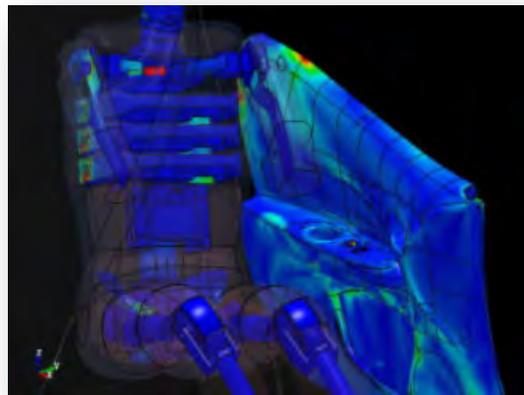


FEA Information Engineering Solutions
Volume 3, Issue 02, February 2014



China's "Jade Rabbit" Moon Rover

**Lancemore Co, Impact Crash Test /
Effective Stress**



FORD 2015 Expedition with EcoBoost

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

FEA Information Inc. Publishes:

FEA Information Engineering Solutions
FEA Information Engineering Journal
FEA Information China Engineering Solutions

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FEA Information China Engineering Solutions

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Platinum Participants



Participant Logo Courtesy of Lancemore Co. Japan

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Announcements

**FEA Information Inc. and D3View will be exhibiting - 13th LS-DYNA Conference
June 08-10, 2014**

Additional Platinum Participants that will be exhibiting:

ETA	BETA CAE Systems	Datapoint Labs	ESI Group
Oasys	GOMPUTE	JSOL	D3VIEW
LSTC			

Showcase Article

Simulation of Sheet Metal Lancing in LS-DYNA
by Xinhai Zhu and Li Zhang LSTC

Terrabyte Co, Ltd. Japan

now available in: [Japanese](#) [English](#)

13th LS-DYNA US & International Conference & Users Meeting

Registration is open – register now at www.ls-dynaconferences.com

Sincerely, Marsha Victory, Trent Eggleston - FEA Information Inc. USA edition

Xinhai Zhu and Li Zhang LSTC

Simulation of Sheet Metal Lancing in LS-DYNA

INTRODUCTION

In severe metal forming conditions, lancing operation in strategic locations and in an engineered fashion can alleviate thinning/necking of sheet metal parts/panels. Lancing is often done at the last few millimeters before punch reaches home. Although not favored by all stampers, this operation is sometimes critical and makes a difference between ‘making’ or ‘breaking’ the panels. Applications of the lancing are often used in the window corners and cutout areas of liftgate inner/outer, door inner/outer, and along the door belt line, etc. As shown in Figure 1, the upper and lower corner of a door inner C-pillar are instantly lanced in closed-loop circular shape, and formability at those two corners are improved (right) as compared to that without lancing (left). Sometimes, the lancing is done gradually, much like a scissor’s shearing action (progressive lancing). This keyword supports both types of these lancing operations. Meshes are first rearranged along the lancing route with appropriate adaptive constraints added; instant lancing is done by releasing all the constraints at a time specified by the variable AT; progressive lancing is done by gradually and evenly releasing the constraints along the defined curve NTIMES (number of releases) between AT (starting releasing time) and ENDT (end releasing time), as shown in Figure 2.

MAIN FEATURES

The inputs to the keyword are:

- 1) IDPT – PID of the sheet blank to be lanced, as in *PART.
- 2) IDCV – Curve ID (the variable TCID in *DEFINE_CURVE_TRIM_3D).
- 3) IREFINE – Mesh refinement level around the lancing route, to be supported in the future. Currently, no refinement will be made.
- 4) SMIN - Minimum element characteristic length to be refined along the lancing route, to be supported in the future. Currently, no refinement will be made.
- 5) AT – Activation time for lancing operation. This variable needs to be defined for both instant and progressive lancing types.
- 6) ENDT – End time (for progressive lancing only).
- 7) NTIMES – Average number of times to be cut, between AT and ENDT, for progressive lancing only.

Both close and open looped lancing curves are supported, see Figures 3 and 4. Since progressive lancing starts from the beginning of the curve, the direction of the curve needs to be defined accordingly based on the cut direction (Figure 2). This can be done in *LS-PrePost*; the menu option *GeoTol/Measure/with Edge* checked can be used to show the direction of the curve; and if the direction is not desired, *GeoTol/Rever* can be used to reverse the direction. The effect of NTIMES can be seen in Figure 5. Setting NTIMES to a value of 20 results in a smoother lancing boundary and less stress concentration along the separated lancing route. For the lancing curve input, currently there is no direct support for IGES format in the keyword **DEFINE_CURVE_TRIM_3D*, meaning only XYZ format (TCTYPE = 1 or 0) is admissible. To convert IGES file to the XYZ format required, procedures outlined in the keyword manual pages in **INTERFACE_BLANKSIZE_DEVELOPMENT* can be followed. Currently, lancing can be done only in Z-direction, therefore, no lancing is to be defined on draw wall. Tailor-welded blanks are supported, however, lancing route should not cross the laser line, as only one part can be defined with one lancing curve. Keywords **PARAMETER*, **PARAMETER_EXPRESSION* are not supported for ENDT and AT.

