

## FEA Information Engineering Solutions

Volume 1, Issue 10, November 2012



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**ETA –LS-OPT Incorporated into DYNAFORM**

**GNS – Animator 4 v2.0.2 released**



**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.

**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 the website FEA Publications. [www.feapublications.com](http://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](http://www.feapublications.com)

To sign up for the Traditional, or Simplified edition write to [yanhua@feainformation.com](mailto:yanhua@feainformation.com)

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Available on [www.feajournal.com](http://www.feajournal.com)

<b>Issues Now On Line</b>	Volume 1 Issue 1 February 2012 Compilation	Volume 1 Issue 2 March 2012 Metal Forming	Volume 1 Issue 3 April 2012 FSI	Volume 1 Issue 4 May 2012 Aerospace	Volume 1 Issue 5 June 2012 Electromagnetics
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Volume 1 Issue 6 July 2012 Blast & Impact	Volume 1 Issue 7 August 2012 Constitutive Modeling	Volume 1 Issue 8 Sept. 2012 Optimization	Volume 1 Issue 9 Oct. 2012 Simulation	Volume 1 Issue 10 Nov 2012 Blast & Impact (2)	
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Platinum Participants



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DatapointLabs

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Livermore Software  
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## SECTIONS

### Participant Solutions

BETA CAE, Cray, ETA, ESI Group, GNS, Gridcore AB,  
Datapoint Labs, JSOL, LSTC, Oasys Ltd., Shanghai Hengstar

### Distribution – Consulting – Cloud Services

Distribution, Consulting, & Cloud Services for LS-DYNA and other software

### Training Courses

Training Courses

### Events

Global Events

### Social Media – Participant Information

Face Book – Twitter – LinkedIn – News Feeds

### Press – Joint Venture Framework Agreement between AVIC-BIAM & ESI Group

### Library will return next month

## Participant Announcements

<b>BETA CAE Systems S.A.</b>	Dec. 11th & 12 <sup>th</sup> 2012 ANSA & $\mu$ ETA Indian Open Meetings <a href="http://www.beta-cae.gr/news/20121120_2012_indian_invitation.htm">http://www.beta-cae.gr/news/20121120_2012_indian_invitation.htm</a> December 11th, 2012, in The Chancery Pavilion in Bangalore, December 13th, 2012, in Le Méridien Pune, in Pune.
<b>GNS</b>	Added twitter account to Social Media. <a href="https://twitter.com/gnsmbh">https://twitter.com/gnsmbh</a> Animator 4 v2.0.2 is now released
<b>Infinite Simulations Systems</b>	Corrected our pint error. Infinite Simulations Systems distributes LS-DYNA® and other products in The Netherlands <a href="mailto:J.Mathijssen@infinite.nl">J.Mathijssen@infinite.nl</a>
<b>LSTC</b>	LS-PrePost® No Fee, One-Day Training Courses Livermore, CA January 28, 2013 - April 29, 2013 Troy, MI December 10, 2012 - March 18, 2013 Contact Julia Wolley for information: <a href="mailto:jwolley@lstc.com">jwolley@lstc.com</a>

### The Journal for November

Dedicated to papers on Blast & Simulation

We are now accepting events for 2013 and courses.

Sincerely, Marsha Victory, Trent Eggleston, FEA Information

<http://www.dynasupport.com/>

### The LS-DYNA support site

At this site you will find answers to basic and advanced questions that might occur while using LS-DYNA. Furthermore it will provide information about new releases and ongoing developments. The content will be regularly updated with answers to frequent questions related to LS-DYNA.

LS-DYNAsupport will not provide information on activities of your local LS-DYNA distributor as seminars, promotions, etc. We may ask to check the local sites for any kind of non-technical information.

### Among the recent updates - please visit the site for the pdf files.

Nov 20, 2012	History Variables for Certain Material Models	October 23	The tension test
Nov 19, 2012	Contact types	October 23	A pathological case of volume locking in triangular elements
Nov 19, 2012	How contact works	October 23	Material model for TRIP-steels
Nov 17, 2012	Find and remove initial penetrations	October 23	History Variables for certain material models
October 25 <sup>th</sup>	Install a new network license (Microsoft Windows)		

