GNS   JSOL   BETA   CRAY

DataPoint

GRIDCORE

FEA Information

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OASYS   HENGSTAR

ESI

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ESI Group Vibro Acoustics

Predictive Engineering - Large Scale Normal Modes and PSD Analysis

FEA Information Inc. is a publishing company founded April 2000, incorporated in the State of California July 2000, and first published October 2000. T he 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.

FEA Information Inc. Publishes:

      FEA Information Engineering Solutions

      FEA Information Engineering Journal

      FEA Information China Engineering Solutions

FEA Information Engineering Solutions:

      A monthly publication in pdf format sent via e-mail, additionally archived on t he website FEA Publications. www.feapublications.com

FEA Information China Engineering Solutions

      The first edition was published February 2012. It is published in Simplified and Traditional Chinese in pdf format. Published : February, April, June, August, October, December. The China Solutions is archived on the website FEA Publications. www.feapublications.com
      To sign up for the Traditional, or Simplified edition write to yanhua@feainformation.com

FEA Information Engineering Journal: ISSN #2167-1273, first published February, 2012
      Available on www.feaiej.com

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Trent Eggleston - Trent@feaiej.com
> **Co-Editor In Chief - FEA Information Engineering Solutions**
> **FEA Information Engineering Journal**
> We are pleased to announce Trent Eggleston, as Co-Editor in Chief
> Trent Eggleston received a Ph.D. in Mathematics from the University of California, Berkeley for his work in Spectral Theory. Eggleston has worked as a Software Developer and IT Professional for over twenty years, with experience in computer graphics, systems, numerics, user interface, client/server development, and process management.

New Directory Section for FEA Platinum Sponsors
> Social Media – Face Book, Twitter, LinkedIn, News Feeds listings – keep up with the latest information from our Platinum Sponsors.

DFE-Tech:
> LSTC's direct local distributor in Thailand, Singapore, Malaysia, for distribution, support and consulting for LS-DYNA joins as platinum participant.
>
> New Website - http://www.dfe-tech.com/

IMMI INC:
> Employment opportunity at IMMI Inc., with advancement opportunities for the role - several tiers of engineer, lateral design position, management. T he required skills to perform the function in order of importance: LS-DYNA - MADYMO - HyperMesh - Mechanical Engineering.   The three short-term objectives of the role within the first 180 days: 1) Be proficient with LS-DYNA 2) Be proficient with MADYO 3) Understand the work within company policies.

ESI Group

On June 27, 2012, ESI Group represented by Vincent Chaillou, President & COO was elected member of the Board of ASTech Paris Region by the members of the association during their Annual General Meeting.

We welcome unsolicited topics, ideas, and articles. Publishing is at the sole discretion of FEA Information Inc.

Dr. Facundo Del Pin, Lead Developer, Incompressible CFD Solver, LSTC, Livermore, CA.

To preserver KB space we have listed excerpts.   For a copy of the complete presentation contact info@lstc.com

Introduction to the Incompressible CFD solver

- Stabilized Finite Element formulation for the Fluid Mechanics Navier-Stokes equations
- Free surface capabilities and multi-phase approximations,
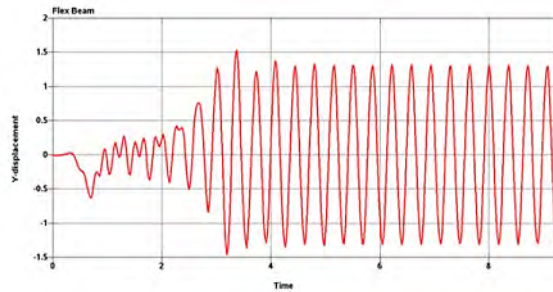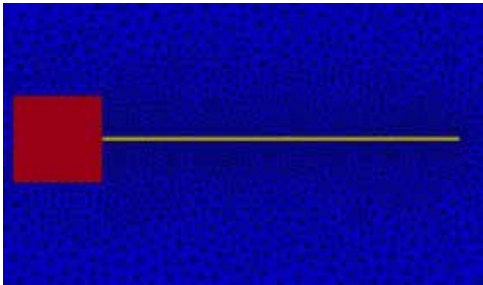
- Can run as a stand alone implicit CFD solver or be coupled with the structural (FSI problems) and thermal solvers of LS-DYNA,
- ALE approach for mesh movement, all FSI boundaries are Lagrangian and deform with the structure.

Coupling with other LS-DYNA solvers
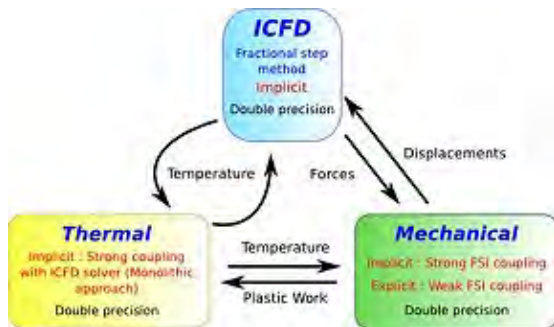
- Scope of the new 980 solvers to be coupled with LS-DYNA solvers in order to solve complex fluid-structure or thermal problems,
- Strong coupling is available for implicit mechanics. More robust but more costly,
- Loose coupling for explicit mechanics. Less robust and less costly. Suitable for simpler couplings.
  - o E.g. aeroelasticity analysis

Applications :   Aerodynamics

Ahmed bluff body example

benchmark problem
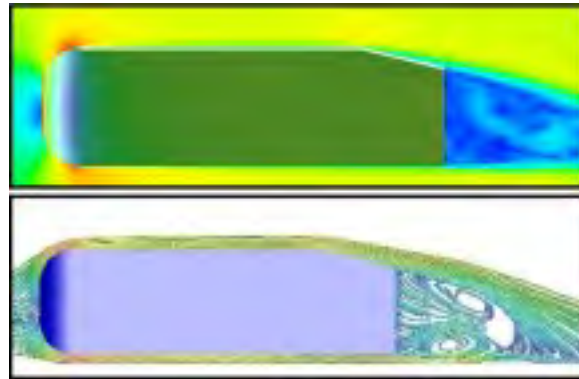
Drag calculation and Study of vortex structure,
Turbulence models available for solving
Can run as a CFD problem with static body or be
transformed in a FSI problem with moving body
(Eg : pitch or yaw movement).
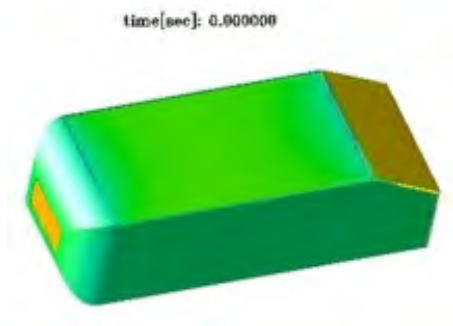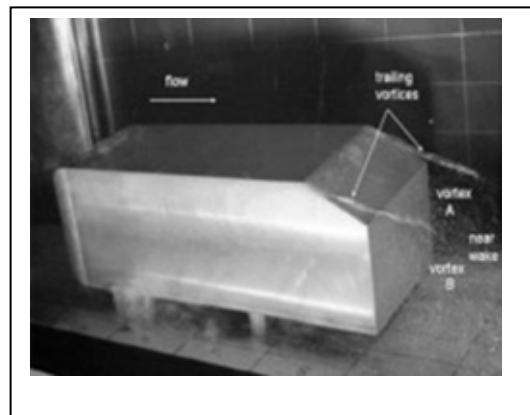
Applications : Slamming

