Volume 7, Issue 03, March 2018

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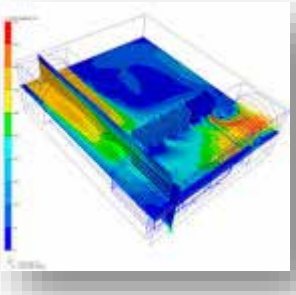

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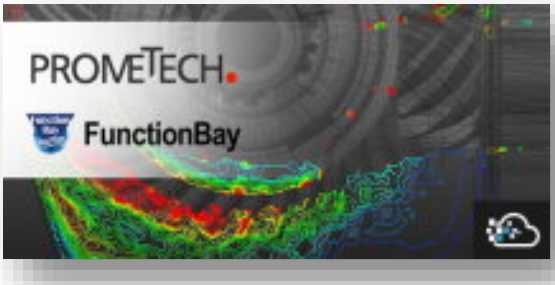

The publication's focus is engineering technical solutions/information.

FEA Engineering Solutions

www.feapublications.com

Contact: Marsha - mv@feainformation.com

FEA Information China Engineering Solutions

Simplified and Traditional Chinese

Contact: Yanhua - yanhua@feainformation.com

Platinum Particpants

Platinum Particpants

BETA SIMULATION SOLUTIONS

MSC Materials Sciences Corporation

eta

esi get it right

JSOL

恒士达科技 Hengstar Tech.

Oasys The Software House of Arup

rescale

Finite Element Analysis Predictive Engineering

FEA Not To Miss

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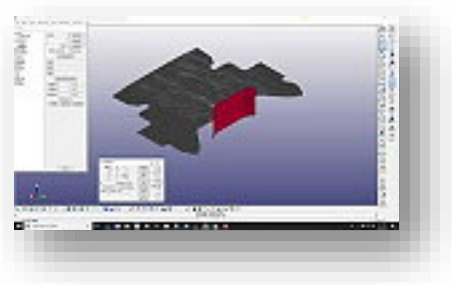
New YouTube Channel for Tutorials by Jeanne He



Create Guide and Binder Wall function in LS-Prepost

Announcement and Call for Papers
15th German LS-DYNA Forum 2018

October 15 - 17 2018, Bamberg, Germany
www.dynamore.de/forum2018-e

FEA Participants at the 15th International LS-DYNA Conference booth(s)

100	ETA	www.eta.com
101	Oasys	www.oasys-software.com/dyna/en /
103	DatapontLabs	www.datapointlabs.com/
107	JSOL	www.jsol.co.jp/english/cae
201	BETA Simulation Solutions	www.beta-cae.com /
301	Predictive Engineering	www.predictiveengineering.com
303	Shanghai Hengstar Technology	www.hengstar.com
400	DYNAmore GmbH & LSTC	www.lstc.com
401	FEA Information	www.feainformation.com

If you have any questions, suggestions or recommended changes, please let us know.
Contact: Marsha mv@feainformation.com

Developing CAE software systems for all simulation disciplines. Products: ANSA pre-processor/ EPILYSIS solver and META post-processor suite, and SPDRM, the simulation-process-data-and-resources manager, for a range of industries, incl. the automotive, railway vehicles, aerospace, motorsports, chemical processes engineering, energy, electronics…

Among the BETA CAE Systems announces the release of the v18.0.2 of its software suite

Please visit BETA CAE for complete article:

www.beta-cae.com/news/20180213_announcement_suite_v18.0.2.htm

About this release: BETA CAE Systems announces the release of the version 18.0.2 of its software suite with new tools and capabilities to further augment functionality and facilitate CAE processes. The most important enhancements implemented are listed below.

Enhancements and known issues resolved in ANSA

Data management

- It is now possible to check real-time whether the Model Browser entities of a model exist in DM with the aid of the new column labeled "DM".
- When replacing a Part with a different version in DM, the internal Model Setup entities of the outgoing part would be kept, resulting in duplicated entries in the database.

Connections & Assembly

- Several enhancements have been made for the function Connector>New[From A_POINTs(auto)] that creates connectors from pairs of Assembly Points. The function can now run on visible A_POINTs only, while in preview mode, it offers improved handling of connectors that through both the list and the drawing area.

Task Manager

- The option of generating video files (already available in Morphing Parameters), has been added in the context menu of the Optimization Task.

Kinetics

- The animation of deformations/ stresses/ strains for flex bodies consisting of solid elements is now supported.

Plugins

- The Laminate Convert can be used for PAMCRASH model set-up.

Known issues resolved in ANSA

CAD Data to ANSA Translators

- The parallel translation processes by multiple users logged in the same workstation and a common tmp directory would not be successful.

Model Browser

- The ANSA id of a part could be changed when saving and re-opening a database.

Data Management

- Applying the Change Representation > Lumped Mass function on a part, might double the mass of the part.

Connections & Assembly

- The Auto-Connect function would erroneously detect the same part multiple times in case of unmeshed geometry.

Shell Mesh

- When pasting nodes and single bounds changed to double bounds, the FE perimeters would not get updated automatically.
- The function Wrap > Constant Length would not take into account the middle nodes and could thus generate intersections in the "Shells out of structure" mode.

Volume Mesh

- The resulting number of Steps and Distance would occasionally differ from the given values.

Decks

- The function Util>Change Type would corrupt the ANSA database file when features or FE perimeters were present.

NASTRAN

- The Header would fail to read command entries that extended to more than one lines.

…(complete information on website…)

Known issues resolved in META

Decks

- LS-DYNA: INCLUDE TRANSFORM and INCLUDE PATH keywords would not be read correctly.

d3VIEW is a data to decision platform that provides out-of-the box data extraction, transformation and interactive visualizations. Using d3VIEW, you can visualize, mine and analyze the data quickly to enable faster and better decisions.

d3VIEW is a data to decision platform that provides out-of-the box data extraction, transformation and interactive visualizations.

Using d3VIEW, you can visualize, mine and analyze the data quickly to enable faster and better decisions.

Overview - d3View can integrate with any High Performance Computing (HPC) systems to submit and track jobs, perform complex data transformations using a rich library of templates that can help turn data to information, help visualize thousands of data using rich powerful visualizations, export to reports to share and collaborate.

HPC Interactions - Using the HPC application, you can submit and track simulation or non-simulation jobs that require compute resources…

Visualize your Data - View your data using extensive library of visualizations to understand your information and to help you make decisions quickly….

Introducing Peacock beta - View your 3D data using our native Multi-threaded GPU-Powered Visualizer….

Track Key Performance Targets and Indexes
Define and track key performance targets across simulations and tests to help you identify your design performance…

Design of Experiments (DOE) Data Visualizer - Viewing data from your DOE runs can be challenging when running simulations on the cloud or on-premise HPC system..

Experimental Data - d3VIEW's data to decision framework supports storing, organizing and visualization of experimental data…

Author: Christian Frech christian.frech@dynamore.de Contact: forum@dynamore.de

Announcement and Call for Papers

15th German LS-DYNA Forum 2018
October 15 - 17 2018, Bamberg, Germany
www.dynamore.de/forum2018-e

Call for Papers
DYNAmore kindly invites you to participate at the 15th German LS-DYNA® Forum 2018 and encourages you to actively contribute to the conference agenda by submitting a presentation about your experience with the LSTC product range. Participation without a presentation is also worth-while to exchange your knowledge and discuss new solution approaches with other users. Besides presentations from users, there will be also selected keynote lectures of renowned speakers from industry and universities as well as developer presentations from LSTC and DYNAmore. The popular workshops on various topics will also be continued.

We hope that we have stimulated your interest and are looking forward to receiving your abstract and to seeing you in Bamberg.

Attending
In user presentations from industry and academia you will learn more about the software packages LS-DYNA®, LS-OPT®, LS-TaSC™ and LS-PrePost®, as well as their application possibilities for virtual product design.

Presenting
Communicate your work with international colleagues to share knowledge and to stimulate discussions with other users about new solution approaches.

Exhibiting and sponsoring
If you want to contribute, please request additional exhibitor and sponsoring information.

Venue
Welcome Kongresshotel Bamberg
Mußstraße 7, 96047 Bamberg, Germany
www.welcome-hotels.com/welcome-kongresshotel-bamberg

Conference languages
German and English

Contact
DYNAmore GmbH
Industriestr. 2, D-70565 Stuttgart, Germany
Tel. +49 (0) 7 11 - 45 96 00 - 0
E-Mail: conference@dynamore.de
www.dynamore.de

A leading innovator in Virtual Prototyping software and services. Specialist in material physics, ESI has developed a unique proficiency in helping industrial manufacturers replace physical prototypes by virtual prototypes, allowing them to virtually manufacture, assemble, test and pre-certify their future products.

Simulation of a vehicle door seal installation

ESI Customer Hwaseung R&A Manages Product Reliability while Cutting Development Time and Costs

The Korean automotive supplier leverages the power of ESI's Virtual Prototyping platform

Paris, France – March 13, 2018 – ESI Group is a leading innovator in Virtual Prototyping software and services for manufacturing industries, announces the successful application of virtual prototyping by Hwaseung R&A, Korean automotive supplier specialized in high & low pressure hoses and weather strips. Using the automation of trunk joint simulation processes in ESI Visual-Environment, the equipment manufacturer was able to correct seals defects and improve their design, while reducing development time and costs.

Hwaseung R&A, a company supplying automotive and other industrial rubber parts, faced a trunk seals issue that needed to be corrected, as it became deformed or distorted at the corners after assembly. The function of a trunk seal is to absorb vibrations and to close the gap between the vehicle body and trunk assembly. When the seal has an irregular shape the pressure on trunk panels is non-uniform, which degrades their ability to control of noise and water leakage can result in failure of trunk panels.

Hwaseung R&A's engineers looked to simulation to address their design problems and wanted a fully automatic model creation process. Their research led them to ESI's Virtual Prototyping solutions and specifically ESI Visual-Environment, a platform for Computer Aided Engineering (CAE) and simulation process automation. Working with ESI, the Hwaseung team was able to build an automated process that reduced model creation time and facilitated performance evaluation.

The process they developed uses Computer-Aided Design (CAD) geometry, product design and modelling parameters to build ready-to-run 3D models automatically. Using this process, the Korean company was able to set up parametric studies that allowed them to quickly experiment with different positioning methodologies for thread and ribbed shapes, as well as other sectional shapes.

Thanks to the solution built on ESI's Visual platform, Hwaseung R&A engineers are now able to virtually simulate the assembly of the trunk seal and evaluate its performance without using real prototypes. Chang-Soo Lee, Deputy Manager at HWASEUNG R&A Corporation, stated the custom-tailored process automation built in ESI Visual-Environment made trunk seal assembly simulation possible. We are now able to analyze the contribution of steel insert design changes using a trunk seal assembly process simulation. The solution we have built using ESI Visual-Environment is fully implemented in our production process and is used as the main tool to decide of design parameters at the initial stage and also for solving problematic issues in production.

Not only was Hwaseung R&A able to correct the trunk seal defects and reduce their development time and costs, but the process automation in Visual-Environment was so successful that it is now implemented as a standard in their design process for trunk and body seals. Today, they are also using the solution to assist building models of trunk and door closing.

For more information about ESI and Hwaseung R&A, please visit www.hsrna.co.kr/hsrnaen/
For more information about ESI Visual-Environment: www.esi-group.com/visual-environment

ETA has impacted the design and development of numerous products - autos, trains, aircraft, household appliances, and consumer electronics. By enabling engineers to simulate the behavior of these products during manufacture or during their use, ETA has been involved in making these products safer, more durable, lighter weight, and less expensive to develop.