# Total Human Model for Safety - THUMS

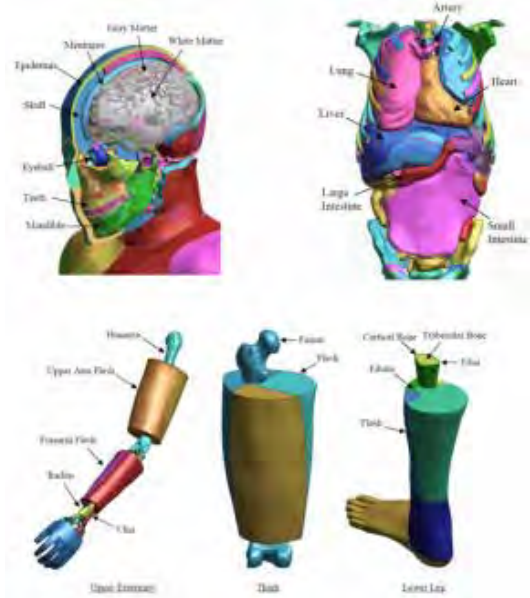
LSTC is the US distributor for THUMS



## 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.

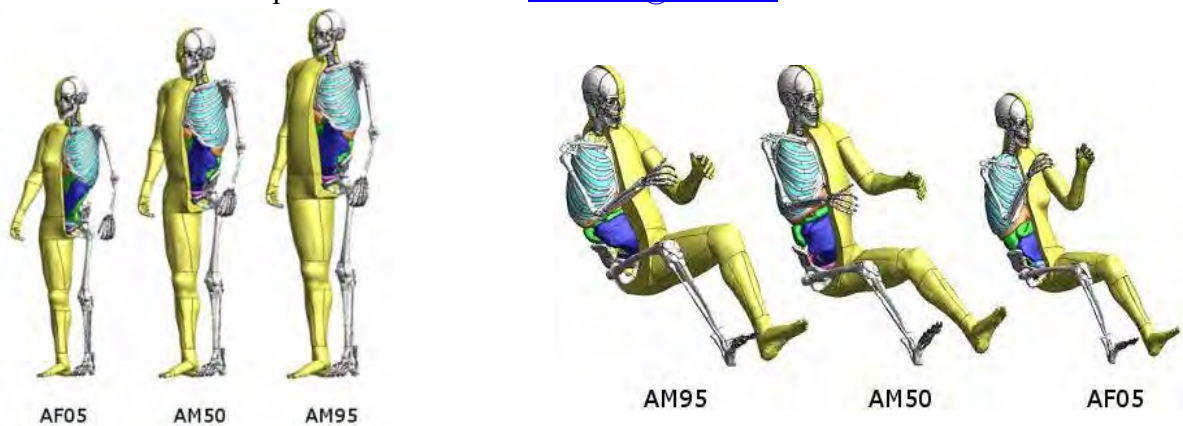


## Model Details:

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](mailto:THUMS@lstc.com).



THUMS®, is a registered trademark of Toyota Central R&D Labs.

## 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](http://www.gompute.com)

Price for computing-core/hour (CCH). Licenses and account set up are not included. Pricing valid only for universities, academic centers and research institutes. The following are trademarks or registered trademarks of Livermore Software Technology Corporation in the United States and/or other countries: LS-DYNA, LS-OPT, LS-PrePost, LS-TaSC. Gompute is owned and operated by Gridcore AB, 2012 All rights reserved.





### **Gompute User Meeting 2013**

April 23rd -24th, 2013

8th Gompute User Meeting

Scandic Crown Hotel,  
Göteborg Sweden.

#### **Meetings:**

Tuesday the 23rd 8 am until 5 p.m.

Wednesday 24<sup>th</sup>, 9 am until 4 pm.

#### **Evening event** takes place at:

Villan Chalmers

Tuesday 23rd of April at 7 pm

The Gompute User Group Meeting is a conference oriented to the simulation industry which provides an opportunity to professional users and providers to share knowledge and meet personally. Here you can find more about simulation software, high performance computing hardware and other people experiences in the field of simulation.

**Scope of the Meeting:** The use of numerical simulations for the evaluation of prototypes and processes is a growing industry which allows time shortening of development. This takes place in many different areas as Continuum Mechanics, Computational Chemistry, Electromagnetics, Risk modeling, Rendering, etc. Commercial implementations of such a tool has gained in maturity and reliability and the Simulation Industry is a growing market which naturally prompts other associated areas such as High performance computing hardware and System integration.

The intention of the Organizing Committee for Gompute Users Meeting 2013 is to gather all

relevant actors in the Simulation Industry in the Nordic countries:

1. Engineers (Fluid Dynamics, Stress analysis, Electromagnetism)
2. Scientific users
3. Decision makers for HPC investments
4. Contractors
5. Academics
6. Users in general

#### **Topics to be covered by the convention are:**

1. Simulation Tools (both commercial and free), this includes: Fluid Dynamics, Stress Mechanics, Visualization, Mesh generation, Model Optimization, etc...
2. Simulation Techniques
3. Computing Hardware
4. Linux for High Performance Computing.

**Registration:** This event is free of charge. To register for the event please visit: [www.gompute.com](http://www.gompute.com)

We hope to meet you at Gompute User Meeting!



**Chevrolet Corvette 1957**

**2014 Chevrolet Corvette is all About the Aero Purposeful beauty in new design contributes high-speed stability, track capability**

**Chevrolet will introduce the 2014 Corvette on Sunday, January 13, 2013.**

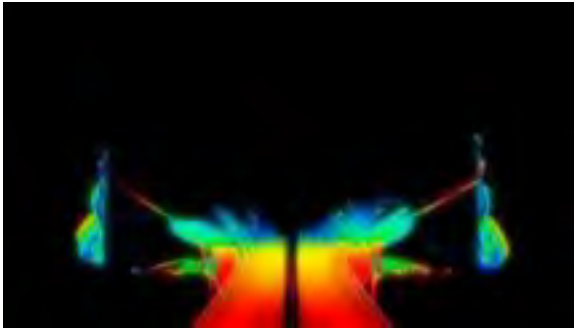
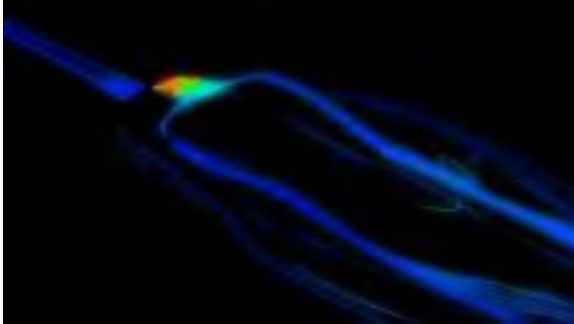
**DETROIT – The precisely sculpted design of the all-new 2014 Corvette delivers more than just stunning good looks – every line, vent, inlet and surface has been optimized for performance.**

“The all-new Corvette integrates more high-performance aerodynamic features than ever before, many taken directly from Corvette Racing,” said Tadge Juechter, Corvette chief engineer. “For example, the front grill and radiator flow paths reduce lift, improving vehicle stability at high speeds by keeping the car pressed to the pavement. In addition, functional vents increase track capability by channeling air to the brakes, as well as heat exchangers for the transmission and differential.”

To develop the aerodynamic package, engineers started with data gleaned from years of on-track, high-speed performance from the Corvette Racing program – the most successful program ever in the American Le Mans Series

and the 2012 GT Class champion. These techniques were applied to the production car using some of the industry’s most advanced computer-aided modeling programs to predict and track airflow over, under and through the new Corvette’s body.