Derived from Orion water landing module /awg.lstc.com LS-DYNA Aerospace Working Group, NASA NESC/GRC

   Space Capsule impact on water (Slamming problem) :
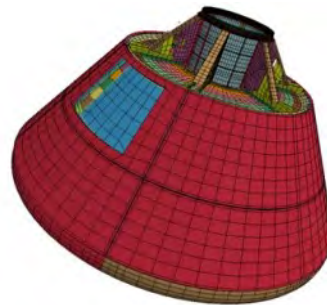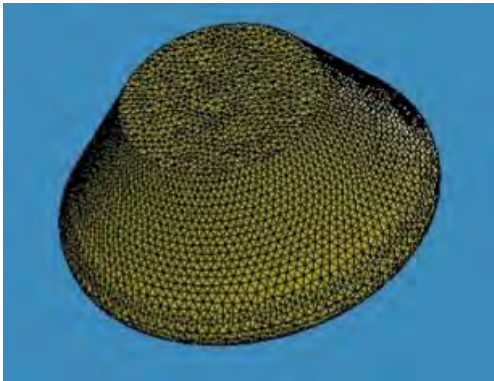
- Free fall impact / Strong FSI coupling
- Proof of feasibility using ICFD solver
- May be applied to similar Slamming problems

Sloshing – Graphics in original presentation describing the following:

- · Water Tank example :
- · Moving Water Tank coming to a brutal halt,
- · Sloshing occurring,
- · Study of pendulum oscillations.

Strong FSI Coupling
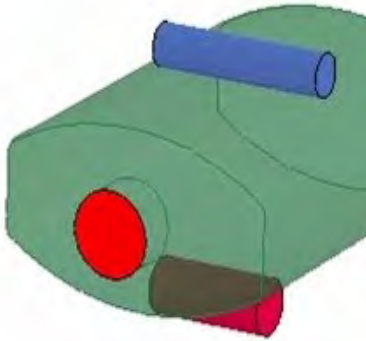
High viscosity Liquid coming out of bottle due to finger pressure

Simulation of synthetic heart valve. Density of Solid and Fluid (blood) very close: complex FSI strong coupling case.

Conjugate Heat Transfer

Monolithic strong coupling between the solid and fluid thermal solvers providing good stability

Thermal pipe flow example

Solid Mesh   Fluid velocities and Conjugate heat analysis (cut plane of fluid vel.)   Steady state fluid temperature (cut plane through the section)
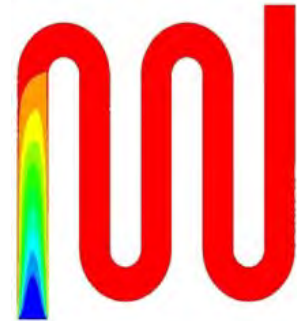
Range of Applications

- Ø Most flows that we encounter in our daily activities are incompressible,
- Ø Low Mach number (Ma < 0.3).
   In Air : Vel < 230 MPH , 370 KPH.

 Examples:
       Ground vehicle aerodynamics, Free surface and Multi phase flows, Wind turbines, Human body, Ship hydrodynamics, etc.

Automatic Fluid Volume Mesher
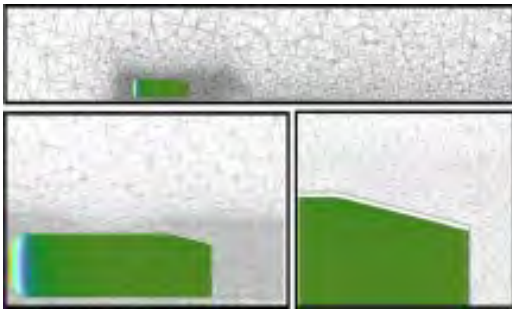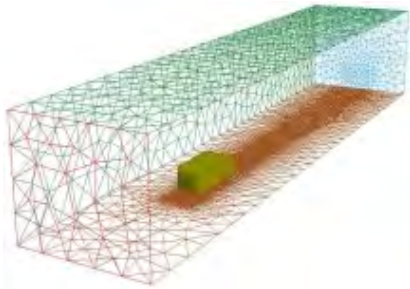
In complicated geometries meshing for CFD problems could be a time consuming process for any commercial software

Simplification of the pre-processing stage,

Possibility to specify local mesh size for better resolution,

Possibility to add Boundary layer mesh.

Error estimators may be used to automatically adapt the mesh.

Error Control and Adaptive Re-Meshing
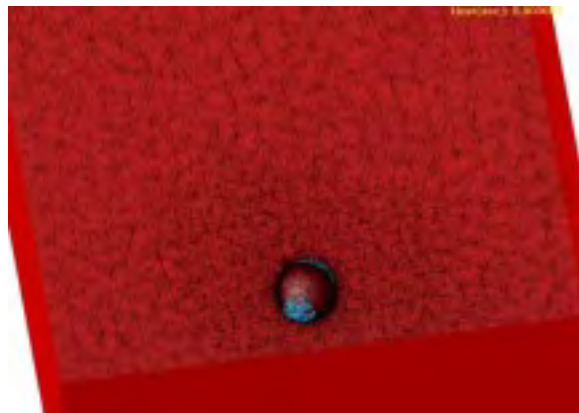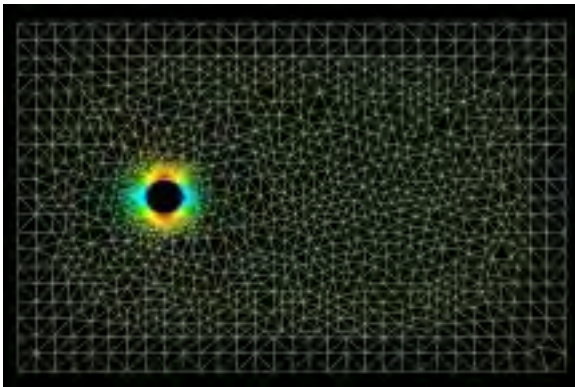
MPP Scalability: Real Car Model
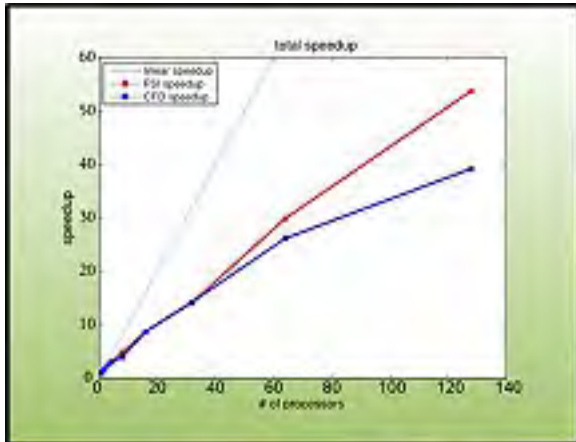
The results show a speedup of 40 for 128 cpus in the CFD only case (2.1 M elements) and a speedup of 55 for 128 cpus in the case of FSI (3.6 M elements).

For the next development cycle further improvements will be implemented

Incompressible CFD   Roadmap

Validation/Benchmarking process under way (problems will include FSI, Conjugate Heat transfer cases as well as more Aerodynamics and Free surface analyzes).

Additional post treatments and Tools with LSPP 3.2.

See Website for additional documentation   http://www.lstc.com/applications/icfd

For the complete presentation contact: info@lstc.com

http://gns-mbh.com/animator.html

The Trendsetting Post-Processor for FEM Analysis

Animation tool for handling extremely large finite element models

Animator4 is a post-processor for a wide range of finite element analysis (FEA) applications. The program is based on almost 20 years of experience in project work for the automotive industry and its predecessor Animator3. Started in the early '90s, earlier versions of the program were exclusively developed for the automobile manufacturers VOLKSWAGEN and AUDI.