Inventium Suite - From Concept to Product.

The Inventium Suite is an enterprise-level CAE software solution.

Inventium offers a streamlined product architecture which provides users access to all of the suite's software tools. By design it offers a high performance modeling and post-processing system, while providing a robust path for the integration of new tools and third party applications.

PreSys - Works the Way You Do

Inventium's Core FE Modeling Toolset, PreSys 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 - Analyze Mechanical Systems Accurately

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.

NISA - Solving Engineering Challenges

NISA is a robust & comprehensive Finite Element Analysis (FEA) software toolset for engineering analysis. For over three decades scientists, engineers & researchers have come to depend on NISA to solve their most complex engineering problems. It can be used on its own or with PreSys

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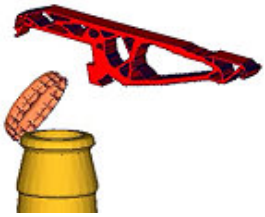
Training DYNAFORM
April 18 & 19
May 16 & 17
June 20 & 21
ETA Technology Summit
June 13
15th Int'l LS-DYNA Conference
June 10 - 12 Booth 100

FEA Not To Miss, is a weekly internet blog on helpful videos, tutorials and other Not To Miss important internet postings. Plus, a monthly email blog.

Welcome to Monday - grab a cup of coffee, tea or protein drink and join me for FEA Not To Miss Monday

Postings every Monday on what you have missed

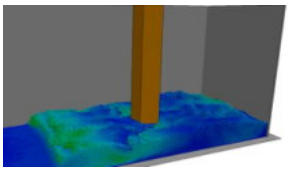
www.feantm.com



03/12 Bottle Week! We open it, THEN we drop it! You should really recycle bottles not drop them - now let's just relax and have coffee.

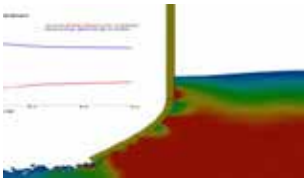
LS-DYNA simulation of a LS-TaSC optimized bottle opener in action.

LS-DYNA Simulation of a Bottle Drop Test



03/05 "Water, water everywhere, Nor any drop to drink" - good thing I serve coffee! (that quote is from The Rime of the Ancient Mariner) BUT "water" is my coffee topic hint for this week. AND here you go SPH with a nice hot cup of coffee:

LS-DYNA SPH : Dam break and wave impact on rigid column
Test problem using the SPH solver in LS-DYNA.



LS-DYNA SPH : Dam break with elastic gate - FSI Validation problem of an gate opening due to the pressure forces of water

Hengstar Technology

www.hengstar.com

Shanghai Hengstar Technology sells and supports LSTC's suite of products and other software solutions. These provide the Chinese automotive industry a simulation environment designed and ready multidisciplinary engineering needs. Sales, Consulting, Training & Support.

Hongsheng Lu welcomes you to Shanghai Hengstar Technology

Distributor in China, for FEA and CAE needs for engineers, professors, students, consultants.

Contact us for our LS-DYNA training courses, such as

- Crashworthiness Simulation with LS-DYNA
- Restraint System Design with Using LS-DYNA
- LS-DYNA MPP
- Airbag Simulation with CPM
- LS-OPT with LS-DYNA

Our classes are given by experts from LSTC USA, domestic OEMs, Germany, Japan, etc. These courses help CAE engineers to effectively use CAE tools such as LS-DYNA to improve car safety and quality, and therefore to enhance the capability of product design and innovation.

Sales & Consulting - Besides solver specific software sales, distribution and support activities, Shanghai Hengstar offers associated training and consulting services to the Chinese automotive market since April 1st, 2013

Solutions - Our software solutions provide the Chinese automotive industry, educational institutions, and other companies a mature suite of tools - powerful and expandable simulation environment designed and ready for future multidisciplinary CAE engineering needs.

Shanghai Hengstar provides engineering services, consulting and training that combine analysis and simulation using Finite Element Methods such as LS-DYNA.

hongsheng@hengstar.com
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JSOL supports industries with the simulation technology of state-of-the-art. Supporting customers with providing a variety of solutions from software development to technical support, consulting, in CAE (Computer Aided Engineering) field. Sales, Support, Training.

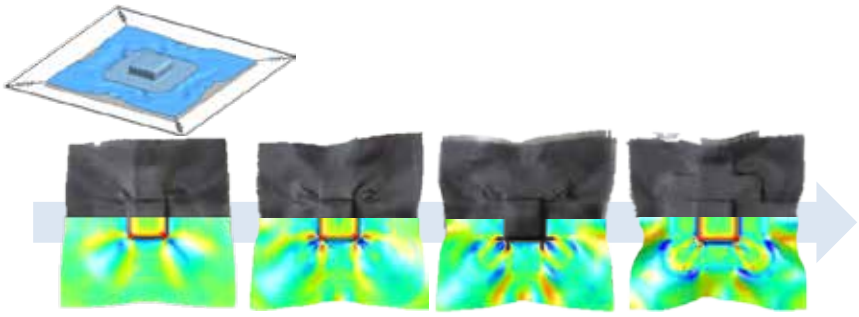
For Article and higher resolution **Contact; cae-info@sci.jsol.co.jp**

J-Composites - New tool series for process and process-chain simulations of composite materials

JSOL Corporation, a Japanese LS-DYNA distributor, released the J-Composites series. A series of new software tools to help LS-DYNA users easily conduct process/process-chain simulations of fiber reinforced composites.

Fiber reinforced composites are good alternatives for metals used in load transmission structures. The increasing requirement for high performance and weight reduction in industry has gradually expanded the use of composites. Finite element analysis as an alternative approach for experimental study is effective in designing fiber reinforced composite products because there are many design parameters. Process/process-chain simulations are especially important because the performance of the final composite part strongly depends on changes in fiber orientation during the process. In this context, JSOL is developing the J-Composites series. A series of new software tools to help LS-DYNA users easily conduct process/process-chain simulations of fiber reinforced composites.

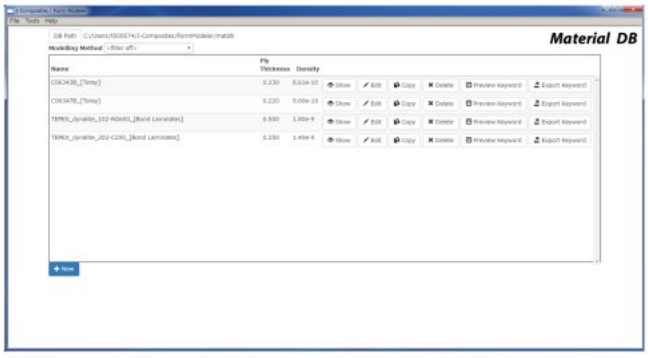
The first software tool, called J-Composites/Form Modeler, was released in August 2017, in Japan. This tool is for creating FE models for continuous fiber reinforced composite forming simulation. Users can create models that, when used with LS-DYNA, will accurately predict the macroscopic forming behavior of laminate plies made of dry fabric and thermoplastic/thermoset pre-pregs. Through simulation, this tool can help the user detect forming defects like wrinkling, fiber bridging and rupture, which leads to reduced development time and cost.



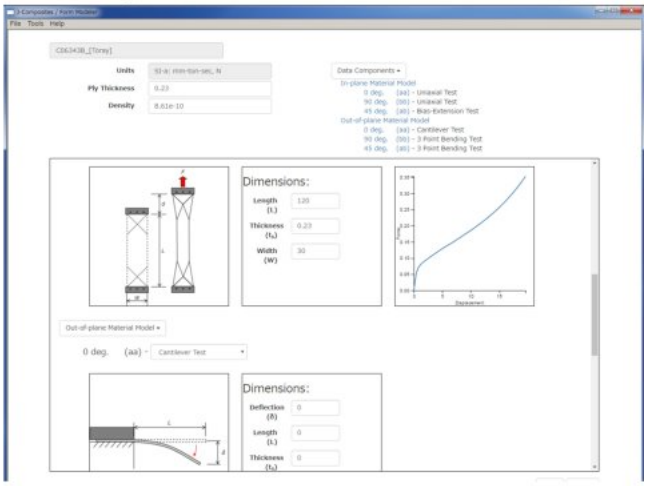
Accurate prediction of wrinkle development (Carbon fiber fabric)

The key features of Form Modeler are easy build-up of material models with automatic parameter identification based on material testing results, efficient setup of laminate modeling with the easy-to-use UI, and the mapping of forming information to crash simulation models.

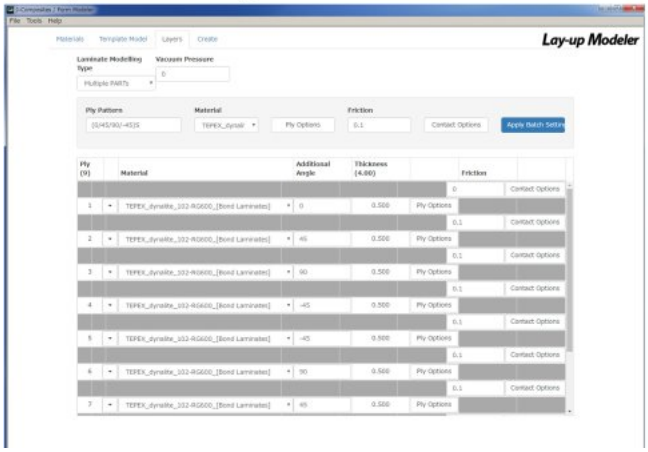
Standard material database included



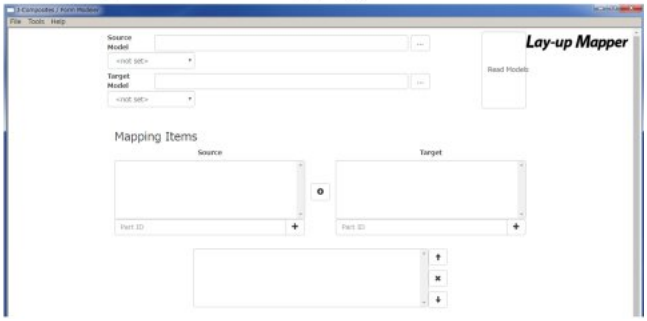
Material parameter identification



Setup laminate composition



Forming information mapping to crash model



Main functions of Form Modeler

Contact; JSOL Corporation, Engineering Technology Division, cae-info@sci.jsol.co.jp

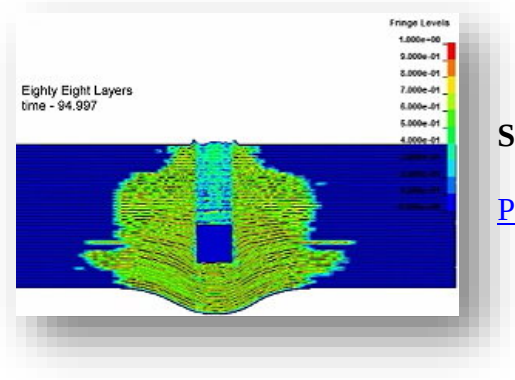
A team of engineers, mathematicians, & computer scientists develop LS-DYNA, LS-PrePost, LS-OPT, LS-TaSC, and LSTC's Dummy & Barrier models.

