013
June 19th – 21st, 2013, Rosengarten Mannheim, Germany

The Users´convergence

"Convergence" is this year's motto for all the ANSYS Users´ conferences taking place around the world. Traditionally, the conference with the largest content of information is the ANSYS Conference & CADFEM Users´ Meeting held in German. Therefore, a very large number of ANSYS users meet, or "converge", at this event to exchange ideas, experience and news, and actively increase their know- ledge. The interdisciplinary specialist conference organized by CADFEM and ANSYS Germany is an excellent opportunity for those who are interested in but do not yet belong to the users´ community, to become more acquainted with the practical use of numerical simulation.

Convergence of contents and requests
Software updates, user reports and compact seminars – it's the mix that makes it work. We are most happy to satisfy the requests of former participants and will reduce the number of product presentations, thus providing more opportunities for technical information and training. Get first-hand tips and tricks on achieving precise simulation results even faster or on how to cope with new challenges using ANSYS, other tools and a first-class IT environment.

Call for Papers

Early bird discounts available until 22nd February 2013
Whether you apply as a lecturer or participant, by registering early, i.e. by and no later than February 22nd 2013, you will receive a 10% early bird discount on your registration fee, because early registrations are a great help for the event organizing team. Cancellations made up to one month before the conference starts will not be charged.

We cordially invite you and look forward to meeting you in Mannheim in June!

The CADFEM & ANSYS Germany Team
.

June 2013

9th European LS-DYNA Users' Conference

Location: Manchester Central Convention Complex,
Manchester, UK

Welcome Reception and Social Event:
Sunday 2nd June 2013

Conference:
Monday 3rd and Tuesday 4th June 2013

Gala Dinner:
Monday 3rd June 2013

Arup are pleased to announce that the 9th European LS-DYNA Users' Conference will be held at Manchester Central Convention Complex, UK on 3rd and 4th June 2013.

Manchester is situated in the centre of the UK with one of the world's best connected international airports and efficient road and rail links. The event will give those in academia and industry a chance to present their work to colleagues and additionally to catch up on the latest developments in the software. Attendees can also meet with exhibitors to find out more about hardware, software and services relating to LS-DYNA.

On the evening of Monday 3rd June the Gala Dinner will take place at the Museum of Science and Industry, just a short walk from the conference venue. The museum brings to life innovation and invention from science and industry through the ages even offering rides on 'Planet', a reproduction steam locomotive!

Important dates:

Registration Opens: end of September 2012
Abstract Deadline: end of December 2012
Papers Deadline: end of April 2013

If you would like to attend, present, exhibit or sponsor, please visit our conference website at: http://arup.cvent.com/euroconference.

We look forward to welcoming you to the event!

> **The 5th ANSA & μETA International Conference**
>
> **June 5th to June 7th 2013,**
>
> **The MET Hotel, Thessaloniki, Greece.**
>
> **There is no participation fee for this event. Speakers will receive free accommodation. The language of the event is English.**

For Complete Information: http://www.beta-cae.gr/conference05_announcement.htm

The principal aims of this event are to bring the CAE Community together and to promote an international exchange of the latest concepts, knowledge and development requirements on our software products.

Technical papers will be presented outlining the latest advances in CAE strategy, methodology, techniques and applications related to our products. Participants will have the opportunity to be informed about the latest software trends, demonstrate their concepts and achievements and present new development requirements. The closer technical communication with the software developers' team of our products, within the framework of a technical forum, features this three-day conference.

Further discussions, sessions, meetings and events will allow the interaction between participants and organizers. Senior executives of our company, the engineers from the development and services teams and our business agents from around the world will be glad to meet with customers and users, to discuss the applications, the existing functionality, latest enhancements and future development plans of our software products. We expect that this will be a unique opportunity for you to share your success and for us to share our vision.

Dates:

Abstracts submission: February 28th, 2013
Acceptance notification: March 22nd, 2013
Speakers' registration: April 17th, 2013
Final manuscripts submission: April 26th, 2013
Delegates Registration: April 26th, 2013
Presentations files submission: May 10th, 2013
Welcome reception: June 4th, 2013
Event: June 5th to June 7th 2013

Oct. 16th-18th, 2013

Dalian, China

In recent years, China witnessed a rapid growth in the CAE technology. As leading finite element software in the industry, LS-DYNA has been well acknowledged and widely adopted in various industries such as Automotive, Aerospace and Aeronautics, Die Casting and Electrical & Electronics.