Animator3 gained respect within a wide range of engineering companies. While some users still appreciate the minimalistic and mainly command line driven interface of Animator3, most users prefer a more capable and customizable user interface. Animator4 augments its predecessor's qualities with a modern graphical user interface, based on Qt©. At the same time it keeps the highly optimized OpenGL code from Animator3. Thus Animator4 has been well received and continues the success story of Animator3.

http://gns-mbh.com/animator.html
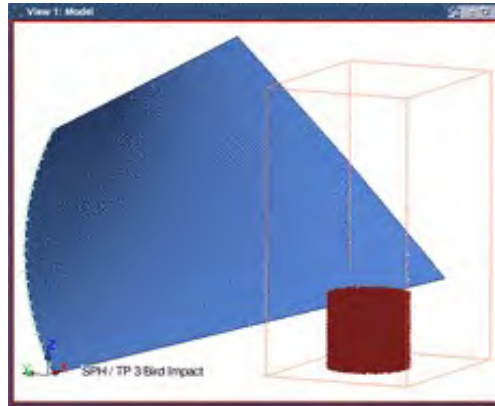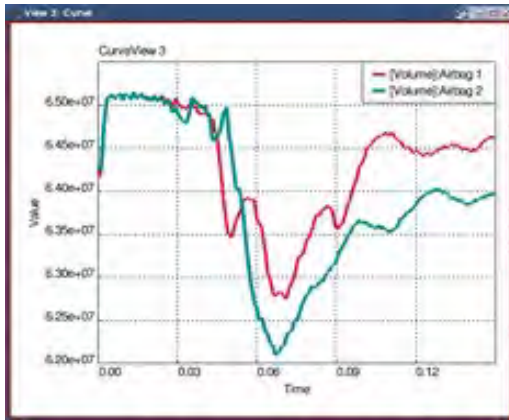
■Animator4 is the perfect animation tool for handling extremely large finite element models.

■Animator4 makes efficient use of system resources.

■Animator4 offers constantly extended functionality to easily and carefully verify and validate the results of even the most complex calculations.

■Curves of nodal and element time history data can be plotted while running the animation simply by picking them with the mouse.

■A curve calculator allows for the analysis and/or manipulation of time history curves: It can be used to carry out mathematical operations on time history curves as well as complex safety analysis to calculate HIC curves or neck injury criteria.

■Models can be animated using a variety of different rendering modes. The excellent animated graphics allow the efficient presentation of simulation results to designers or product managers.

■Cross section views can be animated, and cross sections of the undeformed geometry can be compared to any deformed state.

■Different stereoscopic 3D options are available, allowing the use of all the above features with stereoscopic 3D animation

May Press Release Animator4, Version 2.0.0 released This release includes a lot of new features, like unicode support for all parts of Animator, as well as improved window handling.

Overview about the main release points
■multiple views of any type per window
■3D curve plots for presentations
■display of cross section forces in model
■support for unlimited videos
■variants dialog for simple comparison of model variants
■presentation thumbnails
■fully integrated Unicode support with many textcodecs for conversion of input
■slot dependent variables & attributes for variables
■new, integrated help system
■exchange file format for user configuration
■support for Abaqus 6.12
■input interface for JT files
■output interface for Indeed (t52 format)

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http://www.esi-group.com/products/vibro-acoustics

Vibro-Acoustics

VA One : The ONE simulation environment for vibro-acoustic analysis and design
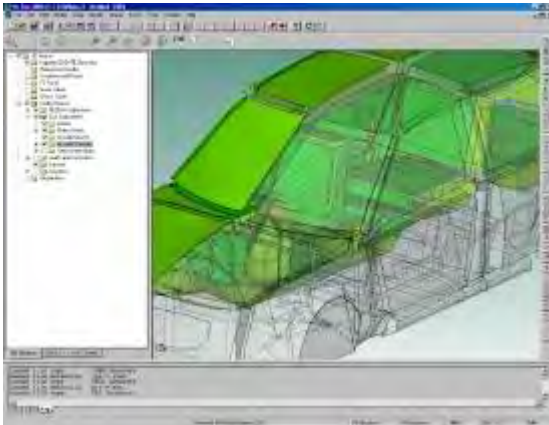
VA One is a complete solution for simulating the response of vibro-acoustic systems across the full frequency range. VA One seamlessly combines Finite Elements (FE), Boundary Elements (BEM) and Statistical Energy Analysis (SEA) in ONE model. It is the only simulation code on t he market today that contains the complete spectrum of vibro-acoustic analysis methods within ONE common environment.

VA One Extension Modules: VA One Extension Modules let you quickly and easily extend and customize the core-functionality of VA One to meet your specific needs. T he extension modules are individually licensed and enable you to tailor the functionality in VA One for specialized applications.

Vibro-Acoustics

Lighter, faster and quieter: Government legislation, competitive pressure and tight development schedules mean you can't afford to wait until your product is built to find unexpected noise and vibration problems. With ESI's vibro-acoustic software you no l onger have to. A ccount for noise and vibration right at the design stage - no more costly delays or panic driven test-based solutions. O ur vibro-acoustic software has everything you need to diagnose potential noise and vibration problems up front in your development process. Manage risk by identifying possible problem areas that may need more detailed modeling or test based development, while you still have time to make an impact on the product!

http://www.esi-group.com/products/vibro-acoustics

The full spectrum of solutions: Whether you are creating SEA models of initial concept designs or fully detailed Finite Element and Boundary Element models of final prototypes, ESI has all the simulation methods you need. Design for noise and vibration performance across the full frequency spectrum.

Design evaluation: With ESI's unique statistical modeling methods you have the flexibility to make models as detailed or as simple as you need. Create system level noise and vibration models in a matter of hours and get solutions in seconds, even on a laptop. Our VA software helps you rank sources and identify dominant transmission paths quickly. Get answers to key design questions in real-time, not tomorrow or next week. Find out how easy it is to introduce ESI's Vibro-Acoustic software into your product development process and start designing for noise and vibration today!

Visual-Environment Solutions

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. Visual-Crash also addresses other solutions in the market by processing input-output for PAM-CRASH, MADYMO and RADIOSS. This very open and versatile environment simplifies the work of CAE engineers across the enterprise by facilitating collaboration and data sharing. Leveraging this user environment, a visualization and plotting solution helps analyze result data within a uniform interface.

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. Focus on building high quality digital models for all commonly used solvers and all popular CAD and solver data formats.

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. It is fully command-driven, supports session files and templates. It

boosts the productivity of CAE engineers thanks to automated tasks and customized reports. Visual-Viewer allows easy and fast graphical interpretation with very useful animation control features such as simple section cut tool, video reading and aligning with simulations, synchronized simulation, and plot windows.

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

With Visual-Process Executive, engineers gain productivity and save time on CAE modeling. It simplifies and automates repetitive tasks by process guidance approach. The process templates customize any regulatory CAE procedure and capture corporate best practices. The environment's state-of-the-art process execution methodology allows you to build the model automatically and/or semi automatically for consistent results and standardization.

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.

VisualDSS delivers the most advanced End-to-End Decision Support solution to further leverage enterprise best practices and increase the value of simulation. With VisualDSS (Decision Support System) product development teams reduce both design cycles and product problems in the field. By insuring simulations are done the right way, based on the right CAD data, and producing reports linked to the right results, VisualDSS helps development teams make the best design decisions. This greatly increases the business effectiveness of investment.