15th LS-DYNA® International Conference & Users Meeting

Booth Number	Sponsoring	Exhibitors and Sponsors
100	**Booth & Conference Bag**	**ETA**
101	**Booth & Mon. Lunch**	**ARUP**
102	Booth	Humanetics
103	Booth	DataPointLabs
104	Booth	CDH
105	Booth	Rescale
107	Booth	JSOL
200	Booth	Vanderplaats R & D, Inc
201	**Booth & Tues. AM Break**	**BETA CAE Systems USA Inc.**
203	Booth	Moldex3d
205	Booth	e-Xstream
206	**Booth & Mon. PM Break**	**TOTAL CAE**
207	Booth	ANSYS
300	Booth	Gompute
301	Booth	Predictive Engineering
302	Booth	OSU/SimCenter
303	**Booth & Tues. PM Break**	**Shanghai Hengstar**
307	Booth	GFAI & Franhaufer IWM
401	**Booth & Reception**	**FEA Information Inc.**
403	Booth	Penguin Computing
404	Booth	Forming Technologies Inc.
406	Booth	Detroit Engineered Products

Providing engineering services to the composites industry since 1970. During this time, we have participated in numerous programs that demonstrate our ability to: perform advanced composite design, analysis and testing; provide overall program management; work in a team environment; and transition new product development to the military and commercial sectors.

MAT162 is a material model for use in LS-DYNA that may be used to simulate the onset and progression of damage in unidirectional and orthotropic fabric composite continua due to 3D stress fields. This failure model can be used to effectively simulate fiber dominated failures, matrix damage, and includes a stress-based delamination failure criterion. This approach to predicting interlaminar failure is advantageous in cases when locations of delamination sites (i.e., interlaminar crack initiation surfaces) cannot be anticipated.

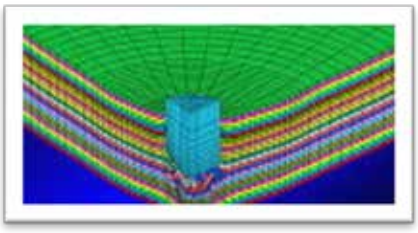


Simulation Movie

Penetration and Perforation of Moderately Thick Composites

Examples are located at www.ccm.udel.edu/software/mat162/examples /

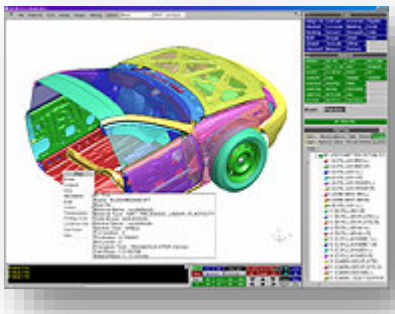
Example 1:
Sphere Impact on a Composite Laminate
Example 2:
Sphere Impact on a Perfectly Clamped Composite Plate
Example 3:
Sphere Impact on Elliptical Carbon/Epoxy Tube



High Velocity Impact of Square Plate using MAT161/162

www.youtube.com/watch?v=NgjncjfLKGw

Oasys Ltd is the software house of Arup and distributor of the LS-DYNA software in the UK, India and China. We develop the Oasys Suite of pre- and post-processing software for use with LS-DYNA.



Oasys PRIMER: The Oasys PRIMER pre-processor is designed to make preparation and modification of LS-DYNA models as fast and as simple as possible, improving user productivity and efficiency and reducing the time spent manipulating and developing models suitable for LS-DYNA.

Our priority with Oasys PRIMER is to provide complete support for every LS-DYNA keyword. The user can be assured that every model read in and written out will lose no data.

Main features:

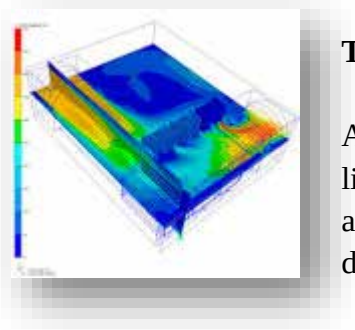
- Full support for LS-DYNA version R9.0
- Connections function for defining various connections (e.g. spotwelds, bolts) including a Autoweld function that does not require an input file
- Quick-pick menu for on-screen manipulation of entity display characteristics
- Quick-pick menu for on-screen editing of LS-DYNA keywords
- Easy access to part data through the Part Tree navigation menu, and Part Table
- Cross reference viewer menu for tracking how different entities refer to each other
- Airbag Folding including mesh-independent airbag folding
- Seatbelt fitting including automatic seatbelt re-fitting after dummy re-positioning
- Mechanisms
- Keyboard shortcut keys for most of the common functions
- Simple meshing capability.
- Full support for LS-DYNA parameters
- Background image and image/model alignment function

Oasys PRIMER is designed specifically for pre-processing with LS-DYNA. Therefore the user interface is clear, simple and tailored towards LS-DYNA - without any compromises. All of the common keywords can be created, modified and graphically visualised to help users understand exactly what a model contains and how the various entities are inter-related.

Full Information: Oasys PRIMER

Predictive Engineering provides finite element analysis consulting services, software, training and support to a broad range of engineering companies across North America. We strive to exceed client expectations for accuracy, timeliness and knowledge transfer. Our process is both cost-effective and collaborative, ensuring all clients are reference clients.

Excerpt: Full article read at: www.predictiveengineering.com/consulting/cfd-consulting



Thermal Analysis of Innovative LED Light Assembly

Analysis: CFD: Our client is an innovative leader in the field of LED light bars that can generate intense UV light for a variety of industrial applications. These LED light bars present a unique thermal challenges due to their high power and compact environments.

Predictive Engineering was contacted to execute a CFD simulation on an extremely tight timeline. The objective was to verify that their new compact design could still provide sufficient cooling to keep chip lead temperatures at acceptable levels for long duty cycles. The thermal challenge was that each LED module had very high power loads and the back-plane of each chip was coupled to a large heat sink. As part of our CFD optimization study, we tried out various thermal greases and heat sink combinations. Toward the end of the project, it was required to directly baffle the fan stream onto the hotter heat sinks. Interpretation of the CFD results showed that some chip leads had acceptable temperatures while others, due to their proximity with other power-dissipating chips remained quite hot. Through thermal management, additional heat sinks were added to distribute the thermal energy and arrive at an acceptable solution. This project represented quite a bit of teamwork between our CFD consultants and our clients designers to arrive at the final configuration.

Modeling Assumptions and Details: The CFD model was constructed based on 3-D geometry provided by our client. This geometry was slightly simplified for improved numerical performance.

All flow was driven by a 40x40x28 Sunon fan that could deliver 24 CFM at 0.0 inch H20 backpressure. The fan curve was directly integrated into the CFD model. The flow through the light box was restricted by an exit baffle with 25% of its cross-sectional area blocked (75% open). This flow restriction increased the internal pressure within the box and preferentially drove a portion of the air stream through the exit passages drilled into the box alongside the high power LED arrays

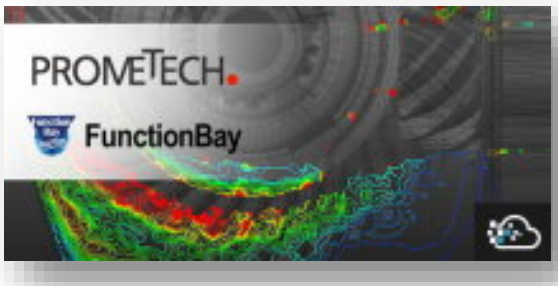
.

Aluminum was used for all heat sinks. The heat generating chips were modeled as ceramic. A thermal interface compound was used between the high power LED arrays and its massive aluminum heat sink. The trade name for this thermal compound is Silverstrate.

The thermal load case consisted of the high-power LED arrays, FETs and the circuit board. This project is also similar to the work we have done at http://www.predictiveengineering.com/consulting/cfd/computational-fluid-dynamics-cfd-analysis-automated-test-equipment

Summary: Results were delivered on time and validated the design intent with only a few design iterations. The product has gone into production and our results were validated. As CFD consultants, seeing our results validated is our number one goal - bar none..

Offering industry-leading software platforms and hardware infrastructure for companies to perform scientific and engineering simulations. Providing simulation platforms that empower engineers, scientists, developers, and CIO and IT professionals to design innovative products, develop robust applications, and transform IT into unified, agile environments.



Press Release:

Coupling Simulation with Particleworks and RecurDyn is Now Available on Rescale Cloud HPC Platform

Prometech Software, Inc., FunctionBay, Inc., and Rescale, Inc. are pleased to announce that Particleworks and RecurDyn are now available on Rescale's platform for HPC in the cloud. By running Particleworks and RecurDyn on Rescale's ScaleX platform, engineers can instantly perform massive-scale fluid dynamics and multi-body coupling simulations on the latest HPC hardware including GPUs and InfiniBand. Users can execute large-scale simulations without resource constraints, thereby accelerating simulation turnaround time, enabling full design space exploration, and shortening time to market.

Particleworks, provided by Prometech, is a leading software for simulating the movement of fluids including large free surface deformation which is considered to be very difficult to simulate. Prometech's cutting-edge, particle-based simulator makes it easy to create and analyze 3D models in a variety of industrial contexts – from oil sloshing of powertrains, cooling of engine oil and motors, and car driving in flooded roads for the automotive industry to mixing and kneading for medicine and plastics. With an intuitive interface, an ultra-fast solver, and powerful visualization tools, Particleworks supports effective product development and design optimization. Its state-of-the-art and user-friendly capabilities have been highly praised around the world. Now Particleworks has been introduced to a wide range of industries in many countries around Asia, Europe, and America.

RecurDyn, provided by FunctionBay, is an interdisciplinary, computer-aided engineering (CAE) software package whose primary function is the simulation of multibody dynamics (MBD). RecurDyn simulates both rigid and flexible body dynamics by combining traditional rigid MBD with cutting-edge finite element technology for modeling flexible bodies. In addition, RecurDyn also includes a tightly-integrated controller design tool, design optimization, particle dynamics for granular materials, and durability and fatigue analysis. RecurDyn also supports co-simulation with various other computer-aided engineering software tools. RecurDyn is widely used by more than 450 companies in more than 30 countries around the world in a variety of fields including automotive, general machinery, defense, construction, and aerospace to predict and analyze the behavior of the moving machines.

By running Particleworks and RecurDyn on the Rescale ScaleX platform,. engineers can accelerate their analyses using unlimited cores and the latest hardware architectures. In addition, customers can use Rescale's ScaleX platform to collaborate seamlessly with team members and customers. Rescale meets the industry's most stringent security standards, such as SOC 2 Type 2, ITAR, and HIPAA, as well offering additional security features including VPN, multi-factor authentication (MFA), IP restrictions, and pre-phase data encryption.