LSTC is a well-known software engineering company providing complete engineering software package including LS-DYNA, LS-PREPOST and LS_OPT. For better serving our customers in China, LSTC is hosting the first China LS-DYNA Users' Conference on Oct. 16 at Dalian, China. It is our chance to introduce new features in LS-DYNA and your chance to

to share your LS-DYNA experience. The conference provides an opportunity to interact with industry experts, end users and LSTC developers. LSTC expects the conference to be held regularly and become a platform for researchers and engineers exchanging ideas and advocating new developments.

We aim to encourage the communications between software developers and users and among users themselves. Users in academia and industry would have a chance to share their research and experience. People from LSTC would have a chance to share their new developments. We welcome all LS-DYNA users to share their knowledge by submitting papers.

Conference Hosts:
   Livermore Software Technology Corp.
   Dalian Fukun Technology Co., LTD

Conference: Oct. 16th-18th, 2013

Training courses: Oct. 15th-16th, 2013

Location:
   Yinfan Hotel, 135 JinMaLu Road, Dalian Development Zone, Dalian, China.

Conference website:
   http://www.lsdyna.cn   http://www.dalianfukun.com/conference

Contact us: chinaconf@lstc.com

FACEBOOK

BETA CAE SYSTEMS SA
http://www.facebook.com/pages/BETA-CAE-Systems-SA/193472524006194

Cray Inc.
http://www.facebook.com/crayinc

ESI Group
http://www.esi-group.com/corporate/facebook/

TWITTER

BETA CAE SYSTEMS SA
http://twitter.com/betacae

Cray Inc.
http://www.twitter.com/cray_inc

ESI Group
http://twitter.com/ESIgroup

ETA
http://twitter.com/ETA_Inc

GNS
https://twitter.com/gnsmbh

LINKEDIN

BETA CAE SYSTEMS SA

http://www.linkedin.com/company/beta-cae-systems-s.a.?trk=fc_badg

Cray Inc.

http://www.linkedin.com/company/4936

ETA

http://www.linkedin.com/groupRegistration?gid=1960361

Oasys

http://www.linkedin.com/groups/Oasys-LSDYNA-Environment-Software-4429580?gid=4429580&trk=hb_side_g

YOUTUBE

BETA CAE SYSTEMS SA

http://www.youtube.com/user/betacae

Cray Inc.

http://www.youtube.com/user/crayvideo

ESI Group

http://www.youtube.com/ESIgroup

ETA

http://www.youtube.com/user/etainfo1

NEWS FEEDS

ETA: http://eta.com/company/news-eta?format=feed&type=rss

Total Human Model for Safety - THUMS

LSTC is the US distributor for THUMS

About

The Total Human Model for Safety, or THUMS®, is a joint development of Toyota Motor Corporation and Toyota Central R&D Labs. Unlike dummy models, which are simplified representation of humans, THUMS represents actual humans in detail, including the outer shape, but also bones, muscles, ligaments, tendons, and internal organs. Therefore, THUMS can be used in automotive crash simulations to identify safety problems and find their solutions.

THUMS is limited to civilian use and may under no circumstances be used in military applications.
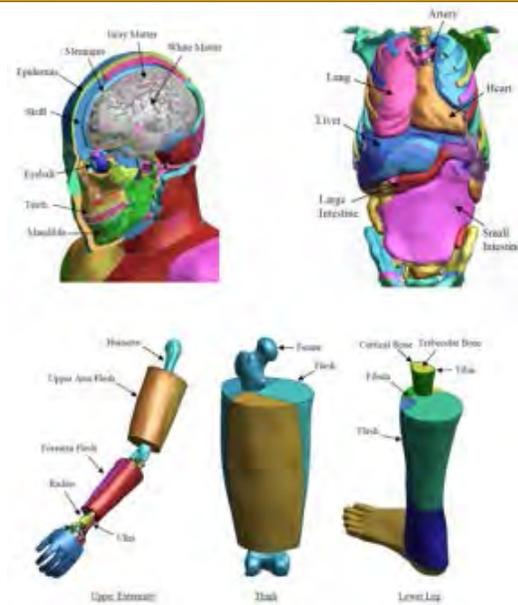
Model Details: Each of the different sized models is available as sitting model to represent vehicle occupants and as standing model to represent pedestrians.