VisualDSS provides an open environment, in which simulation data is gathered from different applications used during the whole simulation lifecycle and connected to each other. It enables the capture, storage and reuse of the enterprise knowledge and best practices, as well as the automation of repetitive and cumbersome tasks in Simulation-Based Design processes, the propagation of engineering changes or design changes from one domain to another.

It links to customer enterprise information such as Product Data Management (PDM), Enterprise Resource Planning (ERP), Test etc and it integrates easily within the IT and data architecture of every company, by supporting most IT standards and linking to standard or corporate databases or Product Lifecycle Management (PLM) systems.

Leigh Shelton, Talent Acquisition Coordinator/HR 317-867-8113 Email: leigh.shelton@imminet.com

COMPANY: IMMI, Center for Advanced Product Evaluation (CAPE)
INCUMBENT: Shu Yang

1.0   PURPOSE

Provide project support and technical expertise in a timely manner to develop products and services to assure customer satisfaction, safety, quality and confidentiality and financial objectives are met.

2.0   SCOPE

All of IMMI.

3.0   SPECIFIC DUTIES AND RESPONSIBILITIES

Within the limits of corporate policies and approved budgets, and in line with IMMI's management philosophy, the Applied Mechanics Engineer has the responsibilities and commensurate authority to accomplish the following duties:

3.1   Planning/Coordination

3.1.1   Work with IMMI management to plan and prioritize projects that are in accordance with the objectives and strategic plans of the company.

3.1.2   Work with IMMI staff to plan work-load in such a manner as to support project needs in a timely and effective manner, in accordance with established project plans and timelines.

3.1.3   Develop plans for simulation projects that support pursuit of objectives based on utilization of all resources in the most efficient and effective manner possible while meeting deadlines.

3.1.4   Identify and develop key technology partnerships for development of models for simulation work that will help tie customers to IMMI as a provider of integrated systems and service.

3.1.5   Develop software tools, simulation techniques and improve existing methods in accordance with the objectives and strategic plans of the company.

3.1.6   Follow established departmental procedures to accomplish tasks using proven methods. Where opportunities exist, suggest improvements to IMMI departmental procedures to achieve company objectives with improved efficiency.

3.2   Functional

3.2.1   Work with Engineering and CAPE to apply fundamental engineering analysis principles of elasticity, continuum mechanics, deformable body mechanics, and strength of materials to the analysis of components and systems in order to provide insight into the structural dynamics behavior of components and system assemblies.

3.2.2   Use FEA, occupant models, kinematic, dynamic and crash simulation to analyze, evaluate, and optimize designs of new components and systems and enhance existing ones through innovation and cost effective concepts to attain an optimum of quality, value, and manufacturability.

3.2.3   Utilize concurrent activities in a cross functional environment during design and development of components and systems to keep concept to market lead times as short as possible.

3.2.4   Analyze simulation results and adjust designs by working with project engineers to achieve performance objectives.

3.2.5   Provide technical assistance to all areas of IMMI by providing timely project or program input, presentation materials, and simulation reports as required.

3.2.6   Provide engineering reports on pr oject activities, results or significant customer and vendor visits as requested by the Director of CAPE.

3.2.7   Assist CAPE with technical guidance and input, pulse development, customer support and other assistance to assure timely, test completion with accurate results and facility preservation.

3.2.8   Communicate directly with IMMI and CAPE customers to promote CAPE, clarify all test request ambiguities and provide maximum value to our customers.

3.2.9   Stay abreast of the latest technology, constantly striving to enhance our existing systems and capabilities. M   ake recommendations to management on pot ential new equipment or software.

3.2.10 Perform all duties in accordance with IMMI/CAPE safety policies. H elp assure the safety of all CAPE employees and visitors.

3.2.11 Perform all duties in accordance with the CAPE Quality Manual and CAPE Code of Conduct Policy.

3.2.12 Maintain a high level of knowledge and understanding of customer and regulatory standards applicable to IMMI products and services.

3.2.13 Be sure all communications and records (files) are free from poorly worded memos and reports which inaccurately and unprudently cast doubts on c ustomers, products, development and/or testing efforts.

3.2.14 Assist with tours of IMMI facilities when requested. Be prepared to elaborate on simulation topics to enhance our visitors' overall understanding of our capabilities while protecting confidential areas, subjects and information.

3.3   Climate

3.3.1 Develop and maintain a working climate which increases personal satisfaction and enhances productivity and quality of work through the achievement of CAPE departmental and IMMI objectives.

3.3.2   Develop and maintain a free open flow of information and foster a "c an do" attitude between IMMI personnel and our customers within the guidelines of CAPE departmental and company objectives.

3.3.3   Represent the company to the public, industry and government in accordance with

the company creed / core values.

3.3.4   Factor IMMI's core values into daily business decisions to ensure long-term consistency with our mission.

3.3.5   Foster and participate in teamwork by respecting others, soliciting input and cooperatively applying IMMI resources to complete projects and tasks.

3.3.6   Respect and protect IMMI's resources and assets.

4.0   ESSENTIAL FUNCTIONS OF THE JOB / QUALIFICATIONS

4.1   Advanced degree in engineering discipline and a minimum of 5 years experience in a related work environment.

4.2   Expert knowledge in computer sciences to operate in a Windows and Linux environment. Must have expert understanding of commercial FEA simulation software and be able to program, debug and run custom code.

4.5   Verbal and written English skills sufficient to communicate with team members, perform training, lead cross-functional teams, communicate to suppliers, communicate to customers, communicate with management, and be able to meet the reporting requirements of this position.

4.6   Work within the IMMI facility; this is not a work at home position.

4.7   Travel as the need arises for training, seminars, supplier visits, and/or customer visits.

4.8   Contribute overtime as required to complete projects in a timely manner and meet customer deadlines

5.0   AUTHORITY

5.1   The Applied Mechanics Engineer shall have the authority to do whatever is necessary to carry out the objectives and operation plans of IMMI. This authority must be within the guidelines of the limits of authority as specified below.

5.2   The Applied Mechanics Engineer, without approval from the Director of CAPE, may not:

5.2.1   Dispose of any capital assets of the Corporation related companies or customers.

5.2.2   Acquire any capital assets for the Corporation or related companies

5.2.3   Sign any checks for the Corporation or related companies

5.2.4   Sign any contracts obligating the Corporation or related companies

5.2.5   Change the objectives of your area of responsibility.

5.2.6   Divulge any confidential information to competitors, customers or IMMI personnel outside of agreed upon confidentiality limits.

5.2.7   Operate or set objectives in a m anner inconsistent with the overall policy and philosophy of IMMI.

5.2.8   Violate the CAPE Code of Conduct Policy or any IMMI Confidentiality Agreement.

6.0   WORKING RELATIONSHIPS

6.1   The Applied Mechanics Engineer reports directly to the Director of CAPE.

6.2   The Applied Mechanics Engineer has no direct reports at this time, but may be called upon to supervise a student engineer or intern.

6.3   The Applied Mechanics Engineer has a lateral relationship with the following:
  · Instrumentation Engineers
  · Test Engineers
  · Project Engineers
  · Manufacturing personnel
  · Quality personnel
  · Accountants
  · Sales and Marketing personnel

6.4   The Applied Mechanics Engineer maintains a harmonious working relationship with all IMMI employees.

7.0   METHODS OF REPORTING

7.1   Daily as circumstances develop, via verbal communication, e-mail communication, or voice mail communication.

7.2   Conduct periodic presentations to CAPE and IMMI staff members as part of formal design reviews and project updates.