“Its sculpted design excites in all the ways that a Corvette has for six decades, with elements carefully shaped in the wind tunnel to increase airflow potential and improve cooling for a system that is as efficient as possible,” said Kirk Bennion, Corvette exterior design manager. “It’s said that form follows function, but in the case of the aerodynamic 2014 Corvette, form and function work cohesively to produce beautiful purpose.”



**The design of the all-new, 2014 Chevrolet Corvette leverages lessons learned from Corvette racing to reduce lift for greater high-speed stability, in addition to directing cooling air to the brakes, transmission and differential for increased track capability.**

Chevrolet will introduce the 2014 Corvette on Sunday, January 13, 2013. For more information and video content, please visit [www.one13thirteen.com](http://www.one13thirteen.com). Enthusiasts can join the conversation about the next-generation Corvette, as well as keep track of new announcements on Facebook.

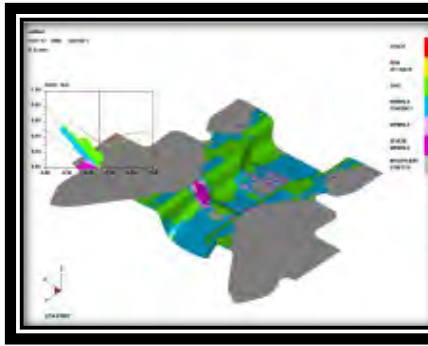
([facebook.com/corvette](https://www.facebook.com/corvette)) and Twitter ([#Corvette](https://twitter.com/Chevrolet)). Fans that follow the #one13thirteen hashtag on Twitter can look forward to exclusive updates.

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 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](http://www.chevrolet.com).

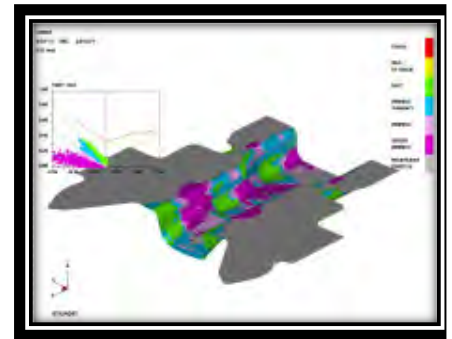
[http://media.gm.com/media/us/en/gm/news.detail.html/content/Pages/news/us/en/2012/Nov/11\\_15\\_vette\\_aero.html](http://media.gm.com/media/us/en/gm/news.detail.html/content/Pages/news/us/en/2012/Nov/11_15_vette_aero.html)

## LS-OPT® Incorporated into DYNAFORM's Formability Simulation Module

Optimization of sheet metal forming is now possible using DYNAFORM™.

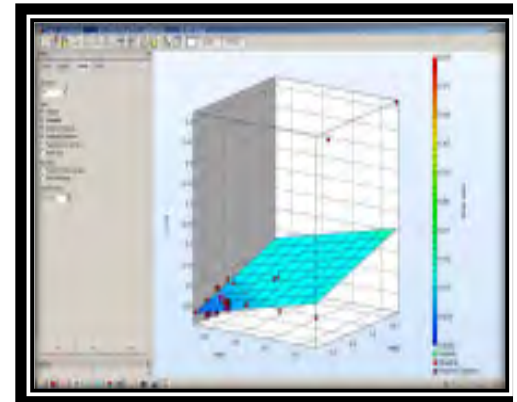


LS-DYNA® based\*, for accuracy, this die system simulation solution is now enhanced with LSTC's LS-OPT®. The feature has been integrated into the DYNAFORM™ Formability Simulation (FS) module.



For many years, tooling engineers have used DYNAFORM™ as a virtual tryout for metal stamping. Now, engineers can go beyond identifying problem areas by incorporating design optimization to improve performance and quality - reducing wrinkling, thinning and tearing. In the simulations shown above, severe wrinkling is greatly reduced (purple areas above).

With this module, the engineer can more effectively design drawbeads that restrict the blank from wrinkling & splitting during the forming process, significantly reducing the time required to achieve a formable part.



It streamlines the challenging and time consuming process of laying out drawbeads for large and complicated parts and guides the engineer to efficiently achieve optimum configurations for drawbead forces

The incorporation of optimization streamlines die design, improves product performance and reduces manufacturing time by using simulation iterations as a search engine for the best possible design solution. As a result, higher performing, higher quality products can be developed, while greater manufacturing efficiency is achieved.

For more information, please visit <http://www.eta.com> or email [etainfo@eta.com](mailto:etainfo@eta.com).

\*LS-DYNA® & LS-OPT® are trademarks of LSTC.

November 13, 2012

For complete Information: <http://gns-mbh.com>



### **Animator 4 v2.0.2 released**

Animator4 v2.0.2 is put to the public download area.

Bug fixes and small improvements are in this version.

High performance and resource efficient FEA post-processor

### **Animator 4 v2.0.2 released**

Animator4 v2.0.2 is put to the public download area. Bug fixes and small improvements are in this version.

Among the new features of this version are:

- Interactive pid explode with mouse
- Session File Debugger with Breakpoints and Stepwise execution
- Femzip support for Radioss animation files
- Enhanced turbo mode, OpenGL 3.3 now required for turbo mode
- Enhanced rendering for multiple transparent layered parts

### **The Trendsetting Post-Processor for FEM Analysis**

#### **Animation tool for handling extremely large finite element models**

Animator4 is a high performance and resource efficient FEA post-processor for animating and analyzing extremely large finite element models.

The reading of more than 10 different formats is supported. This includes but is not limited to LS-Dyna, Nastran, Madymo

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.

[http://investors.cray.com/phoenix.zhtml?c=98390&p=irol-newsArticle\\_print&ID=1758429&highlight=](http://investors.cray.com/phoenix.zhtml?c=98390&p=irol-newsArticle_print&ID=1758429&highlight=)

Nov 14, 2012 -- At the 2012 Supercomputing Conference in Salt Lake City, UT, global supercomputer leader Cray Inc. (NASDAQ: CRAY) today announced the Company has won seven awards from the readers and editors of HPCwire, as part of the publication's 2012 Readers' and Editors' Choice Awards. The five Readers' Choice Awards and two Editors' Choice Awards combine for the most awards Cray has ever won in a single year.