About Prometech - Prometech is a start-up company originated in the University of Tokyo. The company contributes to the manufacturing industry through the application of state-of-art CAE simulation software and computer graphics technology. Prometech maintains intimate collaborative R&D relationship with the University of Tokyo and many other research organizations and focuses on applying the latest technology to the manufacturing field. Prometech continues to grow as a global software company by broadening the collaboration with partners in many countries all over the world. Toshimitsu Fujisawa, CEO, says "This makes it possible to conduct high-speed and large-scale simulation with small initial investment, and I am confident that there is great significance to expand the base of simulation users."
For more information: www.prometech.com

About FunctionBay - FunctionBay, Inc. is a professional developer of Computer Aided Engineering (CAE) simulation software for the simulation of both flexible and rigid body dynamics and it is a globally competitive company in the dynamic analysis software market and more than 450 companies from over 30 countries around the world are using its product, RecurDyn in a variety of fields. CEO of FunctionBay, Michael Jang, says "Our company is committed to increase the speed and accuracy of analysis which is critical in CAE software. With Rescale collaboration, we hope that our customers can use our software more conveniently"

For more information:
Korean Homepage: www.functionbay.co.kr
English Homepage: www.functionbay.com

About Rescale - Rescale is the global leader for HPC in the cloud. Trusted by the Global Fortune 500, Rescale empowers the world's top executives, IT leaders, engineers, and scientists to securely manage product innovation and perform groundbreaking research and development faster at a lower cost. Rescale's ScaleX® platform solutions transform traditional fixed IT resources into flexible hybrid, private, and public cloud resources—built on the largest and most powerful high performance computing infrastructure network in the world. Rescale offers hundreds of turnkey software applications on the platform which are instantly cloud enabled for the enterprise. For more information on Rescale, visit www.rescale.com (Korean page at www.rescale.com/kr).
This article was written by Rescale.

CAE software sale & customer support , initial launch-up support, periodic on-site support. Engineering Services. Timely solutions, rapid problem set up, expert analysis . material property test Tension test, compression test, high-speed tension test and viscoelasticitiy test for plastic, rubber or foam materials. We verify the material property by LS-DYNA calculations before delivery.

www.feapublications.com - Our January issue highlighted:
Impact Analysis of Reinforced Concrete Walls Using LS-DYNA: Application to Impact of Wind-Blown Vehicles due to Tornadoes, **M. Madurapperuma & K. Niwa - Terrabyte Corporation**

For the entire list of products, within each category, please visit Terrabyte Website

FE analysis

- LS-DYNA is a general-purpose FE program capable of simulating complex real world problems. It is used by the automobile, aerospace, construction, military, manufacturing and bioengineering industries.
- ACS SASSI is a state-of-the-art highly specialized finite element computer code for performing 3D nonlinear soil-structure interaction analyses for shallow, embedded, deeply embedded and buried structures under coherent and incoherent earthquake ground motions.

CFD analysis

- AMI CFD software calculates aerodynamics, hydrodynamics, propulsion and aero elasticity which covers from concept design stage of aerocraft to detailed design, test flight and accident analysis.

EM analysis

- JMAG is a comprehensive software suite for electromechanical equipment design and development. Powerful simulation and analysis technologies provide a new standard in performance and quality for product design.

Metal sheet

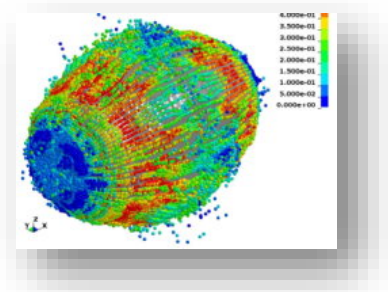
- JSTAMP is an integrated forming simulation system for virtual tool shop based on IT environment. JSTAMP is widely used in many companies, mainly automobile companies and suppliers, electronics, and steel/iron companies in Japan.

Pre/ Post

- **PreSys** is an engineering simulation solution for FE model development. It offers an intuitive user interface with many streamlined functions, allowing fewer operation steps with a minimum amount of data entry.
- **JVISION** - Multipurpose pre/post-processor for FE solver. It has tight interface with LS-DYNA. Users can obtain both load reduction for analysis work and model quality improvements.

Biomechanics

- **The AnyBody Modeling System**™ is a software system for simulating the mechanics of the live human body working in concert with its environment.



Course: Advanced LS-DYNA® Applications: Smoothed Particle Galerkin (SPG) Method For Penetration & Fragmentation Analysis, & Concrete Constitutive Modeling in LS-DYNA®

Details:

Date : 5th - 6th April 2018

Time : 9:00am - 5:00pm

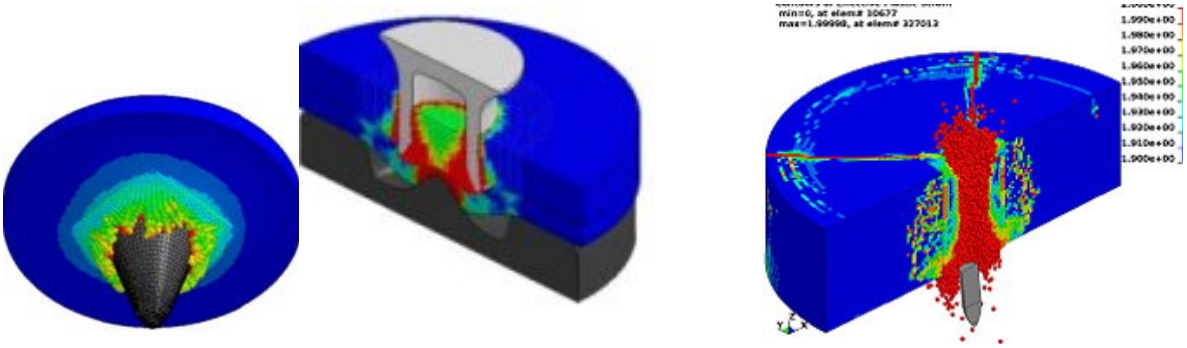
Location : Clifford Centre, Raffles place

Instructor : Dr. Youcai Wu

Class Software license will be provided to students' own laptops.

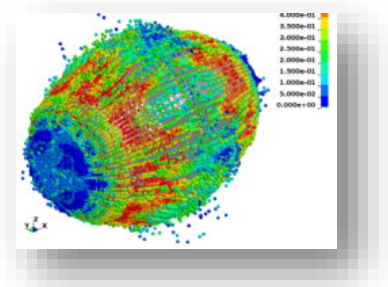
Instructor

Dr. Youcai Wu graduated from University of California Los Angeles in 2005 with Ph.D in Civil Engineering. Dr. Wu joined LSTC in 2015 as a senior research scientist focusing on the development and application of advance finite element and meshfree method for modeling manufacturing and material failure processes.



Content (course description is on the next page)

- **Fundamental background**
- **Practical applications**
- **Experimental validations**
- **Constitutive modeling of concrete for various solid elements**



Course: Advanced LS-DYNA® Applications: Smoothed Particle Galerkin (SPG) Method For Penetration & Fragmentation Analysis, & Concrete Constitutive Modeling in LS-DYNA®

COURSE DESCRIPTION

This 2-day class will cover application of Smoothed Particle Galerkin (SPG) method on penetration and fragmentation analysis and constitutive models of concrete in LS-DYNA®. SPG method, uniquely available in LS-DYNA®, is developed for modeling large deformation and material failure in semi-brittle and ductile materials in three dimensional solid structures, in which a strain-based bond failure mechanism is utilized to model material failure. The class will provide the fundamental background, LS-DYNA® keywords, practical applications (in analyzing relatively low speed manufacturing processes such as metal cutting, FDS, SPR and high velocity impact penetration on concrete and metal targets) with some experimental validations and latest developments.

The second part of this class is devoted to constitutive modeling of concrete for solid elements in LS-DYNA®. The fundamental theories of *MAT_72R3, *MAT_84, *MAT_96, *MAT_111, *MAT_159, *MAT_272 and *MAT_273 will be introduced.

DYNA FORMING ENGINEERING & TECHNOLOGY SDN. BHD.
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DYNA FORMING ENGINEERING & TECHNOLOGY (THAILAND) CO., LTD.
Email : sales@dfe-tech.com https://www.dfe-tech.com
https://twitter.com/dynaforming www.facebook.com/dfetech

Oasys LS-DYNA 11th Annual Update Meeting India

Oasys LS-DYNA 11th Annual Update Meetings in India:

- **Pune** **Tuesday, 24th April 2018** – Hyatt Pune (formerly Ista hotel), Adjacent to Aga Khan Palace, 88 Nagar Road, Kalyani Nagar, Pune- 411006
- **Bangalore** **Thursday, 26th April 2018** – The Zuri Whitefield, ITPL Road, Whitefield, Bangalore- 560 048.

Oasys Ltd and Arup India Pvt Ltd are pleased to announce the 11th Oasys LS-DYNA Update meetings in India for the year 2018. First meeting shall be held at Pune on Tuesday 24th April 2018 at Hyatt Pune (formerly Ista hotel) and second meeting shall be held at Bangalore on Thursday 26th April 2018 at The Zuri Whitefield.

Each of these is a full day free of charge event covering both LS-DYNA and Oasys software and is a perfect opportunity to find out about current and future developments and how the software are being used in the engineering community.

The presentations will mainly cover LS-DYNA updates by LSTC, Oasys suite updates by Arup & technical lectures by Arup, LSTC and Industry.

Detailed agenda is available on our website http://www.oasys-software.com/dyna/en/events/ .

Registration

Please send your registration to this event by email to india.support@arup.com with your name (First Name, Last Name), company/affiliation, telephone number and your choice for the location of event.

Last date for registration is 18th April,2018.

Venue

The event in Pune will be held at The Hyatt Pune hotel, which is a 10 minute drive from the airport.	**The event in Bangalore will be held at The Zuri, Whitefield, which is quite close to international Tech park, Bangalore.**
The Hyatt Pune (Formerly Ista Hotel) **Adjacent to Aga Khan Palace, 88 Nagar Road, Kalyani Nagar, Pune- 411006** **Tel: +91 20 4141 1234**	**The Zuri Whitefield - ITPL Road, Whitefield** **Bangalore - 560 048, India** **Tel: +91-806-665-7272**

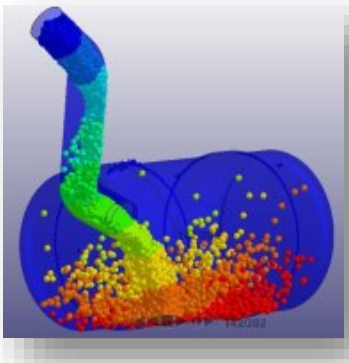
Contact Details: If you have any queries regarding this event you can contact:

Mr. Asif Ali, Arup India Pvt Ltd, Plot No. 39, Ananth Info Park, HiTec City-Phase 2
Madhapur, Hyderabad-500081,India - Tel: +91 (0) 40 44369797/8

Email: india.support@arup.com

Figure: Fuel Tank Filling Simulation Using DEM Techniques

To know more about the simulation, please contact:
support@kaizenat.com.



A fuel tank filling simulation performed using Discrete Element Method. The tank can be made defomable and see the gradient pressure distribution during filling. The same model can be later taken to a sloshing simulation. With DEM approach a LSDYNA structural solver user can quickly set up a flow problem.

*DEFINE_DE_INJECTION is used to produce fluid flow. LSDYNA's DEM approach offers high flexibility to simulate real life events.

The Liquid Fuel particles are modeled as DES (Discreate element spheres). A coupling between fuel and fuel tank is defined using *DEFINE_DE_TO_SURFACE_COUPLING.

Some of the Important Cards Used:

*LOAD_BODY_PARTS
*LOAD_BODY_Z
*CONTROL_DISCRETE_ELEMENT
*DEFINE_DE_INJECTION
*DEFINE_DE_TO_SURFACE_COUPLING

Figure: Fuel Tank Filling Simulation Using DEM Techniques
To know more about the simulation, please contact support@kaizenat.com.

Guest Posting MSC Software

John Janevic

MSC Software Global User's Conference.

www.mscsoftware.com/HxGN-LIVE/

MSC Software is now part of Hexagon Manufacturing Intelligence and this year HxGN LIVE is the venue for the MSC Software Global User's Conference. The conference will be held June 12th to 15th, 2018 in Las Vegas, NV, USA.