7.3   Any other specific report(s) requested by Management to facilitate decision making on CAPE activities.

8   PERFORMANCE APPRAISAL

8.1   Performance shall be measured on an annual basis with reference to objectives and position descriptions provided by the Director of CAPE.

8.2   A formal appraisal shall be conducted on an annual basis in accordance with IMMI policy.

SIGNATURES:

Incumbent:

_____

Shu Yang

Immediate Supervisor:

_____

James R. Chinni

Date:

_____

FOR INFORMATION CONTACT:

Leigh Shelton   Ph: 317-867-8113   Email: leigh.shelton@imminet.com
Talent Acquisition Coordinator/HR
IMMI, Inc.
18881 US 31 North
Westfield, IN. 46074

Marcus Redhe - marcus.redhe@dynamore.se

EXCERPT - DYNAmore Nordic Newsletter issue 5 June 28, 2012.

If you want to subscribe to this newsletter please send an email to info@dynamore.se

A REPORT FROM THE 12TH INTERNATIONAL LS-DYNA USERS CONFERENCE

DYNAmore had a l arge representation at the International LS-DYNA conference which took place in sunny Dearborn near Detroit from June 3 to 5. T he conference had around 700 participants from all over the world and there where around 30 companies exhibiting software products and computer hardware. More than 100 p resentations were given on many topics including dummy modeling, composite simulation, state of the art hardware et c.

The conference was also a golden opportunity to talk to the developers and engineers at LSTC, the developer of LS-DYNA, LS-OPT, LS-Tasc and LS-PrePost. Several presentations focused on new features in LS-DYNA that can have a large impact on simulation practice.

Images from the conference are available at: http://www.ls-dynaconferences.com

TRAINING CLASSES 2012: The training sessions for the second half of 2012 a re given below. Please send your registration or questions to course@dynamore.se .

- LS-PrePost 3 introduction - Sep. 3
- LS-DYNA introductory course - Sep. 4
- LS-OPT optimization and robust design - Sep 18.
- LS-DYNA implicit analysis - Oct 2
- ANSA & Metapost introductory course - Oct 9
- LS-DYNA contacts - Oct 12
- LS-DYNA simulation of sheet metal forming processes - Oct 16
- LS-DYNA advanced training class In impact analysis - Nov 20
- LS-PrePost 3 introduction - Nov 26
- LS-DYNA introductory course - Nov 27

Extensive information about the courses is available on our web page, http://www.dynamore.se/courses . We can also tailor courses in house or on-site, all depending on your current needs. Do not hesitate to contact us for more information.

LS-DYNA NORDIC USERS FORUM 2012

It is a pleasure to invite you to the annual LS-DYNA Nordic Users' Forum 2012, October 11 at Quality Hotel 11 in Gothenburg. We expect at least 200 attendees and over 20 user presentations, the agenda is already almost full and below you will find some of the presenters. Read more on
http://www.dynamore.se/forum2012 . We encourage you to register today, since the number of attendees and hotel rooms are limited.   Note, the Forum is Free of Charge!

This year, we will have two workshops, one in Optimization and one in Forming in parallel with the sessions.

Keynote: John Hallquist (LSTC),
Johan Jergeus (Volvo CC),
Filipe Andrade (DYNAmore GmbH).

Crash and safety 1:   Manuel Mendoza Vazquez (Chalmers), Linus Wågström (Volvo CC), Mikael Palm (Husqvarna), Liliana Cowlam (ARUP).

Forming: Örjan Fyllingen (NTNU), Peter Ottosson (Swerea IVF), Daniel Berglund (Gestamp Hardtech), Edin Omerspahic (SKF).

Crash and safety 2:   Lambros Rorris (BETA CAE Systems), Tzolas Nikos (BETA CAE Systems), Yianni Kolokythas (BETA CAE Systems), Robert Kant (Humanetics), Marianne Andersson (Combitech), Christofer Karlsson (scania).

Processes and Optimization: Per Lindström (DNV), Ann-Britt Ryberg (Combitech), Nielen Stander (LSTC), Per Jonsén (LTU).
Work Shop 1: LS-OPT, Nielen Stander (LSTC)
Work Shop 2: Forming Mikael Schill (DYNAmore Nordic)

LS-DYNA 971 R6 WEBEX: We kindly invite you to participate for free of charge to a Webex seminar: "New features in LS-DYNA v971 R6 and LS-PrePost".

Two dates are available to choose from:
08/28/12, 9.30-11.15 & 08/31/12, 9.30-11.15
See www.dynamore.se for registration. Note that a maximum of 20 attendees can participate in each seminar.

DYNAmore Nordic AB Software products:
LS-DYNA, ANSA, OASYS, FE-MODELS, DynaForm, FormingSuite, FEMZIP

Mobile: +46-(0)70 55 131 42
e-mail: marcus.redhe@dynamore.se
Web: http://www.dynamore.se

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 to catch up on t he 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!

Large Scale Normal Modes and PSD Analysis with Nastran and LS-DYNA
 The complete paper is featured on **www.feapublications.com** sidebar link Solutions 2012

George Laird
Predictive Engineering

Abstract

From its conception in 1976, LS-DYNA has become a w orld-renowned analysis code used for the simulation of complex, real-world problems. Its power stems from the simple fact that it w as written early on with an eye toward harnessing the resources of a variety of computational platforms. This strategy has allowed LS-DYNA to solve large scale, multi-physics problems that were impossible just a few years ago. LS-DYNA developers have also been extending its classically nonlinear, scalable solution sequences to that of large scale, linear dynamics problems using an MMP (Massive Parallel Processing) approach. Benchmark solutions are provided showing how LS-DYNA handles the basic linear normal modes analyses using standard finite elements (beams, plates, solids and rigid links) with a comparison to an industry standard Nastran solver. Results are then presented showing how LS-DYNA multi-CPU scaling decreases solution times for the power spectral density (PSD) analysis of large scale FEA models having millions of DOFs.

Introduction

Finite element (FE) codes can generally be placed into two camps: implicit or explicit. Implicit codes are focused on linear static analyses with extensions toward linear dynamics and mild nonlinearities. One of the more common implicit solution techniques is that used for linear dynamics or normal modes analyses. This type of analysis is universal in the automotive, aviation, chemical and naval industries where models having millions of nodes are analyzed with the end goal of extracting hundreds of normal modes frequencies and shapes.

Due to the numerical foundation of standard implicit codes, their solutions are restricted by algorithmic issues to limited speed-ups using multiple CPUs. As engineering problems have become larger and more complex, these restrictions have become a major stumbling block to achieving accurate solutions in a reasonable amount of time. In contrast, carefully coded, explicit codes are scalable and offer impressive solution performance using multi-CPUs and/or distributed computer networks.

The developers of LS-DYNA have always recognized the importance of true scalability throughout every aspect of the software. This attention to detail has made LS-DYNA a highly efficient explicit code for the solution of large complex problems since all aspects of the solution sequence scale in equal parts. To bring this computational performance to bear on pr oblems traditionally solved with implicit methods, LSTC spent more than ten years implementing implicit parallel coding on a par with its explicit solutions. This task required the development of completely new solver for matrix decomposition techniques that facilitate the scalable solution of large implicit matrices. With this core work completed, LSTC produced a very modern and fast solution technique for both the extraction of normal modes and the solution of frequency-domain type problems (e.g., power spectral density (PSD) analysis).