This year's awards include:

- Readers' Choice: Best Application of "Green Computing" in HPC (the Cray XK7 "Titan" supercomputer at Oak Ridge National Laboratory)
- Readers' Choice: Best HPC Server Product or Technology (Cray XE6 supercomputer)
- Readers' Choice: Best HPC Collaboration between Government and Industry (Cray, Oak Ridge National Laboratory, U.S. Dept. of Energy, AMD and NVIDIA for the Cray XK7 "Titan" supercomputer)
- Readers' Choice: Top 5 New Products or Technologies to Watch (Cray XK7 supercomputer)
- Readers' Choice: Top 5 Vendors to Watch
- Editors' Choice: Top 5 New Products or Technologies to Watch (for the OpenACC Directives, shared between Cray, NVIDIA, PGI and CAPS)

- Editors' Choice: Top 5 Vendors to Watch

"One of the highlights of the annual Supercomputing Conference each year is the unveiling of the HPCwire Readers' and Editors' Choice Awards, and it's a real honor that our Company's efforts this year have resulted in seven awards, which is a new record for us," said Peter Ungaro, president and CEO of Cray. "These awards are a result of the hard work our employees company-wide have put towards designing, developing and implementing world-class high performance computing technologies. Whether it's through collaboration with our customers or working closely with our various partners, our goal is to be a leader in supercomputing, and these HPCwire awards are a nice acknowledgement of our efforts. I would also like to congratulate Appro on their two HPCwire awards, and we look forward to the capabilities a combined company will bring to the HPC and Big Data marketplaces."

The highly coveted HPCwire Readers' and Editors' Choice Awards are determined through online polling of the global HPCwire audience for the Reader's Choice Awards, combined with a rigorous selection process for the Editors' Choice Awards, where winners have been selected by a panel of editorial and executive staff, recognized HPC luminaries, and contributing editors from across the industry. The awards are an annual feature of the publication and constitute prestigious recognition from the HPC community. The awards are presented each year to kick off the Supercomputing Conference, which showcases high performance computing, networking, storage and data analysis.

#### About Cray Inc.

As a global leader in supercomputing, Cray provides highly advanced supercomputers and world-class services and support to government, industry and academia. Cray technology is designed to enable scientists and engineers to achieve remarkable breakthroughs by accelerating performance, improving efficiency and extending the capabilities of their most demanding applications. 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](http://www.cray.com) for more information.

#### Safe Harbor Statement

This press release contains forward-looking statements within the meaning of Section 21E of the Securities Exchange Act of 1934 and Section 27A of the Securities

Act of 1933, including, but not limited to, statements related to the expected consummation of the acquisition of Appro and the expected benefits of the potential acquisition of Appro. These statements involve current expectations, forecasts of future events and other statements that are not historical facts. Inaccurate assumptions and known and unknown risks and uncertainties can affect the accuracy of forward-looking statements and cause actual results to differ materially from those anticipated by these forward-looking statements. Factors that could affect actual future events or results include, but are not limited to, the risk that the acquisition is not consummated when expected, or at all, the risk that Cray is not able to realize the expected benefits of the acquisition and such other risks as identified in the Company's quarterly report on Form 10-Q for the quarter ended September 30, 2012, and from time to time in other reports filed by Cray with the U.S. Securities and Exchange Commission. You should not rely unduly on these forward-looking statements, which apply only as of the date of this release. Cray undertakes no duty to publicly announce or report revisions to these statements as new information becomes available that may change the Company's expectations.

Cray is a registered trademark of Cray Inc. in the United States and other countries, and Cray XK7 and Cray XE6 trademarks of Cray Inc. Other product and service names mentioned herein are the trademarks of their respective owners.

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Author: Ramesh Venkatesan



**Mr. Abhijit Majage**  
joins  
**Kaizenat Technologies Pvt. Ltd**

We are happy to announce that Mr. Abhijit Majage is joining our technical support team.

Abhijit will be helping Kaizenat customers on technical queries & advanced training, for our customers in Pune Region.

He comes with rich CAE experience:

- 13 years of LS-DYNA CAE experience on crash & Safety using LS-DYNA
- Managed CAE department with 70 + Analysts with 3 regional Centre of Competencies.
- Extensive CAE experience on European OEMs at Germany Onsite
- Handled 100 % CAE projects for Japanese big Tier I supplier

The Kaizenat team now numbers seven, focusing on LS-DYNA.

- 5 on our technical team
- 2 on our non-technical team

### **Locations and Technical Team Members**

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Ph: +91 80 6535 1801/2

#### **Chennai Office:**

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Shankar Nagar, Pammal  
Chennai-600 075  
Ph:+ 91 44 6545 1801



# LS-DYNA® SMP PRICING



## LS-DYNA® SMP Version for Windows Workstations

**(does NOT include server versions)**



### SMP version license only, (**LS-DYNA MPP is not included**)

- Workstation versions of Microsoft Windows®
  - Version XP and above.
- Executable is node locked to a single user workstation.
- Simultaneous jobs permitted, up to a total in-use core count of 16.
  - 16 one-core, 8 two-core, 4 four-core, etc.,
- In general the scaling of SMP version is comparable to MPP versions

### Includes:

- Pre- and Postprocessor LS-PrePost®
- Optimization Software: LS-OPT® and LS-TaSc™
- LSTC dummy and barrier models
- All Features of LS-DYNA® are included: Explicit, Implicit, CFD, Thermal,...

For Information contact LSTC.



Livermore Software Technology Corp. ,

7374 Las Positas Road, Livermore, CA 94551

Telephone: (925) 449-2500 • Fax: (925) 961-0806

[www.lstc.com](http://www.lstc.com) [sales@lstc.com](mailto:sales@lstc.com)

November 21, 2012



The Toyota Racing Dream Build Challenge competition yielded four exciting and completely unique vehicles.