The Manufacturing Intelligence Track at HxGN LIVE showcases innovative data-driven manufacturing techniques that are redefining quality and productivity in the factory. There are three sub-tracks: Design & Engineering, Production, and Metrology. MSC will be hosting the Design & Engineering (CAE & Simulation Software) track.

HxGN LIVE provides an exciting lineup of innovative technologies, exclusive presentations by industry experts, hands-on training, inspiring keynotes from thought leaders and networking opportunities with peers from around the world.

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BETA
SIMULATION SOLUTIONS

BETA CAE Systems. **www.beta-cae.com**

BETA CAE Systems - ANSA

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 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

Solutions for:

Process Automation - Data Management – Meshing – Durability - Crash & Safety NVH - CFD - Thermal analysis - Optimization - Powertrain
Products made of composite materials - Analysis Tools -
Maritime and Offshore Design - Aerospace engineering - Biomechanics

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.

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.

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 **www.eta.com**

etainfo@eta.com

Inventium Suite™

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

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

PreSys

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

VPG

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

DYNAFORM

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

get it right®

Latest Release is ESI Visual-Environment 12.0

ESI Group **www.esi-group.com**

Visual-Environment is an integrative simulation platform for simulation tools operating either concurrently or standalone for various solver. Comprehensive and integrated solutions for meshing, pre/post processing, process automation and simulation data management are available within same environment enabling seamless execution and automation of tedious workflows. This very open and versatile environment simplifies the work of CAE engineers across the enterprise by facilitating collaboration and data sharing leading to increase of productivity.

Visual-Crash DYNA provides advanced preprocessing functionality for LS-DYNA users, e.g. fast iteration and rapid model revision processes, from data input to visualization for crashworthiness simulation and design. It ensures quick model browsing, advanced mesh editing capabilities and rapid graphical assembly of system models. Visual-Crash DYNA allows graphical creation, modification and deletion of LS-DYNA entities. It comprises tools for checking model quality and simulation parameters prior to launching calculations with the solver. These tools help in correcting errors and fine-tuning the model and simulation before submitting it to the solver, thus saving time and resources.
Several high productivity tools such as advanced dummy positioning, seat morphing, belt fitting and airbag folder are provided in **Visual-Safe,** a dedicated application to safety utilities.

Visual-Mesh is a complete meshing tool supporting CAD import, 1D/2D/3D meshing and editing for linear and quadratic meshes. It supports all meshing capabilities, like shell and solid automesh, batch meshing, topo mesh, layer mesh, etc. A convenient Meshing Process guides you to mesh the given CAD component or full vehicle automatically.

Visual-Viewer built on a multi-page/multi-plot environment, enables data grouping into pages and plots. The application allows creation of any number of pages with up to 16 windows on a single page. These windows can be plot, animation, video, model or drawing block windows. Visual-Viewer performs automated tasks and generates customized reports and thereby increasing engineers' productivity.

ESI Group **www.esi-group.com**

Visual-Process provides a whole suite of generic templates based on LS-DYNA solver (et altera). It enables seamless and interactive process automation through customizable LS-DYNA based templates for automated CAE workflows.

All generic process templates are easily accessible within the unique framework of Visual-Environment and can be customized upon request and based on customer's needs.

Visual*DSS* is a framework for Simulation Data and Process Management which connects with Visual-Environment and supports product engineering teams, irrespective of their geographic location, to make correct and realistic decisions throughout the virtual prototyping phase. Visual*DSS* supports seamless connection with various CAD/PLM systems to extract the data required for building virtual tests as well as building and chaining several virtual tests upstream and downstream to achieve an integrated process. It enables the capture, storage and reuse of enterprise knowledge and best practices, as well as the automation of repetitive and cumbersome tasks in a virtual prototyping process, the propagation of engineering changes or design changes from one domain to another.

JSOL

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. 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.

Material Sciences Corporation www.materials-sciences.com

Materials Sciences Corporation has provided engineering services to the composites industry since 1970. During this time, we have participated in numerous programs that demonstrate our ability to: perform advanced composite design, analysis and testing; provide overall program management; work in a team environment; and transition new product development to the military and commercial sectors. MSC's corporate mission has expanded beyond basic research and development now to include transitioning its proprietary technologies from the research lab into innovative new products. This commitment is demonstrated through increased staffing and a more than 3-fold expansion of facilities to allow in-house manufacturing and testing of advanced composite materials and structures

Materials Sciences Corporation (MSC) MAT161/162 - enhanced features have been added to the Dynamic Composite Simulator module of LS-DYNA.

This enhancement to LS-DYNA, known as MAT161/162, enables the most effective and accurate dynamic progressive failure modeling of composite structures to enable the most effective and accurate dynamic progressive failure modeling of composite structures currently available.

MSC/LS-DYNA Composite Software and Database -

Fact Sheet: http://www.materials-sciences.com/dyna-factsheet.pdf

- MSC and LSTC have joined forces in developing this powerful composite dynamic analysis code.
- For the first time, users will have the enhanced ability to simulate explicit dynamic engineering problems for composite structures.
- The integration of this module, known as 'MAT 161', into LS-DYNA allows users to account for progressive damage of various fiber, matrix and interply delamination failure modes.
- Implementing this code will result in the ability to optimize the design of composite structures, with significantly improved survivability under various blast and ballistic threats.

MSC's LS-DYNA module can be used to characterize a variety of composite structures in numerous applications—such as this composite hull under blast

Oasys Ltd. LS-DYNA Environment www.oasys-software.com/dyna

The Oasys Suite of software is exclusively written for LS-DYNA® and is used worldwide by many of the largest LS-DYNA® customers. The suite comprises of:

Oasys PRIMER

Key benefits:

- Pre-Processor created specifically for LS-DYNA®
- Compatible with the latest version of LS-DYNA®
- Maintains the integrity of data
- Over 6000 checks and warnings – many auto-fixable
- Specialist tools for occupant positioning, seatbelt fitting and seat squashing (including setting up pre-simulations)
- Many features for model modification, such as part replace
- Ability to position and depenetrate impactors at multiple locations and produce many input decks automatically (e.g. pedestrian impact, interior head impact)
- Contact penetration checking and fixing
- Connection feature for creation and management of connection entities.
- Support for Volume III keywords and large format/long labels
- Powerful scripting capabilities allowing the user to create custom features and processes

www.oasys-software.com/dyna

Oasys D3PLOT

Key benefits:

- Powerful 3D visualization post-processor created specifically for LS-DYNA®
- Fast, high quality graphics
- Easy, in-depth access to LS-DYNA® results
- Scripting capabilities allowing the user to speed up post-processing, as well as creating user defined data components

www.predictiveengineering.com

Predictive Engineering provides finite element analysis consulting services, software, training and support to a broad range of engineering companies across North America. We strive to exceed client expectations for accuracy, timeliness and knowledge transfer. Our process is both cost-effective and collaborative, ensuring all clients are reference clients.

Our mission is to be honest brokers of information in our consulting services and the software we represent.

Our History

Since 1995, Predictive Engineering has continually expanded its client base. Our clients include many large organizations and industry leaders such as SpaceX, Nike, General Electric, Navistar, FLIR Systems, Sierra Nevada Corp, Georgia-Pacific, Intel, Messier-Dowty and more. Over the years, Predictive Engineering has successfully completed more than 800 projects, and has set itself apart on its strong FEA, CFD and LS-DYNA consulting services.

恒士达科技
Hengstar Tech.

Shanghai Hengstar **www.hengstar.com**

Center of Excellence: Hengstar Technology is the first LS-DYNA training center of excellence in China. As part of its expanding commitment to helping CAE engineers in China, Hengstar Technology will continue to organize high level training courses, seminars, workshops, forums etc., and will also continue to support CAE events such as: China CAE Annual Conference; China Conference of Automotive Safety Technology; International Forum of Automotive Traffic Safety in China; LS-DYNA China users conference etc.

On Site Training: Hengstar Technology also provides customer customized training programs on-site at the company facility. Training is tailored for customer needs using LS-DYNA such as material test and input keyword preparing; CAE process automation with customized script program; Simulation result correlation with the test result; Special topics with new LS-DYNA features etc..

Distribution & Support: Hengstar distributes and supports LS-DYNA, LS-OPT, LS-Prepost, LS-TaSC, LSTC FEA Models; Hongsheng Lu, previously was directly employed by LSTC before opening his distributorship in China for LSTC software. Hongsheng visits LSTC often to keep update on the latest software features.

Hengstar also distributes and supports d3View; Genesis, Visual DOC, ELSDYNA; Visual-Crash Dyna, Visual-Process, Visual-Environment; EnkiBonnet; and DynaX & MadyX etc.

Consulting

As a consulting company, Hengstar focuses on LS-DYNA applications such as crash and safety, durability, bird strike, stamping, forging, concrete structures, drop analysis, blast response, penetration etc with using LS-DYNA's advanced methods: FEA, ALE, SPH, EFG, DEM, ICFD, EM, CSEC..

Lenovo www.lenovo.com

Lenovo is a USD39 billion personal and enterprise technology company, serving customers in more than 160 countries.

Dedicated to building exceptionally engineered PCs, mobile Internet devices and servers spanning entry through supercomputers, Lenovo has built its business on product innovation, a highly efficient global supply chain and strong strategic execution. The company develops, manufactures and markets reliable, high-quality, secure and easy-to-use technology products and services.

Lenovo acquired IBM's x86 server business in 2014. With this acquisition, Lenovo added award-winning System x enterprise server portfolio along with HPC and CAE expertise.

Cloud - HPC Services - Subscription

Contact: JSOL Corporation Engineering Technology Division cae-info@sci.jsol.co.jp

Cloud computing services
for
JSOL Corporation LS-DYNA users in Japan

JSOL Corporation is cooperating with chosen cloud computing services

JSOL Corporation, a Japanese LS-DYNA distributor for Japanese LS-DYNA customers.

LS-DYNA customers in industries / academia / consultancies are facing increased needs for additional LS-DYNA cores

In calculations of optimization, robustness, statistical analysis, we find that an increase in cores of LS-DYNA are needed, for short term extra projects or cores.

JSOL Corporation is cooperating with some cloud computing services for JSOL's LS-DYNA users and willing to provide short term license.

This service is offered to customers using Cloud License fee schedule, the additional fee is less epensive than purchasing yearly license.

The following services are available (only in Japanese). HPC OnLine:

NEC Solution Innovators, Ltd.
http://jpn.nec.com/manufacture/machinery/hpc_online/

Focus
Foundation for Computational Science
http://www.j-focus.or.jp

Platform Computation Cloud
CreDist.Inc.

PLEXUS CAE
Information Services International-Dentsu, Ltd. (ISID) https://portal.plexusplm.com/plexus-cae/

SCSK Corporation
http://www.scsk.jp/product/keyword/keyword07.html

Cloud - HPC Services - Subscription

www.rescale.com

Rescale: Cloud Simulation Platform

The Power of Simulation Innovation
We believe in the power of innovation. Engineering and science designs and ideas are limitless. So why should your hardware and software be limited? You shouldn't have to choose between expanding your simulations or saving time and budget.

Using the power of cloud technology combined with LS-DYNA allows you to:
· Accelerate complex simulations and fully explore the design space
· Optimize the analysis process with hourly software and hardware resources
· Leverage agile IT resources to provide flexibility and scalability

True On-Demand, Global Infrastructure
Teams are no longer in one location, country, or even continent. However, company data centers are often in one place, and everyone must connect in, regardless of office. For engineers across different regions, this can cause connection issues, wasted time, and product delays.