To document these new capabilities within LS-DYNA, a s eries of very simple normal-modes type discussion is then given on ho w LS-DYNA can also perform forced response and classical PSD type analyses. Lastly, several scalability problems are presented showing how LS-DYNA scales the complete linear dynamics solution.

Normal Modes Analysis

Getting all normal modes correct for a given structure is critical for the validity of all subsequent design operations. Since LS-DYNA is relatively new in the implicit linear dynamics community, this paper describes two general benchmark examples followed by results for two customer-application finite element models containing (i) only 10-node tetrahedrals and (ii) all major element types (beams, plates, 8-node bricks, mass elements, and rigid links).

Plate elements are probably the most common element type used by the linear dynamics community, forming the backbone of most sophisticated FE models. For benchmark purposes, a normal-modes example is presented for a s imple unsupported plate. The model under study is a plate having dimensions of 0.36x0.24 m with a thickness of 0.002 m. Its elastic material model is steel at 207 GPa, Poisson's Ratio = 0.292 and density of 7870 kg/m3 and the mesh consisted of 651 nodes and 600 elements. Figure 1 provides a comparison for the first six modes against an analytical solution, experiments, two standard implicit FE codes and then LS-DYNA.

LS-DYNA for Beginners: An insight into LS-PrePost and LS-DYNA [Paperback]
Qasim Shah (Author), Hasan Abid (Author)

Publication Date: April 30, 2012

Dr. Qasim H. Shah is Associate Professor at the Department of Mechanical Engineering, International Islamic University Malaysia.

Book Description: LS-DYNA is one of the best explicit Finite Element application software made by Livermore Software Technology Corporation (LSTC)which is used by engineers to predict the consequences of impact, crash, and other dynamic loads on structures. Vibrations, fluid flow, fluid structure interaction and many other engineering problems can be solved using LS-DYNA. This book guides a beginner by presenting a s tep by step procedure to solve problems of diverse nature using LS-PrePost and LS-Dyna. A lot of necessary information is contained in 18 chapters that would enable the engineers to solve various problems. This book is especially designed to help the senior undergraduate and post graduate engineering students in the field of mechanical, manufacturing and civil engineering to facilitate them in their research projects.

About the Author: Dr. Qasim H. Shah is Associate Professor at the Department of Mechanical Engineering, International Islamic University Malaysia. His research interests include predicting the damage and failure of structural elements subjected to dynamic loads like impacts, explosions, and fluid structure interactions.
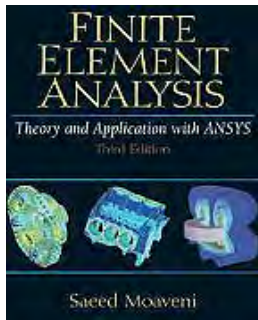
Paperback: 152 pages
Publisher: LAP LAMBERT Academic Publishing (April 30, 2012)
Language: English
ISBN-10: 3846556777
ISBN-13: 978-3846556771

Reference Library   Recommended Reading   Reference Library

[Finite Element Analysis Theory and Application with ANSYS (3rd Edition)](#)

Saeed Moaveni

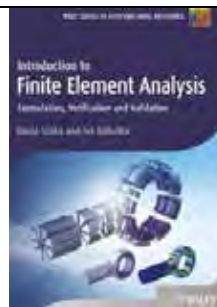[Practical Stress Analysis with Finite Element](#)

Bryan J Mac Donald

[A First Course in the Finite Element Method](#)
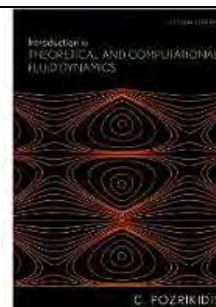
Daryl L. Logan

[Finite Element Modelling Techniques in MSC.NASTRAN and LS/DYNA](#)

Sreejit Raghu

[Finite Element Analysis/formulation & verification](#)

B. A. Szabo

[Introduction to Theoretical and Computational Fluid Dynamics](#)

C. Pozrikidis

Reference Library

[Viskoplastische Stoffgesetze für Thermoplaste in LS-DYNA: Theorie und Aspekte der Programmierung](#)

Matthias Vogler

Recommended Reading
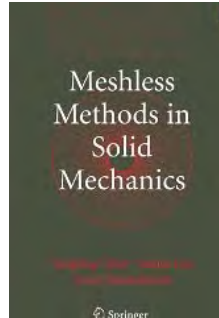
[Meshless Methods in Solid Mechanics](#)

Youping Chen

Reference Library
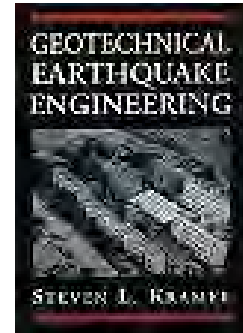
[Geotechnical Earthquake Engineering](#)

Steven Lawrence Kramer

[Biomechanical Systems Technology: Computational Methods](#)

Cornelius T. Leondes

[Numerical response of steel reinforced concrete slab subjected to blast and pressure loadings in LS-DYNA.](#)

Vivek Reddy

[Formulas for Mechanical and Structural Shock and Impact](#)

Gregory Szuladziniski
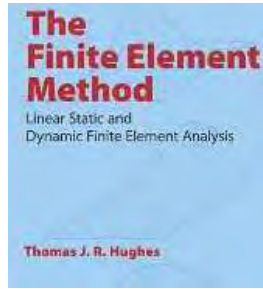
Reference Library	Recommended Reading	Reference Library
The Finite Element Method	Computational Fluid Dynamics	An Introduction to Computational Fluid Mechanics by Example
Thomas J. R. Hughes	**T. J. Chung**	**Sedat Biringen**
Fundamentals of Earthquake Engineering	Computational Fluid Dynamics	Computational Fluid Dynamics: A Practical Approach [Paperback]
Amr S. Elnashai	**John David Anderson**	**Guan Heng Yeoh**
CFD for Engineers		
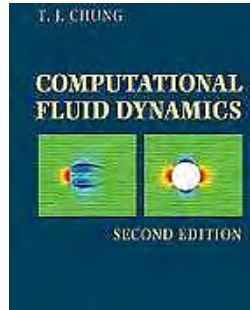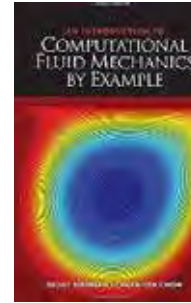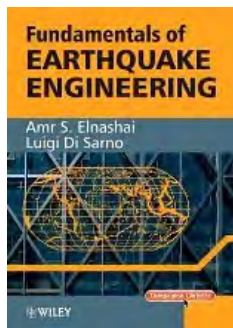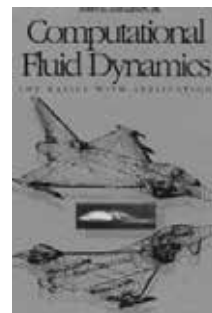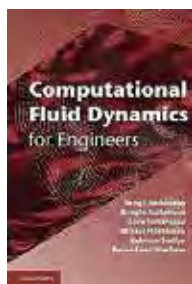
BETA CAE Systems S.A.   www.beta-cae.gr

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

www.cray.com

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

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 t rue, 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 s ystem 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 ph ysical 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**

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   www.jsol.co.jp/english/cae/

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. T he 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

Center of Excellence

Hengstar Technology is the first LS-DYNA training center of excellence in China. A s 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. T raining 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. H ongsheng Lu, previously was directly employed by LSTC before opening his distributorship in China for LSTC software. H e travels to LSTC often to keep current on the latest software features and support to continue to grow Hengstar as a CAE consulting group.