The Dream Build Challenge featured Toyota NASCAR drivers Clint Bowyer and Kyle Busch, plus NHRA drivers Alexis DeJoria and Antron Brown in a friendly build competition



### **Grand Prize Winner Announced in Toyota Racing Dream Build Challenge**

#### **Dream Trip Grand Prize Gives Lucky Fan Choice of NASCAR or NHRA Race Experience**

The Dream Build Challenge featured Toyota NASCAR drivers Clint Bowyer and Kyle Busch, plus NHRA drivers Alexis DeJoria and Antron Brown in a friendly build competition. TORRANCE, Calif., Nov. 21, 2012 — The Toyota Racing Dream Build Challenge, having already donated \$50,000 to winner Kyle Busch's charity and another \$50,000 split among the other three teams' charities, has one more big prize to give to a lucky fan: The Toyota Racing Dream Trip Grand Prize. That fan is Christina R. from Buckeye, Ariz.

Christina will receive her choice of either a NASCAR or NHRA race event experience,

both of which were exclusively tailored for the Dream Build Challenge. But she leaves little doubt what her likely choice will be.

"We're huge into Sprint Cup," said Christina. "We like all the Toyota drivers [and] we're huge fans of Kyle Busch."

The NASCAR edition of the Dream Race Trip includes two grandstand tickets, two NASCAR Hot Passes and a \$1,500 American Express gift card. NASCAR's Hot Passes give fans up-close exposure to the team garages and pre-race activity during "hot" times at the track.

November 21, 2012

"We're delighted with the enthusiastic fan response to the Toyota Racing Dream Build Challenge," said Keith Dahl, Toyota national motorsports and engagement marketing manager. "We wanted to make sure the Grand Prize winner would have a truly memorable race experience, wherever they choose to go."

The Dream Build Challenge featured Toyota NASCAR drivers Clint Bowyer and Kyle Busch, plus NHRA drivers Alexis DeJoria and Antron Brown in a friendly build competition. Fans could follow each build on the Toyota

Racing Facebook page and [www.ToyotaRacingDreamBuild.com](http://www.ToyotaRacingDreamBuild.com) and vote for their favorite teams while also competing for daily \$100 gift card prizes.

The competition yielded four exciting and completely unique vehicles conceived by the Toyota drivers and their build teams. In the end, Kyle Busch and the Rowdy Edition Camry emerged victorious, and took home first place. All vehicles were featured in Toyota's booth at the 2012 SEMA Show in Las Vegas, Nev.

**BETA CAE Systems S.A.**[www.beta-cae.gr](http://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 or 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)<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 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](http://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.

The company 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.

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

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

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.

**ETA – Engineering Technology Associates**[etainfo@eta.com](mailto:etainfo@eta.com)[www.eta.com](http://www.eta.com)**Invention Suite™**

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

Invention'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**

Invention'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](http://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](http://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.

**Compute on demand®/ Gridcore AB Sweden****[www.gompute.com](http://www.gompute.com)****[www.gridcore.se](http://www.gridcore.se)**

Compute 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/](http://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](http://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](http://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](http://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.

<b>Distribution &amp; Consulting</b>	<b>North America</b>	<b>Distribution &amp; Consulting</b>
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**Canada**      **Metal Forming Analysis Corp MFAC**      [galb@mfac.com](mailto:galb@mfac.com)  
[www.mfac.com](http://www.mfac.com)

LS-DYNA	LS-OPT	LS-PrePost	LS-TaSC
LSTC Dummy Models	LSTC Barrier Models	eta/VPG	
eta/DYNAFORM	INVENTIUM/PreSys		

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**United States**      **CAE Associates Inc.**      [info@caeai.com](mailto:info@caeai.com)  
[www.caeai.com](http://www.caeai.com)

ANSYS Products	CivilFem	Consulting ANSYS
		Consulting LS-DYNA

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**United States**      **DYNAMAX**      [sales@dynamax-inc.com](mailto:sales@dynamax-inc.com)  
[www.dynamax-inc.com](http://www.dynamax-inc.com)

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

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**United  
States**

**ESI-Group N.A**

[www.esi-group.com](http://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**

[etainfo@eta.com](mailto:etainfo@eta.com)

[www.eta.com](http://www.eta.com)

INVENTIUM/PreSy

NISA

VPG

LS-DYNA

LS-OPT

DYNAform

**United  
States**

**Gompute**

[www.gompute.com](http://www.gompute.com)

[info@gompute.com](mailto:info@gompute.com)

LS-DYNA Cloud Service

Additional software

Additional Services



**United  
States**

**Livermore Software Technology Corp**

[sales@lstc.com](mailto:sales@lstc.com)

LSTC [www.lstc.com](http://www.lstc.com)

LS-DYNA

LS-OPT

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LS-TaSC

LSTC Dummy Models

LSTC Barrier Models

TOYOTA THUMS

**United  
States**

**Predictive Engineering**

[george.laird@predictiveengineering.com](mailto:george.laird@predictiveengineering.com)

[www.predictiveengineering.com](http://www.predictiveengineering.com)

FEMAP

NX Nastran

LS-DYNA

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LS-TaSC

LSTC Dummy Models

LSTC Barrier Models

France

**DynAS+**[v.lapoujade@dynasplus.com](mailto:v.lapoujade@dynasplus.com)[www.dynasplus.com](http://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](mailto:nima.edjtemai@alyotech.fr)[www.alyotech.fr](http://www.alyotech.fr)