Rescale has strategic/technology partnerships with infrastructure and software providers to offer the following:
· Largest global hardware footprint – GPUs, Xeon Phi, InfiniBand
· Customizable configurations to meet every simulation demand
· Worldwide resource access provides industry-leading tools to every team
· Pay-per-use business model means you only pay for the resources you use
· True on-demand resources – no more queues

ScaleX Enterprise: Transform IT, Empower Engineers, Unleash Innovation
The ScaleX Enterprise simulation platform provides scalability and flexibility to companies while offering enterprise IT and management teams the opportunity to expand and empower their organizations.

Cloud - HPC Services - Subscription

Rescale Cloud Simulation Platform www.rescale.com

ScaleX Enterprise allows enterprise companies to stay at the leading edge of computing technology while maximizing product design and accelerating the time to market by providing:

- Collaboration tools
- Administrative control
- API/Scheduler integration
- On-premise HPC integration

Industry-Leading Security

Rescale has built proprietary, industry-leading security solutions into the platform, meeting the needs of customers in the most demanding and competitive industries and markets.

- Manage engineering teams with user authentication and administrative controls
- Data is secure every step of the way with end-to-end data encryption
- Jobs run on isolated, kernel-encrypted, private clusters
- Data centers include biometric entry authentication
- Platforms routinely submit to independent external security audits

Rescale maintains key relationships to provide LS-DYNA on demand on a global scale. If you have a need to accelerate the simulation process and be an innovative leader, contact Rescale or the following partners to begin running LS-DYNA on Rescale's industry-leading cloud simulation platform.

LSTC - DYNAmore GmbH JSOL Corporation

Rescale, Inc. - 1-855-737-2253 (1-855-RESCALE) - info@rescale.com

944 Market St. #300, San Francisco, CA 94102 USA

Cloud - HPC Services - Subscription

ESI Cloud Based Virtual Engineering Solutions

www.esi-group.com

ESI Cloud offers designers and engineers cloud-based computer aided engineering (CAE) solutions across physics and engineering disciplines.

ESI Cloud combines ESI's industry tested virtual engineering solutions integrated onto ESI's Cloud Platform with browser based modeling,

With ESI Cloud users can choose from two basic usage models:

- An end-to-end SaaS model: Where modeling, multi-physics solving, results visualization and collaboration are conducted in the cloud through a web browser.
- A Hybrid model: Where modeling is done on desktop with solve, visualization and collaboration done in the cloud through a web browser.

Virtual Performance Solution:

ESI Cloud offers ESI's flagship Virtual Performance Solution (VPS) for multi-domain performance simulation as a hybrid offering on its cloud platform. With this offering, users can harness the power of Virtual Performance Solution, leading multi-domain CAE solution for virtual engineering of crash, safety, comfort, NVH (noise, vibration and harshness), acoustics, stiffness and durability.

In this hybrid model, users utilize VPS on their desktop for modeling including geometry, meshing and simulation set up. ESI Cloud is then used for high performance computing with an integrated visualization and real time collaboration offering through a web browser.

The benefits of VPS hybrid on ESI Cloud include:

- Running large concurrent simulations on demand
- On demand access to scalable and secured cloud HPC resources
- Three tiered security strategy for your data
- Visualization of large simulation data sets
- Real-time browser based visualization and collaboration
- Time and cost reduction for data transfer between cloud and desktop environments
- Support, consulting and training services with ESI's engineering teams

Cloud - HPC Services - Subscription

www.esi-group.com

VPS On Demand

ESI Cloud features the Virtual Performance Solution (VPS) enabling engineers to analyze and test products, components, parts or material used in different engineering domains including crash and high velocity impact, occupant safety, NVH and interior acoustics, static and dynamic load cases. The solution enables VPS users to overcome hardware limitations and to drastically reduce their simulation time by running on demand very large concurrent simulations that take advantage of the flexible nature of cloud computing.

Key solution capabilities:

- Access to various physics for multi-domain optimization
- Flexible hybrid model from desktop to cloud computing
- On demand provisioning of hardware resources
- Distributed parallel processing using MPI (Message Passing Interface) protocol
- Distributed parallel computing with 10 Gb/s high speed interconnects

Result visualization

ESI Cloud deploys both client-side and server-side rendering technologies. This enables the full interactivity needed during the simulation workflow along with the ability to handle large data generated for 3D result visualization in the browser, removing the need for time consuming data transfers. Additionally ESI Cloud visualization engine enables the comparisons of different results through a multiple window user interface design.

Key result visualization capabilities:

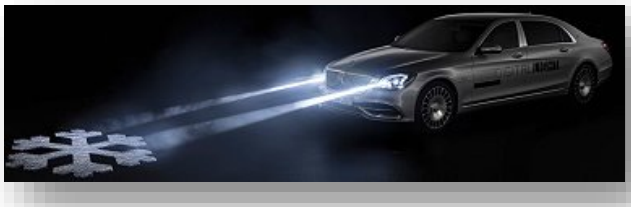
- CPU or GPU based client and server side rendering
- Mobility with desktop like performance through the browser
- 2D/3D VPS contour plots and animations
- Custom multi-window system for 2D plots and 3D contours
- Zooming, panning, rotating, and sectioning of multiple windows

Collaboration

To enable real time multi-user and multi company collaboration, ESI Cloud offers extensive synchronous and asynchronous collaboration capabilities. Several users can view the same project, interact with the same model results, pass control from one to another. Any markups, discussions or annotations can be archived for future reference or be assigned as tasks to other members of the team.

Key collaboration capabilities:

- Data, workflow or project asynchronous collaboration
- Multi-user, browser based collaboration for CAD, geometry, mesh and results models
- Real-time design review with notes, annotations and images archiving and retrieval
- Email invite to non ESI Cloud users for real time collaboration



World premiere in the Mercedes-Maybach S-Class: DIGITAL LIGHT: the light of the future hits the road

Stuttgart/Geneva. The future of car light should start soon for selected Mercedes-Maybach customers: the revolutionary headlamp technology DIGITAL LIGHT with virtually dazzle-free main beam in HD quality and a resolution of more than two million pixels should be entering small series production in the Mercedes-Maybach S-Class. DIGITAL LIGHT is celebrating its world premiere in the updated top model from Mercedes-Maybach at the Geneva Motor Show. Selected fleet customers are expected to take delivery of the first vehicles equipped with it in the first half of 2018.

”With a resolution of over one million pixels per headlamp, DIGITAL LIGHT not only creates ideal light conditions for every driving situation; it also extends the visual support from our driving assistance systems”, says Ola Källenius, Member of the Board of Management of Daimler AG and responsible for Group Research and Mercedes-Benz Cars Development.

The revolutionary DIGITAL LIGHT headlamp technology with outstanding performance facilitates pioneering driving assistance and communication with the driver and can create the ideal light conditions in every driving situation. DIGITAL LIGHT offers even higher precision than the MULTIBEAM LED headlamps, minimising the risk of other road users being dazzled. DIGITAL LIGHT delivers an important contribution towards improving safety in road traffic - as an integral part of the overall INTELLIGENT DRIVE strategy.

In the new HD-quality headlamp there is a chip at work with over a million micro-reflectors, i.e. a total of over two million per vehicle. Cameras and sensor systems in the vehicle detect other road users, powerful computers evaluate the data plus digital navigation maps in milliseconds and give the headlamps the commands for best possible adaption of the light distribution in all situations.

High Definition headlamps with innovative features[1]

With the innovative software-controlled DIGITAL LIGHT technology symbols can also be projected onto the road in HD quality. This not only gives the driver information directly in their field of vision: in a second step it could also make communication with the surroundings possible.
An overview of the DIGITAL LIGHT functions:

Guide lines - When driving through a construction site, two trails of light corresponding to the entire width of the car are projected onto the driver's own lane. These guide lines help the driver with orientation.

Extended pedestrian mark - If a pedestrian is detected in the danger zone near the road, an arrow pointing towards them appears on the road surface. This is in addition to the mark already made by the Adaptive Highbeam Assist.

Distance mark - This function supports the driver in setting the standard proximity appropriate for certain situations. When the driver activates the DISTRONIC PLUS proximity control or changes the standard proximity, an appropriate proximity mark appears on the road.

The car with DIGITAL LIGHT technology can also warn the driver about certain dangers and give relevant information on the road. For example if the car is in danger of leaving its lane and entering the oncoming traffic, a lane-keeping symbol is projected onto the road.

The following symbols are available as small series production starts:

- Low-grip surface symbol
- Construction-site symbol
- Rear-end collision symbol
- Lane-keeping symbol
- Blind-spot symbol
- Speed symbol.

[1] New technologies must always comply with the applicable legal framework conditions of the country of commercialization and must therefore be adapted to them. The capability for approval is currently being reviewed.

(Source: Pratt & Whitney; issued March 15, 2018)

Indonesian Air Force Welcomes P&W-Powered F-16s to Fleet

The Indonesian air force on Feb. 28 marked the delivery of 24 (19 single-seat F-16Cs and five F-16D two-seaters) refurbished and upgraded Lockheed F-16 fighters, and now based at Iswahyudi air base. (P&W photo)

The Indonesian Air Force celebrated the arrival of the newest addition to its fleet -- 24 F-16 Fighting Falcon aircraft powered by Pratt & Whitney's F100 engines -- during a ceremony at Iswahyudi Air Force Base on Feb. 28.

The ceremony was attended by representatives from Indonesia's Ministry of Defence, U.S. Pacific Air Forces (PACAF), U.S. Ambassador Joseph R. Donovan Jr., the U.S. Office of Defense Cooperation, Hill Air Force Base Program Management, Lockheed Martin, and Pratt & Whitney.

Bob Chang, associate director, International Business Development, and Ryan Smith, manager, F100 Logistics Program, represented Pratt & Whitney at the event.

The delivery of the 24th and final F-16 fighter aircraft represents eight years of planning, coordination and execution between the Indonesian Air Force, U.S. Department of Defense, Lockheed Martin and Pratt & Whitney. Significant upgrades to Indonesia's military infrastructure were carried out, additional bases were stood up with enhanced support capability, and years of training were conducted in support of this milestone.

The lot of aircraft consists of 19 single-seat F-16Cs and five F-16D two-seaters, which were drawn from former U.S. Air Force and Air National Guard aircraft that had been taken out of service. The jets were regenerated by the U.S. Air Force's Ogden Air Logistics Complex in Utah and upgraded to the latest aircraft configuration.