The internal organs were modeled based on high resolution CT-scans.

LSTC is the US distributor for THUMS. Commercial and academic licenses are available.
   For more information please contact us at THUMS@lstc.com .
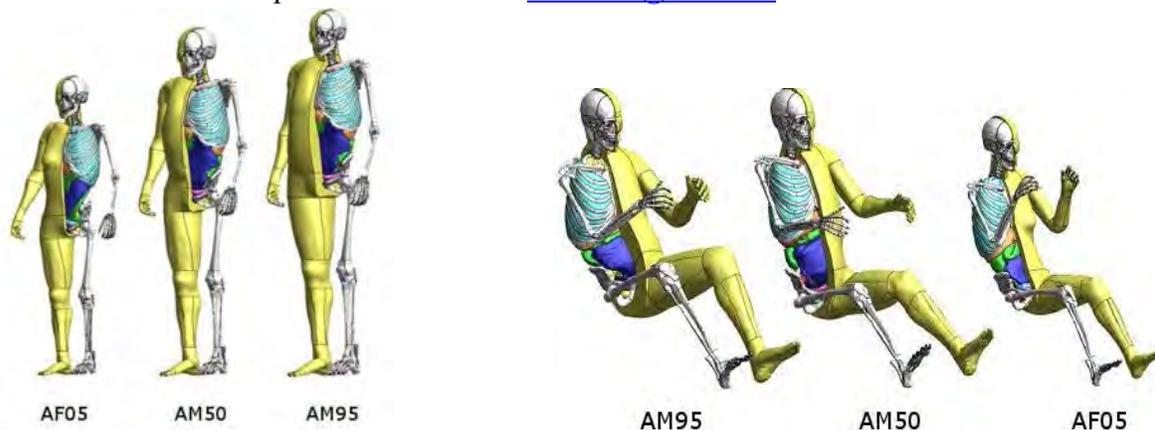
THUMS®, is a registered trademark of Toyota Central R&D Labs.

GOMPUTE
A GRIDCORE COMPANY

HPC on-demand for academic users

**Run your LS-DYNA simulations and pay for what you use
on a turn-key environment**

- For LSTC academic customers.
- Run your simulations from 0.05 €/CCH without reservation
- Remote visualization using LS-PrePost
- Avoid installation and maintenance costs
- Other simulation applications also ready to use
- Global connectivity, remote graphics and collaborative environment
- Large number of cores available

For more information please visit: www.gompute.com

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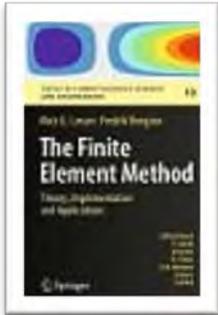
The Finite Element Method: Theory, Implementation, and Applications (Texts in Computational Science and Engineering) [Hardcover]

Publication Date: 01/12/13

ISBN-10: 3642332862

ISBN-13: 978-3642332869

Edition: 2013

This book gives an introduction to the finite element method as a general computational method for solving partial differential equations approximately. Our approach is mathematical in nature with a strong focus on the underlying mathematical principles, such as approximation properties of piecewise polynomial spaces, and variational formulations of partial differential equations, but with a minimum level of advanced mathematical machinery from functional analysis and partial differential equations. In principle, the material should be accessible to students with only knowledge of calculus of several variables, basic partial differential equations, and linear algebra, as the necessary concepts from more advanced analysis are introduced when needed. Throughout the text we emphasize implementation of the involved algorithms, and have therefore mixed mathematical theory with concrete computer code using the numerical software MATLAB is and its PDE-Toolbox. We have also had the ambition to cover some of the most important applications of finite elements and the basic finite element methods developed for those applications, including diffusion and transport phenomena, solid and fluid mechanics, and also electromagnetics.