ANSYS

LS-DYNA

MOLDEX3D

FEMZIP

Primer

PreSys

DYNAFORM

SKYGEN

MERCUDA

MOCEM

Germany

**CADFEM GmbH**[lsdyna@cadfem.de](mailto:lsdyna@cadfem.de)[www.cadfem.de](http://www.cadfem.de)

ANSYS

LS-DYNA

optiSLang

DIGIMAT

ESAComp

AnyBody

VPS

FTI FormingSuite

Germany

**DYNAmore GmbH**[uli.franz@dynamore.de](mailto:uli.franz@dynamore.de)[www.dynamore.de](http://www.dynamore.de)

PRIMER

LS-DYNA

FTSS

VisualDoc

LS-OPT

LS-PrePost

LS-TaSC

DYNAFORM

Primer

FEMZIP

GENESIS

TOYOTA THUMS

LSTC Dummy &amp; Barrier Models

Germany

**GNS**[mbox@gns-mbh.com](mailto:mbox@gns-mbh.com)[www.gns-mbh.com](http://www.gns-mbh.com)

Animator

Generator

Indeed

OpenForm

The  
Netherlands**Infinite Simulations Systems**[j.mathijssen@infinite.nl](mailto:j.mathijssen@infinite.nl)[www.infinite.nl](http://www.infinite.nl)

ANSYS Products

CivilFem

CFX

Fluent

LS-DYNA

LS-PrePost

LS-OPT

LS-TaSC

**Italy****EnginSoft SpA**[info@enginsoft.it](mailto:info@enginsoft.it)[www.enginsoft.it](http://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@dynamore.com](mailto:info@dynamore.com)

LS-DYNA

LS-TaSC

LS-OPT

LS-PrePost

LSTC Dummy Models

LSTC Barrier Models

**Sweden****DYNAMore Nordic**[marcus.redhe@dynamore.se](mailto:marcus.redhe@dynamore.se)[www.dynamore.se](http://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](mailto:info@gridcore.com)[www.gridcore.se](http://www.gridcore.se)

LS-DYNA Cloud Service

Additional software

## Switzerland

**DYNAmoreSwiss GmbH**[info@dynamore.ch](mailto:info@dynamore.ch)[www.dynamore.ch](http://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](mailto:dyna.sales@arup.com)[www.oasys-software.com/dyna](http://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](http://www.leapaust.com.au)

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

**China****ETA – China**

[lma@eta.com.cn](mailto:lma@eta.com.cn)

[www.eta.com/cn](http://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](mailto:Stephen.zhao@arup.com)

[www.oasys-software.com/dyna](http://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](mailto:info@hengstar.com)

[www.hengstar.com](http://www.hengstar.com)

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

<b>India</b>	<b>Oasys Ltd. India</b>	<a href="mailto:lavendra.singh@arup.com">lavendra.singh@arup.com</a>		
	<a href="http://www.oasys-software.com/dyna">www.oasys-software.com/dyna</a>			
	PRIMER    D3PLOT	T/HIS		
		LS-OPT	LSTC Dummy Models	LS-PrePost
		LS-DYNA	LSTC Barrier Models	LS-TaSC

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<b>India</b>	<b>EASI Engineering</b>	<a href="mailto:rvenkate@easi.com">rvenkate@easi.com</a>		
	<a href="http://www.easi.com">www.easi.com</a>			
	ANSA			
	LS-DYNA	LS-OPT	LSTC Dummy Models	LS-PrePost
			LSTC Barrier Models	LS-TaSC

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<b>India</b>	<b>CADFEM Eng. Svce</b>	<a href="mailto:info@cadfem.in">info@cadfem.in</a>		
	<a href="http://www.cadfem.in">www.cadfem.in</a>			
	ANSYS    VPS	optiSLang	ESAComp	DIGIMAT
	LS-DYNA	LS-OPT	LSTC Dummy Models	LS-PrePost
	FTI FormingSuite	AnyBody	LSTC Barrier Models	LS-TaSC

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<b>India</b>	<b>Kaizenat Technologies Pvt. Ltd</b>	<a href="mailto:support@kaizenat.com">support@kaizenat.com</a>		
	<a href="http://kaizenat.com/">http://kaizenat.com/</a>			
	LS-DYNA	LS-OPT	LSTC Dummy Models	LS-PrePost
	Dedicated to LSTC Software		LSTC Barrier Models	LS-TaSC

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**Distribution & Consulting****Asia Pacific****Distribution & Consulting**

Japan

**ITOCHU**

LS-dyna@ctc-g.co.jp

[www.engineering-eye.com](http://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](http://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>

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LSTC Barrier Models

CLOUD Services



Korea

**THEME**[wschung@kornet.com](mailto:wschung@kornet.com)[www.lsdyna.co.kr](http://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](mailto:young@kostech.co.kr)[www.kostech.co.kr](http://www.kostech.co.kr)

LS-DYNA

LS-OPT

LS-PrePost

LS-TaSC

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LSTC Barrier Models

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FCM

eta/DYNAFORM

DIGIMAT

Simuform

Simpack

AxStream

TrueGrid

FEMZIP

Taiwan

**Flotrend**

[gary@flotrend.tw](mailto:gary@flotrend.tw)

[www.flotrend.com.tw](http://www.flotrend.com.tw)

LS-DYNA

LS-OPT

LS-PrePost

LS-TaSC

LSTC Dummy Models

LSTC Barrier Models

eta/VPG

FCM

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Taiwan

**APIC**

[www.apic.com.tw](http://www.apic.com.tw)

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Germany

Gridcore [www.gridcore.se](http://www.gridcore.se)

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Sweden

Gridcore [www.gridcore.se](http://www.gridcore.se)

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United States

Gompute [www.gompute.com](http://www.gompute.com)

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The Complete Courses Offered Can Be Found At: [www.cadfem.de](http://www.cadfem.de)

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

Classroom-Seminar: Geometry modelling with  
ANSYS DesignModeler and basics of meshing

02/12 - Grafing (DE)

02/26 - Wien (AT)

Classroom-Seminar: Geometry modelling with  
ANSYS SpaceClaim Direct Modeler and basics  
of meshing

02/21 - Berlin (DE)

02/26 - Wien (AT)