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

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Distributor for Siemens PLM Software at www.AppliedCAx.com (FEMAP, NX Nastran, STAR CCM+, NX CAD/CAM/CAE)

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	DYNAFORM	VPG	MEDINA	
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France	**DYNAmore France SAS**		sales@dynamore.eu	
	www.dynamore.eu			
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	DSDM Products		LSTC Dummy Models	FEMZIP
	LSTC Barrier Models		DIGIMAT	

Germany	**CADFEM GmbH**		lsdyna@cadfem.de	
	www.cadfem.de			
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		AnyBody		
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	TOYOTA THUMS		LSTC Dummy & Barrier Models	

The Netherlands	**Infinite Simulation Systems B.V**		j.mathijssen@infinite.nl	
	www.infinite.nl			
	ANSYS Products	CivilFem	CFX	Fluent
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Russia	**Limited Liability DynaRu**		office@lsdyna.ru	
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			LSTC Barrier Models		
Switzerland	**DYNAmoreSwiss GmbH**		info@dynamore.ch		
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UK	**ARUP**	dyna.sales@arup.com			
	www.oasys-software.com/dyna		TOYOTA THUMS		
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	LS-TaSC		PRIMER	D3PLOT	T/HIS
	REPORTER	SHELL	FEMZIP	HYCRASH	
	DIGIMAT	Simpleware	LSTC Dummy Models		
			LSTC Barrier Models		

Distribution, Consulting, Training

China	**ETA – China**		Hui Ouyang houyang@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
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	www.hengstar.com			
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	Visual-Crahs DYNA	Visual-Proeces		DynaX & MadyX
	Enki Bonnet	Visual Environement		

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India	**Oasys Ltd. India**		lavendra.singh@arup.com	
	www.oasys-software.com/dyna			
	PRIMER	D3PLOT	T/HIS	
			LS-OPT	LSTC Dummy Models	LS-PrePost
			LS-DYNA	LSTC Barrier Models	LS-TaSC

India	**CADFEM India**		info@cadfem.in	
	www.cadfem.in			
	ANSYS	VPS	optiSLang	
	LS-DYNA	LS-OPT	LS-PrePost	

India	**Kaizenat Technologies Pvt. Ltd**		support@kaizenat.com	
	http://kaizenat.com /			
	LS-DYNA	LS-OPT	LSTC Dummy Models	LS-PrePost
	Complete LS-DYNA suite of products		LSTC Barrier Models	LS-TaSC

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	www.engineering-eye.com			
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Japan	**JSOL**			
	www.jsol.co.jp/english/cae		Oasys Suite	
	JSTAMP	HYCRASH	JMAG	
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Japan	**FUJITSU**			
	http://www.fujitsu.com/jp/solutions/business-technology/tc/sol/			
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Japan	**LANCEMORE**	info@lancemore.jp		
	www.lancemore.jp/index_en.html			
	Consulting			
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Japan	**Terrabyte**	**English:**		
	www.terrabyte.co.jp	www.terrabyte.co.jp/english/index.htm		
	Consulting			
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	JSTAMP/NV	Scan IP	Scan FE	Scan CAD
	FEMZIP			

Korea	**KOSTECH**	young@kostech.co.kr		
	www.kostech.co.kr			
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	LSTC Dummy Models	LSTC Barrier Models	eta/VPG	FCM
	eta/DYNAFORM	DIGIMAT	Simuform	Simpack
	AxStream	TrueGrid	FEMZIP	

Taiwan **AgileSim Technology Corp.**

www.agilesim.com.tw

LS-DYNA	LS-OPT	LS-PrePost	LS-TaSC
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Taiwan **Flotrend**

www.flotrend.com.tw

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

Taiwan **SiMWARE Inc..**

www.simware.com.tw

LS-DYNA	LS-OPT	LS-PrePost	LS-TaSC
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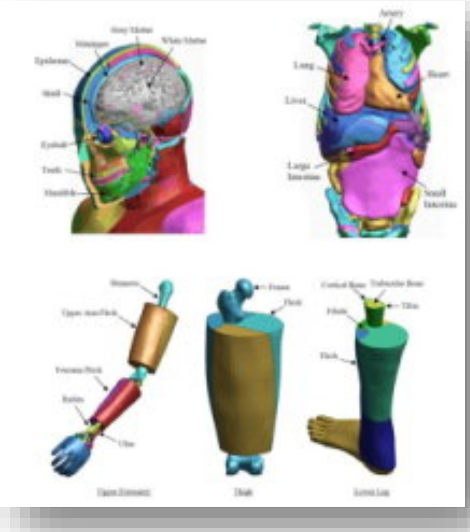
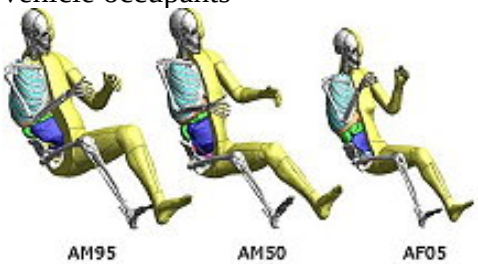
ATD - Human Models - Barrier

TOYOTA - Total Human Model for Safety – THUMS

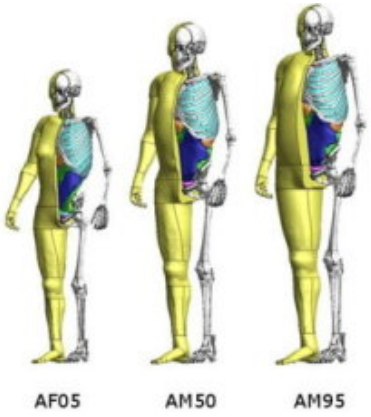


The Total Human Model for Safety, or THUMS®, is a joint development of Toyota Motor Corporation and Toyota Central R&D Labs. Unlike dummy models, which are simplified representation of humans, THUMS represents actual humans in detail, including the outer shape, but also bones, muscles, ligaments, tendons,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

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.

THUMS is limited to civilian use and may under no circumstances be used in military applications.

LSTC is the US distributor for THUMS. Commercial and academic licenses are available.

For information please contact: THUMS@lstc.com

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

LSTC – Dummy Models

LSTC Crash Test Dummies (ATD)

Meeting the need of their LS-DYNA users for an affordable crash test dummy (ATD), LSTC offers the LSTC developed dummies at no cost to LS-DYNA users.

LSTC continues development on the LSTC Dummy models with the help and support of their customers. Some of the models are joint developments with their partners.

e-mail to: atds@lstc.com

Models completed and available (in at least an alpha version)

- Hybrid III Rigid-FE Adults
- Hybrid III 50th percentile FAST
- Hybrid III 5th percentile detailed
- Hybrid III 50th percentile detailed
- Hybrid III 50th percentile standing
- EuroSID 2
- EuroSID 2re
- SID-IIs Revision D
- USSID
- Free Motion Headform
- Pedestrian Legform Impactors

Models In Development

- Hybrid III 95th percentile detailed
- Hybrid III 3-year-old
- Hybrid II
- WorldSID 50th percentile
- THOR NT FAST
- Ejection Mitigation Headform

Planned Models

- FAA Hybrid III
- FAST version of THOR NT
- FAST version of EuroSID 2
- FAST version of EuroSID 2re
- Pedestrian Headforms
- Q-Series Child Dummies
- FLEX-PLI

LSTC – Barrier Models

Meeting the need of their LS-DYNA users for affordable barrier models, LSTC offers the LSTC developed barrier models at no cost to LS-DYNA users.

LSTC offers several Offset Deformable Barrier (ODB) and Movable Deformable Barrier (MDB) models:

- ODB modeled with shell elements
- ODB modeled with solid elements
- ODB modeled with a combination of shell and solid elements

- MDB according to FMVSS 214 modeled with shell elements
- MDB according to FMVSS 214 modeled with solid elements
- MDB according to ECE R-95 modeled with shell elements
- AE-MDB modeled with shell elements

- IIHS MDB modeled with shell elements
- IIHS MDB modeled with solid elements
- RCAR bumper barrier

- RMDB modeled with shell and solid elements

e-mail to: atds@lstc.com.

15th International LS-DYNA® Users Conference & Users Meeting

June 10-12, 2018

Edward Hotel & Convention Center
Dearborn. MI. USA

For Booth & Sponsorship information contact Dilip@lstc.com

The conference will host a forum for engineers, professors, students, consultants, industry leaders, and interested parties to exchange their ideas, and listen to the latest in industry and academic presentations..

The presenter (1) One Presenter of the accepted paper will receive a complimentary (no fee) conference registration, when they register using the "LSTC Conference" group registration code at the Edward Hotel.

Registration/Classes: www.ls-dynaconferences.com

Training - Webinars - Events - Conferences

Participant's Training Classes

Webinars

Info Days

Class Directory

Directory

Arup	www.oasys-software.com/dyna/en/training
BETA CAE Systems	www.beta-cae.com/training.htm
DYNAmore	www.dynamore.de/en/training/seminars
Dynardo	http://www.dynardo.de/en/wost.html
ESI-Group	https://myesi.esi-group.com/trainings/schedules
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KOSTECH	www.kostech.co.kr/
LSTC - (corporate)	www.lstc.com/training
LS-DYNA OnLine - (Al Tabiei)	www.LSDYNA-ONLINE.COM

Training - Dynamore

Author: Christian Frech christian.frech@dynamore.de

New seminar brochure 2018

Visit the website for complete overview and registration www.dynamore.de/seminars

Download full seminar brochure (pdf): www.dynamore.de/seminarbroschure2018

Selection of trainings from January to March

Introduction	
Introduction to LS-DYNA	13-15March (Z) 20-22 March
Introduction to LS-PrePost	19 Feb/12 March (Z) 19 March
Nonlinear implicit Analyses	16 March
Crash/Short-Term-Dynamics	
Crash Analysis	5-8 March (G)
Joining Techniques in LS-DYNA	5 March
Passive Safety	
Introduction to Passive Safety	8 March
Material	
Material Failure	20 March (T)
Particle Methods	
Smoothed Particle Hydrodynamics	13 March

Information days (free of charge)

Composite Analysis/ENVYO®	12 March
New Features in LS-DYNA and LS-OPT	27 March (V)

If not otherwise stated, the event location is Stuttgart, Germany. Other event locations are:
G = Gothenburg, Sweden; L = Linköping, Sweden V = Versailles, France; T = Turin, Italy,
Tr = Traboch, Austria, Z = Zurich, Switzerland

We hope that our offer will meet your needs and are looking forward to welcoming you at one of the events.

15th Weimar Optimization and Stochastic Days 2018

June 21-22, 2018

Conference for CAE-based parametric Optimization, stochastic analysis and Robust Design Optimization (RDO).

Motto 2018:
Parameter identification in virtual product development - from model calibration to the real-time analysis of machine conditions using digital twins

The conference offers focused information and training in practical seminars and interdisciplinary lectures. Users can talk about their experiences in parametric optimization, service providers present their new developments and scientific research institutions inform about state-of-the-art RDO methodology.

Information and registration at:
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Veranstaltungsort / Venue:
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Seminar Building
UNESCO-Platz 1
99423 Weimar

www.lstc.com

March

1-2	Thurs-Fri	CA	SPH	2	M. Souli
5-6	Mon-Wed	MI	LS-DYNA Advanced	2	S. Bala
19	Mon	CA	Intro to LS-PrePost	1	P. Ho / Q. Yan
20-23	Tues-Fri	CA	Intro to LS-DYNA	3.5	A. Tabiei

April

25-27	Wed-Fri	CA	Advanced ALE & S-ALE Applications	3	I. Do
23	Mon	MI	Intro to LS-PrePost	1	P. Ho / Q. Yan
24-27	Tues-Fri	MI	Intro to LS-DYNA	3.5	A. Nair

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Editor: Yanhua Zhao - yanhua@feainformation.com

LS-DYNA Metal Forming New Features - Table 1: www.lstc.com/new_features

Table 1 Paper 1-9 Improve time step size sensitivity in transient mechanical simulations
Jinglin Zheng and Xinhai Zhu

Time step size is one of the most important factors for explicit simulations. As a rule of thumb, we need to set the time step size to be small enough so that the update of a nodal solution is completed before the node is hit by the wave from neighboring nodes. Therefore, a proper time step size is dependent on the element size, as well as the sound speed of the material. However, in some cases we may get into a dilemma where the solution becomes unstable or divergent when we decrease the time step size for more accuracy.