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Exceptionally portable, the IdeaTab® A2107 holds the answer if you want to keep all your favorite books, songs and movies at your fingertips, even when you're off the beaten track. Great for HD video and stereo music, and comfortable for reading, it is a tough, affordable, pocket-size tablet PC.

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• 7.0" (1024x600)
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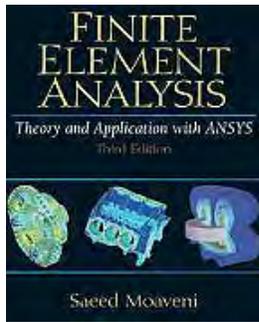
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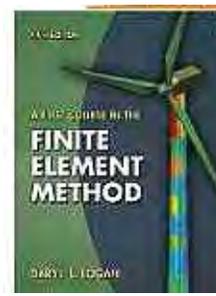
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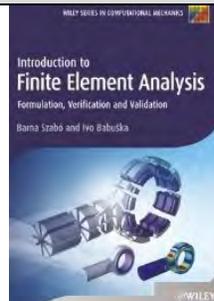
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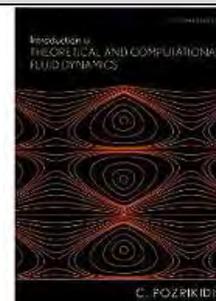
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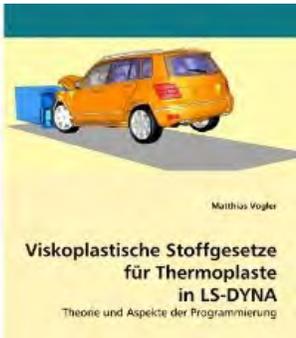
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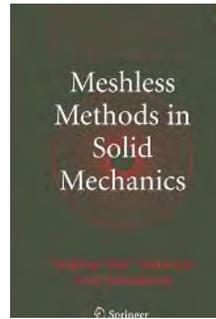
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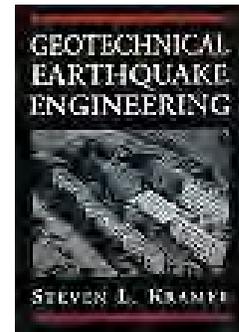
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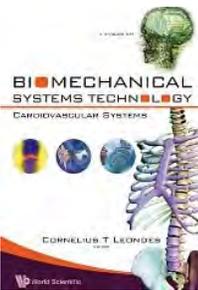
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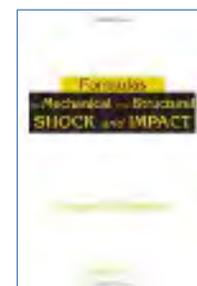
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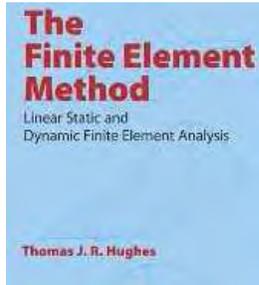
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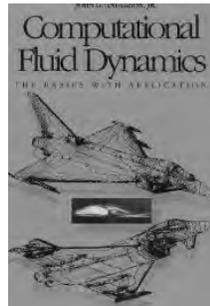Thomas J. R. Hughes
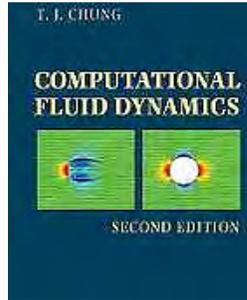
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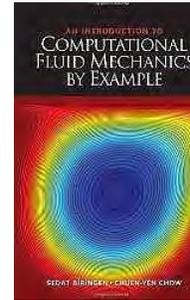
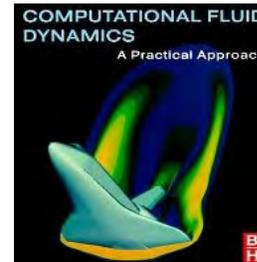[An Introduction to Computational Fluid Mechanics by Example](#)