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	Visual-Process
	VisualDSS	Weld Planner	Visual-Environment	IC.IDO

United States	**Engineering Technology Associates – ETA** www.eta.com	sales@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	**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** www.predictiveengineering.com		george.laird@predictiveengineering.com	
	FEMAP	NX Nastran	LS-DYNA	LS-OPT
	LS-PrePost	LS-TaSC	LSTC Dummy Models	
			LSTC Barrier Models	

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	

France	**ALYOTECH**		nima.edjtemai@alyotech.fr	
	www.alyotech.fr			
	ANSYS	LS-DYNA	MOLDEX3D	FEMZIP
	Primer	PreSys	DYNAFORM	SKYGEN
	MERCUDA	MOCEM		

Germany	**CADFEM GmbH**		lsdyna@cadfem.de	
	www.cadfem.de			
	ANSYS	LS-DYNA	optiSLang	DIGIMAT
	ESAComp	AnyBody	VPS	
	FTI FormingSuite			

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

Netherland	**Infinte**		j.mathijssen@infinite.nl	
	www.infinite.nl			
	ANSYS Products	CivilFem	CFX	Fluent
	LS-DYNA	LS-PrePost	LS-OPT	LS-TaSC

Distribution & Consulting Europe Distribution & Consulting

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

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	

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	**EASI Engineering**		rvenkate@easi.com	
	www.easi.com			
	ANSA			
	LS-DYNA	LS-OPT	LSTC Dummy Models	LS-PrePost
			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

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	

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 |

Germany	Gridcore www.gridcore.se	
Sweden	Gridcore www.gridcore.se	
United States	Gompute www.gompute.com	

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

Please check the site for accuracy and changes.
Among the many course offered:

Introduction to explicit structural mechanics
with ANSYS-LS-DYNA and LSTC's LS-
DYNA

      08/29/12   09/05/12
      11/06/12   12/19/12

Material Modeling with LS-DYNA
      10/16/12

Simulation of composites with ANSYS
Composites PrepPost and LS-DYNA
      08/21/12

Contact modeling with LS-DYNA
      11/06/12

 Modeling joints with LS-DYNA
      10/12/12

Crash simulation with LS-DYNA
      09/25/12

Introduction to simulation with Diffpack
      11/06/12

Working efficiently with Diffpack in ANSYS
Workbench
      11/07/12

Introduction to simulation of joint- and muscle-
forces with AnyBody
      09/19/12

Efficient coupling of AnyBody with ANSYS
Workbench
      09/21/12

Additional Courses are offered – please check
the website for upcoming dates for: FTI
Forming Suite - DIGIMAT
DIFFPACK and others.

Individual Training: Take advantage of the
expertise of our specialists and get to know
how simulation processes in your company can
be arranged in an optimal way.

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

Intro LS-DYNA   12/04/12
09/20/12   10/15/12 10/30/12   12/10/12

                                                               Spot Welds
Contact Definitions   09/27/12
          10/18/12

                                                               eta/DYNAFORM
Plasticity   09/17/12
          10/24/12

                                                               ALE
Users Interfaces   10/11/12
          11/19/12

                                                               Meshless Methods
Crash Analysis   10/11/12

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

Please check the site for accuracy and changes. Among the many course offering are the following:

Introduction to LS-DYNA CA July 31 -
August 3, 2012

Advanced Options in LS-DYNA MI
August 14-15, 2012

Introduction to LS-PrePost (no charge) MI
August 20, 2012

Contact in LS-DYNA MI
August 16-17, 2012

Introduction to LS-DYNA MI
August 21-24, 2012

NVH & Frequency Domain Analysis with
 LS-DYNA CA
October 9-10, 2012 Tues-Wed

Introduction to LS-OPT MI
November 6-9, 2012

Introduction to LS-PrePost (no charge) CA
November 12, 2012

Introduction to LS-DYNA CA
November 13-16, 2012

Introduction to LS-PrePost (no charge) MI
December 10, 2012

Introduction to LS-DYNA MI
 December 11-14, 2012

Advanced Options in LS-DYNA MI
 December 17-18, 2012

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

Please check the site for accuracy and changes. Among the many course offering are the following:

LS-PrePost 3, introduction
                September 3
LS-PrePost 3, introduction
            November 26

LS-DYNA, introductory course   September 4
LS-DYNA, introductory course   November 27

        LS-OPT, optimization and robust
        design September 18

LS-DYNA, implicit analysis

October 2

ANSA & Metapost, introductory course
        October 9

Contacts in LS-DYNA
        October 12

LS-DYNA, simulation of sheet metal forming processes
        October 16

LS-DYNA, advanced training class in impact analysis
        November 20

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

Please check the site for accuracy and changes.

LS-DYNA Introduction Explicit Solver
   10-12/09

LS-DYNA Introduction Implicit Solver
   24/09

LS-DYNA Unified Introduction Implicit &
Explicit Solver
   16-19/01, 18-21/06 & 12-15/11

LS-OPT & LS-TaSC Introduction
   24-25/10

Switch to LS-DYNA
   10-11/10

Switch from Ls-PrePost 2.X to 3.X
   4/04 & 26/09 & 28/11

LS-DYNA Advanced Implicit Solver
   25/09
-material modeling
   14-15/12

LS-DYNA ALE / FSI
22-23/10

LS-DYNA SPH
   21-22/05 & 8-9/10

LS-PrePost 3.0 – Advanced meshing
capabilities
   5/04 & 27/09 & 29/11

LS-DYNA User Options
   23-24/05

LS-DYNA – Plasticity, Damage & Failure –
By Paul DU BOIS
   26-27/11
   (date may be changed in Q1)

LS-DYNA – Polymeric materials – By Paul
DU BOIS
   12-13/12

LS-DYNA – Geo

Users LS-DYNA Days

Alyotech will be hosting two Users Days this year. These events will focus on t he recent evolutions of LS-DYNA and related products from LSTC and will feature talks both about novel functions and real-world applications.

Two sessions will be held: the first one will take place in Toulouse on S eptember 20th while the second one will be held in Antony on November 8th.

Each session will start with lectures from Alyotech and presentations of studies from LS-DYNA users in the morning. The afternoon will then be devoted to discussions between users on selected topics of interest.

Don't hesitate to contact us at support.ls-dyna@alyotech.fr

Engineering Technology Associates

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

Please check the site for accuracy and changes.
Among the many course offering are the following:

Introduction to LS-DYNA

      August 21 - 22
      Sept 18 - 19

Introduction to DYNAFORM

      Aug 07 - 08
      Sept 04 - 05

Intro to PreSYS

      August 14
      Sept   11

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

Please check the site for accuracy and changes. Among the many course ffering are the following:

ANSYS Training, CFD and FEA Consultants Serving CT, NJ, NY, MA, NH , VT

Sep 10, 2012
1 day ANSYS DesignModeler / Middlebury, CT $ 600.00

Sep 11, 2012
2 days Introduction to ANSYS Mechanical (Workbench) / Middlebury, CT $ 1 200.00

Sep 18, 2012
1 day Finite Element Analysis Fundamentals / Middlebury, CT $ 600.00