A Customized Job Manager for Metal Forming Simulations Y. Xiao, X. Zhu, L. Zhang, H. Fan	**Recent improvements in LS-DYNA® hot stamping simulations** Jinglin Zheng, Xinhai Zhu and Houfu Fan
Best Fit GUI for Metal Forming in LS-PrePost® 4.5 Q. Yan, X. Zhu, P. Ho, L. Zhang, Y. Xiao	**Conversion between FLD and Stress Triaxial Limit Curve** X. Zhu, L. Zhang, Y. Xiao
Defining Hardening Curve in LS-DYNA® X. Zhu, L. Zhang, Y. Xiao	**Improvement of Sandwich Structure Part Adaptivity in LS-DYNA** X. Zhu, H. Fan, L. Zhang and Y. Xiao
Improvements to One-Step Simulation in LS-DYNA, X. Zhu, H. Fan, L. Zhang, Y. Xiao	**Lancing features in LS-DYNA** Q. Yan, L. Zhang, Y. Xiao, X. Zhu, P. Ho

Editor: Yanhua Zhao - yanhua@feainformation.com

The papers are located in full on FEA Publications - China Conference Papers

Fluid Structure interaction of a spoiler on the DrivAer car model

James Dilworth, Ben Ashby, Peter Young

A New Method of Transient Acoustic Simulation

Zhen Wu1,2, Milan Koch2, Christopher Morgan3, Enno Witfeld2, Qiang Liu1, Eryong Liu1

1 Autoliv (Shanghai) Vehicle Safety System Technical Center, 201807 Shanghai, China

2 Autoliv B.V. & Co. KG, Otto-Hahn-Strasse 4, 25333 Elmshorn, Germany

3 Autoliv Auburn Hills Technical Center, 1320 Pacific Drive Auburn Hills, 48326 Michigan, USA

Editor: Yanhua Zhao - yanhua@feainformation.com

New Features on the website www.lstc.com/new_features

Among the Previous Months Postings on New Features Table 2

- Recent updates in fatigue analysis with LS-DYNA
- Discussion on acoustic databases in LS-DYNA
- Modeling of Ductile Failure in Destructive Manufacturing Process Using the Smoothed Particle Galerkin Method
- A non-orthogonal material model of woven composites in the preforming process
- LSTC WinSuite – a complete solution for the Windows platform
- Modeling and Numerical Simulation of Afterburning of Thermobaric Explosives In a Closed Chamber
- Thick Shell Element Form 5 in LS-DYNA
- New Inflator Models in LS-DYNA®
- New features of 3D adaptivity in LS-DYNA
- Thermal Coupling Method Between SPH Particles and Solid Elements in LS-DYNA
- LS-DYNA Smooth Particle Galerkin (SPG) Method

15th LS-DYNA Int'l Conf. & Users Mtg

Christian Frech - DYNAmore GmbH www.ls-dynaconferences.com

Among the papers to be presented and/or published

15th LS-DYNA® International Conference & Users Mtg.
June 10th, 11th & 12th 2018
Edward Hotel & Convention Center - Dearborn, MI

We are pleased to share that we have over 210 papers accepted for the conference. Below in alpha order is a few of the title, all titles are copyright to the respective authors.

Join us at the conference - Register Now -

- A Customized Job Manager for Metal Forming Simulations with LS-DYNA
- A non-orthogonal material model of woven composites in the preforming process
- A peridynamic model for damage prediction of fiber reinforced composite laminate
- A study on delamination behavior between aluminum and CFRTP
- A study on scatter during production process using statistical approach
- A unified environment for collaborative CAE and immersive simulation results' processing
- ACP-OpDesign: Optimal Design Gateway : Reveal the path to optimized products
- Advanced results databases compression techniques to allow their efficient use in results data management systems
- Advances in fatigue analysis with LS-DYNA
- Advances in LS-DYNA for Metal Forming (I)
- Advances in LS-DYNA for Metal Forming (II)
- Airbag Folding with JFOLD - Latest Developments and Case Studies
- Airdrop sequence simulation using LS-DYNA ICFD solver and FSI coupling
- AN ENGINEERING APPROACH TO ESTIMATING PARTIALLY SATURATED SOIL CONSTITUTIVE PROPERTIES
- An Enhanced Assumed Strain (EAS) Solid Element for Nonlinear Implicit Analyses
- An Enhancement of LS-DYNA XFEM Shell for Dynamic Ductile Failure Analysis
- Application of a Full-Field-Calibration Concept for Parameter Identification of HS-Steel with LS-OPT®

- Bake-Hardening Effect in Dual-Phase Steels: Experimental and Numerical Investigation
- CFD Validations with FDA Benchmarks of Medical Devices Flows
- Classification-based Optimization Probabilistic Analysis Using LS-OPT
- Cloud-based Pedestrian Safety App
- Comments on Compressible Flows, Gaseous Explosions, and compressible FSI Capabilities for the CESE and Chemistry Solvers in LS-DYNA®
- Connection modeling using LS-DYNA implicit
- Constitutive modeling of soft biological tissues
- Corrugated Fiber Board as a Packaging Material: Experimental and Numerical Analysis of the Mechanical Behavior
- Development of New Simulation Technology for Compression Molding of Long Fiber Reinforced Plastics using LS-DYNA
- DIC-based Full-Field Calibration using LS-OPT: An Update
- Discussion on NVH analysis with various eigensolvers in LS-DYNA®.
- Door System Multimaterial Lightweighting Using ACP OpDesign Optimization-Led Design Software and the LSTC Software Suite (LS-TaSc, LS-OPT and LS-DYNA)
- Dynamic Constitutive Model for Polymers with Considering Strength-Differential Effect and Strain Rate Dependency
- Electro-Physiology using LS-DYNA
- Facing Future Challenges in Crash Simulation Engineering -- Model Organization, Quality and Management at Porsche
- Fluid Flow Modeling with SPH in LS-DYNA
- Fluid structure interaction simulation of bonnet flutter
- FSI simulation of a double-deck bus cornering under crosswind effects
- Full-Field Calibration of Biological Tissue using LS-OPT
- Gaudi's Sagrada Familia Basilica, Barcelona
- Getting your model ‘right’ – Checking before, during and after your LS-DYNA Analysis
- Higher Order Solid Elements in LS-DYNA®
- ICFD: summary of recent and future developments

- Implementation of MCEER TR 14-0006 Blast Load Curves in LS-DYNA and Benchmark to Commonly Practiced Blast Loading Application Methods
- Improvement of Mesh Fusion in LS-DYNA
- In Core Adaptivity
- Increasing the Scale of LS-DYNA Implicit Analysis
- Investigating the post processing of LS-DYNA in an fully immersive workflow environment
- J-Composites - Introducing new software tools for process and process chain simulations of composite materials
- Li-Ion battery modeling strategies for electric vehicle crash applications
- Linear Analysis of a full vehicle models for NVH and Durability Load Cases
- LS-DYNA®'s Linear Solver Development — Phase1: Element Validation Part II.
- LS-DYNA®'s Linear Solver Development — Phase2: Linear Solution Sequence.
- MLS-based SPH in LS-DYNA for increased accuracy and tensile stability
- Model Set up, Analysis and Results of the Inverse Forming tool in ANSA
- Modelling of crazing in rubber-toughened materials
- Multiscale Simulations of Material with Heterogeneous Structures Based on Representative Volume Element Techniques
- Numerical Investigation of Homogeneous Equilibrium Model and Fluid-Structure Interaction for Multiphase Flows
- Numerical Simulation of Aircraft Seat Compliance test using LS-DYNA Implicit solver
- Occupant Injury Criteria, a complete solution for the evaluation of occupant and structural, simulation and physical test results in META
- One the significance of the spatial discretization for crashworthiness,studies: Shell vs. Solid elements
- Optimisation of Fixturing Clamps to Improve Panel Measurement Robustness
- Parametric and Convergence Studies of the Smoothed Particle Galerkin (SPG) Method in Semi-brittle and Ductile Material Failure Analyses
- Performance of the projected subgradient method in LS-TaSC™
- process2product simulation: Closing incompatibilities in constitutive modelling and spatial discretization with ENVYO
- Randles circuit parameters set up for battery simulations in LS-DYNA
- Rapid simulations of Welding and AM using LS-DYNA and LS-PREPOST
- Recent developments in *DEFINE_PRESSURE_TUBE for simulating pressure tube sensors in pedestrian crash
- Recent Developments in Isogeometric Analysis for LS-DYNA

- Recent Developments in Isogeometric Analysis with Solid Elements in LS-DYNA
- Recent improvements in LS-DYNA hot metal forming for convergence and efficiency
- Recent Updates to the Structural Conjugate Heat Transfer Solver
- Re-using crash models for static load cases with minimal effort
- Scalability study of particle method with dynamic load balancing
- Shape optimization for MDO with LS-DYNA suite
- Sheet metal forming simulation with IGA in LS-DYNA
- Simulation for crush behavior of glass mat reinforced thermoplastic composite material
- Simulation of the Performance of Passenger Rail Vehicles under Blast Conditions in LS-DYNA
- Smoothed Particle Galerkin Method with a Second-order Accurate Momentum-Consistent Algorithm for Free Surface Flow Simulation
- Sound absorbing Porous Material In Statistical Energy Analysis
- The Immersed Smoothed Particle Galerkin Method for Modeling and Failure Analysis of Fiber-Reinforced Solid Structures
- The Role of LS-DYNA in the Design of the new London Electric Taxi
- Topology optimization of Stamping Die Structure using LS-TaSC
- Tube adaptivity for mesh fission/fusion in LS-DYNA
- Update on Resistive Spot Welding (RSW) capabilities in LS-DYNA
- Zero thickness cohesive element approach for dynamic crack propagation

If you would like an exhibitor booth contact dilip@lstc.com

Announcement and Call for Papers

15th German LS-DYNA Forum 2018

October 15 - 17 2018, Bamberg, Germany

www.dynamore.de/forum2018-e

LS-DYNA® Arbitrary Lagrangian

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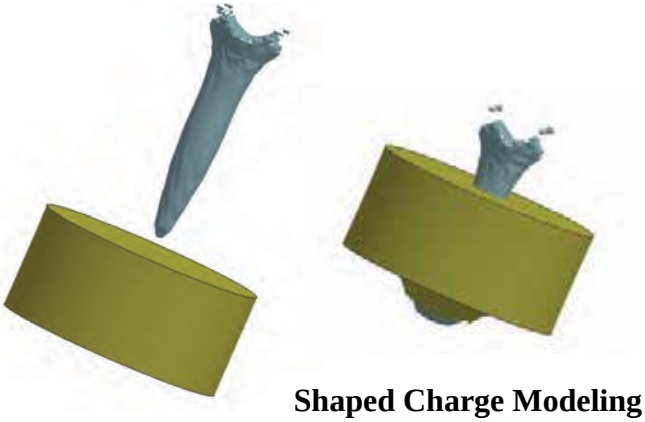
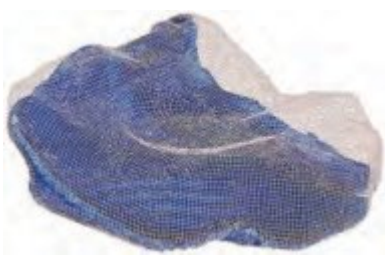


Shaped Charge Modeling



Fuel Tank Sloshing

Bird Strike

Ferry boat Sewol Rapid Turning
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