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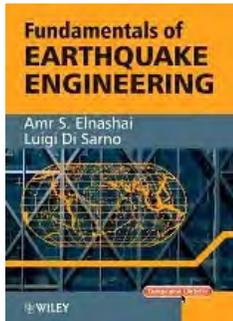
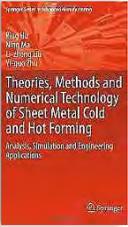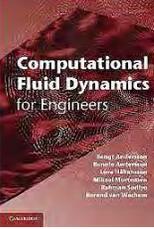[Fundamentals of Earthquake Engineering](#)

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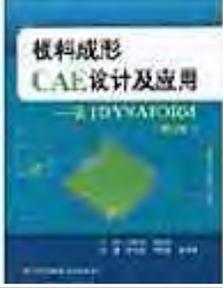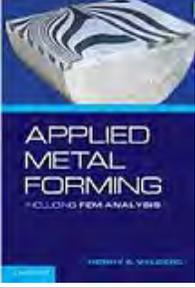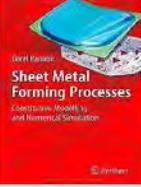
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9th EUROPEAN LS-DYNA USERS' CONFERENCE

Conference location: Manchester Central Convention Centre, Manchester, UK

Conference website: http://arup.cvent.com/euroconference

The 9th European LS-DYNA Users' conference gives those in academia and industry a chance to present their work to colleagues and to catch up on the latest developments in the software.

Date & Location

Manchester Central Convention Complex, UK on 3rd and 4th June 2013.

Manchester is situated in the centre of the UK with one of the world's best connected international airports and efficient road and rail links.

Registration

Registration is now open; to reserve your place please visit the conference website.

Registration deadline: 10th May 2013

Preliminary Agenda

The deadline for abstract submission has now passed and we are making final adjustments to the full agenda. In the meantime, for information of session topics please see the preliminary outline agenda on the website.

Social Event

Manchester is a beautiful city with a fascinating history and the walking tours are your chance to find out more about your surroundings. For more information on the tours available please see the social event page of the website.

Training Courses

We are pleased to welcome a number of renowned LS-DYNA experts to teach the post-conference training courses. Please see the training course page of the website.

Special Guest Speaker

We are delighted to announce Chris Boardman MBE as our special guest speaker. The Olympic gold medalist now uses his experience and insight to create the critically acclaimed and medal-winning range of Boardman bikes.

For more information please see the Keynote Speakers page of the website.

Gala Dinner

The Gala Dinner will take place at the Museum of Science and Industry. The museum brings to life innovation and invention from science and industry through the ages even offering rides on 'Planet', a reproduction steam locomotive.

You can book your place when you register for the event.

Welcome Reception and Social Event:
Sunday 2nd June 2013

Conference: Mon. 3rd & Tues. 4th June 2013

Gala Dinner: Monday 3rd June 2013

We look forward to seeing you to Manchester!

- 2013 Ford Fusion was also named Top Safety Pick+ by the Insurance Institute for Highway Safety, the highest recommendation the organization has for vehicle safety
- In addition to top safety marks, Fusion Energi also achieves EPA-rated fuel economy of 100 MPGe combined, including 108 MPGe city/92 MPGe highway

DEARBORN, Mich., May 20, 2013 – The 2013 Ford Fusion Energi has earned the highest possible "five-star" Overall Vehicle Score from the National Highway Traffic Safety Administration (NHTSA). The five-star rating is the U.S. Government's highest-possible safety rating and is determined only after severe testing procedures as part of NHTSA's New Car Assessment Program (NCAP), which combines vehicle performance in frontal and side-impact crash tests and resistance to rollover.

The Fusion Energi plug-in hybrid joins the Ford Fusion and the Ford Fusion Hybrid which already received five-star safety ratings. NHTSA has elected to test plug-in vehicles separately from vehicles powered by gasoline internal combustion engines as the market share of electrified vehicles is increasing. April marked Ford's best hybrid sales month ever with Ford's EV market share hitting an all-time high of 18 percent, up from 3 percent last April.