Classroom-Seminar: Introduction to explicit  
structural mechanics with LS-DYNA

02/20 - Chemnitz (DE)

Classroom-Seminar: Advanced explicit  
structural mechanics with LS-DYNA

03/20 - Chemnitz (DE)

Classroom-Seminar: Simulation of composites  
with ANSYS Composites PrepPost and LS-  
DYNA

04/25 - Grafing (DE)

Classroom-Seminar: Optimization and reverse  
engineering with optiSLang inside ANSYS  
Workbench

01/22 - Grafing (DE)

03/11 - Aadorf (CH)

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](http://www.dynamore.de/en)

Intro LS-DYNA

09/20/12 10/15/12 10/30/12 12/10/12

Crash Analysis

12/04/12

Contact Definitions

10/18/12

ALE

10/11/12

Plasticity

10/24/12

Meshless Methods

10/11/12

Users Interfaces

11/19/12

The Complete Courses Offered Can Be Found At: [www.lstc.com](http://www.lstc.com)

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

January 21-22, 2013	Implicit Analysis with LS-DYNA	MI
January 28, 2013	Introduction to LS-PrePost (no charge)	CA
Jan. 29 - Feb. 1, 2013	Introduction to LS-DYNA	CA
February 25-27, 2013	ALE/EULERIAN & Fluid/Structure Interaction in LS-DYNA	CA
February 28-March 1, 2013	Smoothed Particle Hydrodynamics (SPH) in LS-DYNA	CA
March 14-15, 2013	Blast & Penetration	MI
March 18, 2013	Introduction to LS-PrePost (no charge)	MI
March 19-22, 2013	Introduction to LS-DYNA	MI
March 19-20, 2013	Advanced Options in LS-DYNA	CA
March 21-22, 2013	Contact in LS-DYNA	CA

The Complete Courses Offered Can Be Found At: [www.dynamore.se](http://www.dynamore.se)

Please check the site for accuracy and changes.

Among the many course offerings are the following:

LS-PrePost 3, introduction November 26	ANSA & Metapost, introductory course October 9
LS-DYNA, introductory course November 27	Contacts in LS-DYNA October 12
LS-DYNA, implicit analysis October 2	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](http://www.dynasplus.com)

Please check the site for accuracy and changes.

## 2012

LS-DYNA – Plasticity, Damage & Failure –  
By Paul DU BOIS (to be held in Paris)  
10-11/12

LS-DYNA ALE / FSI  
04-05/02 & 14-15/10

LS-DYNA SPH  
13-14/05 & 7-8/10

## DynAS+ regular training class in 2013

LS-DYNA Introduction Explicit Solver  
09-11/09

LS-PrePost 3.X/4.X – Advanced meshing  
capabilities  
11/04 & 26/09 & 15/11

LS-DYNA Introduction Implicit Solver  
23/09

LS-DYNA User Options  
15-16/05

LS-DYNA Unified Introduction Implicit &  
Explicit Solver  
14-17/01, 17-20/06 & 09-12/12

LS-DYNA – Plasticity, Damage & Failure –  
By Paul DU BOIS  
26-27/11

LS-OPT & LS-TaSC Introduction  
06-07/02 & 16-17/10

LS-DYNA – Polymeric materials – By Paul  
DU BOIS  
28-29/11

Switch to LS-DYNA  
8-9/04 & 12-13/11

LS-DYNA – Geo-material modeling  
27-28/05

Switch from Ls-PrePost 2.X to 3.X/4.X  
10/04 & 25/09 & 14/11

LS-DYNA – Geo-material calibration  
29/05

LS-DYNA Advanced Implicit Solver  
24/09

LS-DYNA Introduction -Forming  
18-21/03



### Users LS-DYNA Days

Alyotech will be hosting two Users Days this year. These events will focus on the 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 September 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](mailto:support.ls-dyna@alyotech.fr)

**Engineering Technology Associates**

The Complete Courses Offered Can Be Found At: [www.eta.com](http://www.eta.com) [etainfo@eta.com](mailto:etainfo@eta.com)

Please check the site for accuracy and changes.

Among the many course offering are the following:

**Introduction to DYNAFORM**

November 6th

December 4th

**Introduction to PreSys**

November 13th

December 11th

**Introduction to LS-DYNA**

November 20th

December 18th

The Complete Courses Offered Can Be Found At: [www.caeai.com](http://www.caeai.com)

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

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

**Partial Listing**

Nov 01, 2012	Mechanically Fastened Joints and Bolt Preload - e-Learning / Online
Assembly Modeling – eLearning / Online	
Nov 05, 2012	Nov 15, 2012
Introduction to ANSYS Mechanical APDL Part I	Mechanically Fastened Joints and Bolt Preload - e-Learning / Online
Nov 08, 2012	Dec 03, 2012
Introduction to ANSYS Mechanical APDL Part II	ANSYS DesignModeler
Nov 13, 2012	Dec 04, 2012 Introduction to ANSYS Mechanical (Workbench) /

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](http://www.alyotech.fr)

**LS-DYNA Introduction**

Nov 12-14

Dec 03-05

**LS-DYNA Implicit**

Nov 19-21

**LS-PrePost – Meshing**

Nov 26

**LS-PrePost – New Interface**

Nov 27

**LS-OPT Introduction**

Dec 10-11

**LS-TaSC – Topology Optimization**

Dec 12

**Oasys LS-DYNA UK Users' Meeting 2013**

Wednesday 16th January 2013

The tenth in a series of update meetings for Oasys LS-DYNA Users will be held at our office in Solihull on Wednesday 16th January 2013.

Please note: The Meeting will run as a half day event this year with registration commencing at 1:30pm. The decision to shorten the event was taken as the European LS-DYNA Conference is also running in the UK in 2013.

As in previous years this event will bring together around 80 users of the Oasys and LS-DYNA software to provide information on upcoming features of Oasys and LS-DYNA, and to learn more about current and new applications, as well as other related software products.

We are looking forward to talks from Yun Huang (LSTC) and the Oasys team at Arup.