Oct 15, 2012
1 day ANSYS DesignModeler / Middlebury, CT $ 600.00

Oct 16, 2012
1 day ANSYS Workbench Meshing for CFD / Middlebury, CT $ 600.00

Oct 17, 2012
2 days Introduction to CFX / Middlebury, CT

The Complete Courses Offered Can Be Found at http://www.hengstar.com

2012	2	3	4	5	6	7	8	9	10	11	12
An Introduction to LS-DYNA(High Level)											
Concrete & Geomaterial Modeling with LS-DYNA	■										
Pedestrian Safety and Bonnet Design with LS-DYNA			■	■							
Crashworthiness Theory and Technology			■	■							
LS-DYNA MPP, Airbag Simulation with LS-DYNA					■	■					
Introduction of LS-OPT which is Based on LS-DYNA						■	■				
Passive Safety and Restraint Systems Design								■	■		
Crashworthiness Simulation with LS-DYNA					■	■	■				
Passive Safety Simulation with LS-DYNA										■	■
Crashworthy Car Body Development - Design, Simulation and Optimization								■	■		

For course location visit www.alyotech.fr

LS-DYNA Introduction
   Sept   10-12
   Oct   01-03
   Nov   12-14
   Dec   03-05

LS-DYNA Thermal
   Sept   13-14

LS-DYNA Implicit
   Sept   17-19
   Nov   19-21

LS-PrePost – Meshing

Sept 27
Nov   26

LS-PrePost – New Interface
   Sept 28
   Nov   27

LS-OPT Introduction
   June   18-19
   Dec   10-11

LS-TaSC – Topology Optimization
   Dec   12

October 09, 2012

www.dynamore.de/en/training/conferences/upcoming/ls-dyna-forum-2012/ls-dyna-update-forum-2011

German LS-DYNA Forum 2012 LS-DYNA Forum, 9 - 10 October 2012, Ulm, Germany

On the 9th and 10th October 2012, our 11th LS-DYNA Forum will be taking place at the Maritim Hotel in Ulm, Germany. We cordially invite you not only to attend the event but submit a paper. In your presentation, you can talk about your experiences with LS-DYNA or LS-OPT and you can discuss and exchange these experiences with other users.

User presentations will form the core of the event. General lectures given by renowned speakers are also planned as well as talks on the latest LS-DYNA und LS-OPT .

Comprehensive information all about

 LS-DYNA software can be obtained from the accompanying exhibition.

The Forum will be accompanied by seminars which will be held during the week of the conference on t he subjects of CPM Airbag OoP, ALE and fluid-structure inter-action, meshless methods and on c oncrete and geomaterial modeling.

Your presentation: You are cordially invited to contribute towards the program plan by submitting a paper. Contributions from the various areas of application of LS-DYNA/LS-OPT are planned

To Submit your papers: Please send us the title, authors and a short summary (approx. 300 words).

Dates:
Submission of two-page summary for proceedings: 7th Sept. 2012

Location: Maritim Hotel Ulm
                   Basteistraße 40, 89073 Ulm

Registration and contact
DYNAmore GmbH
Tel. +49 (0) 7 11 - 45 96 00 - 0
Fax +49 (0) 7 11 - 45 96 00 - 29
E-Mail: forum@dynamore.de
www.dynamore.de/forum12

October 24-26, 2012   Location: Kassel Germany

Environmental protection and economic aspects make electric mobility one of the great challenges of the coming years. Step-by-step it will replace traditional forms of mobility in everyday life. Therefore, a number of projects have been defined in so-called 'model regions' in order to better understand and optimize this process.

For a better understanding of electric mobility and its optimization, simulation specialist ANSYS has extended its portfolio with a set of simulation applications that can serve as models in the development and implementation of innovative drive concepts. Structural and fluid mechanics and electromagnetic simulation models of the individual components are modeled in a consistent environment both individually and interacting, considering the drive as a complete multi-physical system – Engineering the System!

The ANSYS Conference & the 30th CADFEM Users' Meeting focus on the many simulation options in electric mobility and several other current application fields where structural mechanics, fluid mechanics and electro magnetics issues are important.

CADFEM GmbH and ANSYS Germany GmbH cordially invite you to join the conference

We look forward to your participation

The CADFEM & ANSYS Germany Team

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/

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   http://twitter.com/betacae

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

ESI Group
   http://twitter.com/ESIgroup

ETA
   http://twitter.com/ETA_Inc

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

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

http://www.eta.com/index.php/eta-news?format=feed&type=rss

ESI Group elected member of the Board of both ASTech Paris Region and AFDEL, two new recognitions of trust in ESI's thought leadership

Vincent Chaillou,
Product Operations President & COO of ESI Group

Paris, France – July 10, 2012 – ESI Group, pioneer and world-leading solution provider in

Virtual Prototyping for manufacturing industries, announces its appointment as board member of ASTech Paris Region, a F rench competitive cluster dedicated to the Aerospace industry, and also of AFDEL, the Association of French Software & Internet Solutions Editors.

On June 27, 2012, E SI Group represented by Vincent Chaillou, President & COO was elected member of the Board of ASTech Paris Region by the members of the association during their Annual General Meeting. ESI Group becomes one of the 21 c ompanies represented in the Advisory Board of the association, of which the primary role is to advise the Paris Region on the accreditation of R&D projects in the aerospace sector.

Gathered at the Hôtel National des Invalides in Paris for their General Assembly on the following day, the members of AFDEL have elected their new president, Jamal Labed, founding member of AFDEL and CEO of EasyVista. Three new administrators have also been elected: ITESOFT represented by Philippe Lijour, CEO; Oodrive represented by Stanislas de Rémur, CEO; and, ESI Group represented by Vincent Chaillou, President and COO. The new AFDEL logo, unveiled during this meeting, and the appointment of new administrators reflect the intent to better represent the dynamic French digital sector.

Vincent Chaillou declares "On behalf of ESI Group, I am truly honored to accept both of these new responsibilities, which show great trust in ESI's diversified expertise. I believe ESI's presence as board member of ASTech Paris Region will contribute to the alignment of R&D projects with industrial needs and the prosperity of the Paris area through its expansion on
global Aerospace markets. Meanwhile, I see the appointment as board member of AFDEL as a great opportunity to share ESI Group's vision, while representing the interests of similar size French industry players."

About ESI Group: ESI is a pioneer and world-leading provider in Virtual Prototyping that takes into account the physics of materials. ESI boasts a unique know-how in Virtual Product Engineering, based on an integrated suite of coherent,   industry-oriented   applications. Addressing manufacturing   industries, Virtual

Product Engineering aims to replace physical prototypes by realistically   simulating a product's behavior during testing, to fine-tune fabrication and assembly   processes in accordance with desired product performance, and to evaluate the impact of product use under normal or accidental conditions. ESI's solutions fit into a single   collaborative and open environment for End-to-End Virtual Prototyping. These solutions are delivered using the latest technologies,   including immersive Virtual Reality, to bring products to life in 3D; helping customers make the right decisions throughout product development. The company employs about 900 hi gh-level specialists worldwide covering more than 30 countries. ESI Group is listed in compartment C of NYSE Euronext Paris.

ESI Group – Media Relations
Céline Gallerne
T: +33 (0)1 41 73 58 46

Participant Information

CAE Associates'

http://www.caeai.com

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- Civil-Structural - Consumer Products
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- Help our customers with corporate trainings & onsite placements in various CAE Domains
http://kaizenat.com

support@kaizenat.com   Ph: +91 9171187209

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Durham, NC. 27703

USA.

Gompute also provides independent software vendors (ISVs) with a faster time to market by reselling their products on-demand. Users of Gompute range from large corporations to one-man consultant companies. Gompute's own technology allows the establishment of Virtual teams who can share resources and results collaboratively.

Gompute provides: CPU hours, storage, system administration and support for applications provided by third party Gompute partners.

Gompute supports: departmental license servers, simulation database repository, common documentation areas, etc.

Contact: info@gompute.com   www.gompute.com