"The Fusion Energi combines the highest possible safety ratings from NHTSA and great fuel economy, two things we know customers are looking for in their vehicles," said Steve Kenner, Global Director of the Ford Automotive Safety Office. "Our strategy is to provide our customers with a range of powertrain options in our vehicles, while still leading in fuel economy in every segment that we compete."

The Fusion Energi gets an EPA fuel economy rating of 108 MPGe, which is five MPGe better than the Toyota Prius plug-in hybrid.

The NHTSA five-star rating for the Fusion Energi comes in addition to the 2013 Fusion being named a Top Safety Pick+ from the Insurance Institute for Highway Safety (IIHS) in December. The Top Safety Pick + designation is the highest rating the organization has for vehicle safety.

The Fusion Energi also features the Personal Safety System™ with safety belt technologies and front impact airbags. The Personal Safety System™ is a network of components that work together to tailor the deployment of the front airbags during frontal collisions. Other driver assist technologies available on the Fusion Energi include:

•Lane Keeping Assist
•Adaptive Cruise Control
•Rearview Camera
•Hill Start Assist
•Electronic Parking Brake

About Ford Motor Company
Ford Motor Company, a global automotive industry leader based in Dearborn, Mich., manufactures or distributes automobiles across six continents. With about 175,000 employees and 65 plants worldwide, the company's automotive brands include Ford and Lincoln. The company provides financial services through Ford Motor Credit Company. For more information regarding Ford and its products worldwide, please visit http://corporate.ford.com

http://media.gm.com/content/media/us/en/gm/news.detail.html/content/Pages/news/us/en/2013/May/0522-pace-car.html

Jim Harbaugh to Pace Indy 500 in 2014 Corvette Stingray
2013-05-22

INDIANAPOLIS – Jim Harbaugh, head coach of the NFL's San Francisco 49ers, will drive the all-new 2014 Chevrolet Crvette Stingray Pace Car to lead the pack of 33 racers to the start of the 97th running of the Indianapolis 500, this Sunday.

Harbaugh, who took the 49ers to the Super Bowl in 2012, is no stranger to Indianapolis. He was a quarterback for the Colts football team from 1994 through 1997. During his time with the Colts, he was named AFC Player of the Year and named to the Pro Bowl in 1995.

Harbaugh is also a racing fan and a principal at Panther Racing, which fields the two-car, Chevrolet-powered IndyCar team with drivers J.R. Hildebrand and Townsend Bell. Hildebrand will drive the No. 4 National Guard Chevrolet in Indianapolis 500 and Bell will compete in the No. 60 Sunoco "Turbo" Chevrolet.

"As a longtime racing fan and someone who has always followed the Indianapolis 500, the honor to drive the pace car comes as a tremendous thrill," said Harbaugh. "Doing it in the all-new 2014 Corvette Stingray makes it even better. It's an iconic car leading an iconic race."

Harbaugh's stint behind the wheel of the Laguna Blue Pace Car marks a record 12th time the Corvette has served in the role, starting in 1978. The 2014 Corvette Stingray coupe goes on sale this fall, with a convertible model coming a few months later. It is powered by an all-new 6.2L LT1 engine, which features advanced technologies including direct fuel injection, continuously variable valve timing and Active Fuel Management, also known as cylinder deactivation, to help produce 450 horsepower more efficiently.

http://media.gm.com/content/media/us/en/gm/news.detail.html/content/Pages/news/us/en/2013/May/0522-pace-car.html

"It's great to have a true racing fan like Jim Harbaugh drive the Corvette pace car," said Jim Campbell, U.S. vice president of Performance Vehicles and Motorsports. "He personifies the Indianapolis 500's spirit of competition – and he's a true athlete, just like the all-new Corvette Stingray."

The 2014 Chevrolet Corvette Stingray coupe will be available later this summer and have a suggested starting retail price of $51,995. Price includes a $995 destination fee but excludes tax, title, and license.

Founded in 1911 in Detroit, Chevrolet is now one of the world's largest car brands, doing business in more than 140 countries and selling more than 4.5 million cars and trucks a year. Chevrolet provides customers with fuel-efficient vehicles that feature spirited performance, expressive design, and high quality. More information on Chevrolet models can be found at www.chevrolet.com.