The event will be followed by a complimentary meal at The Boot Inn in Lapworth. Please ensure you register in advance to attend this evening meal.

**Registration**

This event is free of charge. To register for the event and the evening meal simply send an email with your company/affiliation and contact details to Katherine Groves [katherine.groves@arup.com](mailto:katherine.groves@arup.com). Please also let us know if you have any particular dietary requirements when you register.

Please note: in line with our company sustainability policy we do not plan to provide printed copies of the presentations for each attendee at the event; the presentations will be made available to download after the event. If you particularly require a printed copy on the day please let us know when you register.

JANUARY 2013

**Agenda**

[http://www.oasys-software.com/dyna/en/events/users\\_jan-13/Provisional%20Agenda%20Oasys%20LS-DYNA%20Users%20Meeting%202013.pdf](http://www.oasys-software.com/dyna/en/events/users_jan-13/Provisional%20Agenda%20Oasys%20LS-DYNA%20Users%20Meeting%202013.pdf)

A provisional agenda for the day available. These details will be confirmed closer to the event date.

**Training Courses**

The following training courses are provisionally scheduled around the time of the Oasys LS-DYNA UK Users' Meeting:

Thur 17th - Fri 18th Jan

NHV & Frequency Domain Analysis in LS-DYNA

The course costs listed above are per attendee and do not include VAT or any travel / accommodation expenses. For more details please follow the link to the course page.

**Venue**

The event will be held at The Arup Campus, Blythe Valley Park, Solihull, B90 8AE. Blythe Valley Park is located at junction 4 of the M42; please click here for a PDF map. Details for public transport to the Blythe Valley Park can be found on the Blythe Valley Park website.

**Meal after the event**

The meal following the event will be held at The Boot Inn, Old Warwick Road, Lapworth, B94 6JU. The size of the restaurant is limited so please ensure you confirm to us that you plan to attend to avoid disappointment on the night. For a detailed map of the location please click here.

**Contact Details**

If you would like more information on this event please contact:

Katherine Groves

Oasys LS-DYNA Project Administrator, Arup

T +44 (0) 121 213 3291

E [katherine.groves@arup.com](mailto:katherine.groves@arup.com)

May 2013 By: Dr. Nielen Stander, LSTC

### 10th World Congress on Structural and Multidisciplinary Optimization

May 19-24, 2013, Orlando, Florida, USA

#### Session Announcement:

#### "Optimization in Nonlinear Dynamics"

#### Organized by:

**Dr. Nielen Stander**

**LSTC**

held at 10th World Congress on Structural and Multidisciplinary Optimization

"I am organizing a session on "Optimization in Nonlinear Dynamics" at the next conference of the *International Society for Structural and Multidisciplinary Optimization* (WCSMO10). As a user of LS-DYNA, I would like to invite you to submit an abstract to this session. In order for me to provide early feedback, interested participants may submit their abstracts to [nielen@lstc.com](mailto:nielen@lstc.com) a week or two prior to the deadline." Nielen Stander

#### Contributions for this session may include:

- Crashworthiness Optimization
- Optimization in Fluid Dynamics
- Optimization in Reactive Flow
- Optimization in Electromagnetics
- Optimization in Fluid-Structure Interaction
- Optimization using LS-DYNA
- Parameter Identification of Nonlinear Materials
- Topology Optimization in Nonlinear Dynamics

**\*Final abstracts must be submitted, directly through the conference website, by January 15, 2013.\***

General information about the conference can be found on the conference web site

<http://conferences.dce.ufl.edu/wcsmo-10> .

Nielen Stander  
([nielen@lstc.com](mailto:nielen@lstc.com))

The 500 words abstract submission deadline is January 15, 2013



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!



June 2013

**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](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

**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](http://www.twitter.com/cray_inc)

ESI Group

<http://twitter.com/ESIGroup>

ETA

[http://twitter.com/ETA\\_Inc](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](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](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>

## Joint Venture Framework agreement between AVIC-BIAM and ESI Group

Excerpt – for complete press release visit: [www.esi-group.com](http://www.esi-group.com)



Zhuhai, China – 19 November, 2012 – ESI Group, announces the signature of a joint venture framework agreement with BIAM, the Beijing Institute of Aeronautical Materials. Executed during the 9th Zhuhai International Airshow, a biennial aerospace trade show and the largest showcase for China's aviation and aerospace industry.

This agreement builds on a strategic partnership agreement signed in Paris on 13 June, 2011.

Signing of the Joint Venture Framework Agreement between BIAM and ESI

### A new step in their strategic cooperation

As one of the core scientific Research Centers of AVIC (the Aviation Industry Corporation of China), BIAM is responsible for Research in Materials Technology and the manufacturing of advanced materials for aeronautical applications. BIAM's mission naturally complements the focus of ESI Group on Virtual Manufacturing and Virtual Testing as the foundation of Virtual Prototyping and of the holistic vision of Virtual Engineering. The new joint venture will engage in providing solutions that are based on realistic and reliable material modeling, and proven physical manufacturing and performance testing by proven virtual processes.

At the signing ceremony held in Zhuhai on 15 November, Dr Dai ShengLong, President of BIAM, stated “Today, sciences, technology and economy are developing fast. In this key stage of strategic transformation, BIAM will collaborate with ESI as a world class partner by joining expertise in complementary technologies. Together, we will establish a Joint Research & Development Center and Joint Venture Company. Our aim will be to transform innovation technology and marketing, and to create a new future for advanced materials science, technology and industry development.”

Dr Alain de Rouvray, Chairman and CEO of ESI Group, responded to Dr Dai by commenting that “Today new materials are at the core of industrial innovation and business competitiveness”. Adding: “A successful partnership requires three symbiotic constituents: Trust, Alignment, and Ambition. BIAM and ESI have, through several years of successful collaboration, experienced and shared all three. The Joint Venture will consolidate the commitment to “co-create” the innovative solutions of the future.