A partial keyword example is listed below for a multiple progressive lancing starting at the same point. A sheet blank with part ID of 9 is progressively lanced along a curve defined by IDCV of 1116 with **DEFINE_CURVE_TRIM_3D*. Lancing commences at 0.0505 second, finishing at 0.0535 second, with average cuts of 21 times along the route. A second lancing curve starts at the same coordinates and the same time, defined by IDCV of 122 in the opposite direction, and also finished up at the same time. The lancing results are shown in Figure 6.

```
*ELEMENT_LANCING
$   IDPT   IDCV   IREFINE   SMIN   AT   ENDT   NTIMES
      9     1116
      9     122
      0.0505   0.0535   21
      0.0505   0.0535   21

*DEFINE_CURVE_TRIM_3D
$#   tcid   tctype   tflg   tdir   tctol   tol_n   nseed
      1116     1       1       1       0.100     1
$#
      cx           cy           cz
      172.99310   42.632320   43.736160
      175.69769   -163.08299   46.547531
      177.46982   -278.03793   49.138161
...

*DEFINE_CURVE_TRIM_3D
$#   tcid   tctype   tflg   tdir   tctol   tol_n   nseed1   nseed2
      122     1       1       1       0.100     1
$#
      cx           cy           cz
      172.99310   42.632320   43.736160
      171.33121   47.22141    42.513367
      171.28690   128.84601   43.032799
...
```

The output is not much different from the regular forming simulation output; namely, D3PLOT files from which lancing progression can be observed, along with the usual stress/strain and thickness distribution. These forming results can be analyzed so lancing route may be modified to optimize the final forming results.

DISCUSSION/CONCLUSION

Future improvement to the lancing includes, but not limited to, making IGES format available to define the lancing route, activate *PARAMETER to work with the keyword, defining onset of lancing using distance from punch home position, and enabling lancing in any direction with a vector. The lancing feature is available starting in Revision 83562, in SMP and explicit dynamic calculation only. Latest revision offers various improvements.

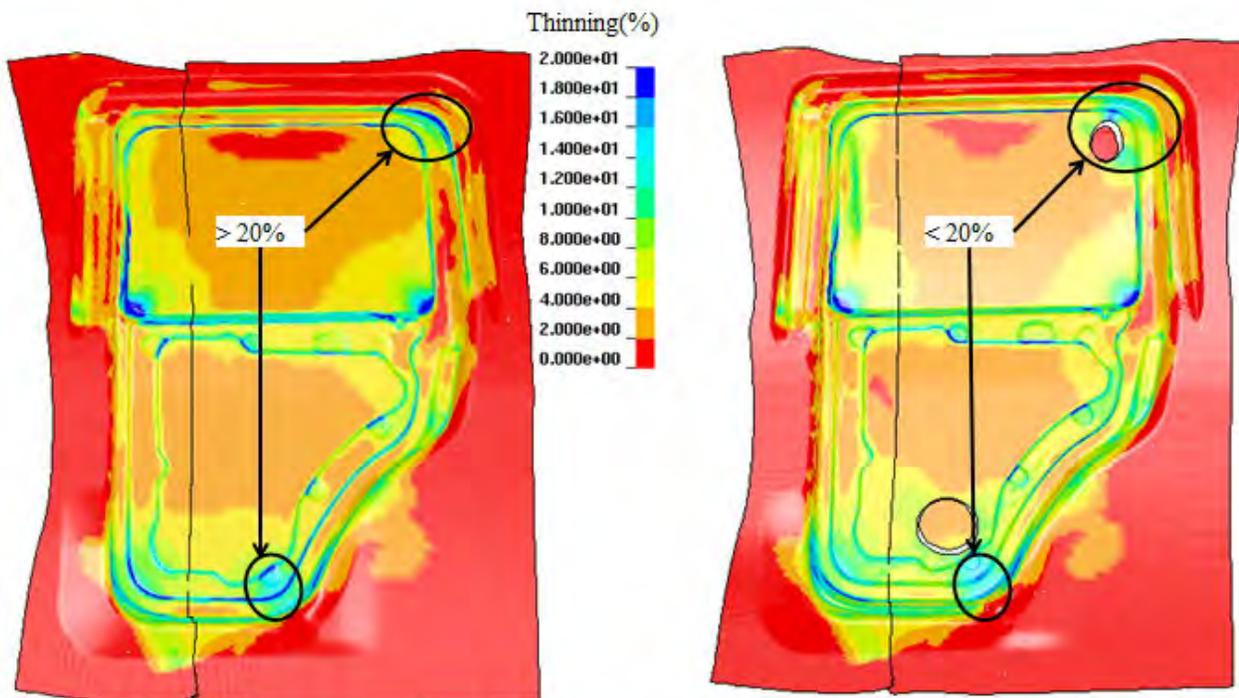


Figure 1. Effect of lancing – no lancing (left); with lancing (right).

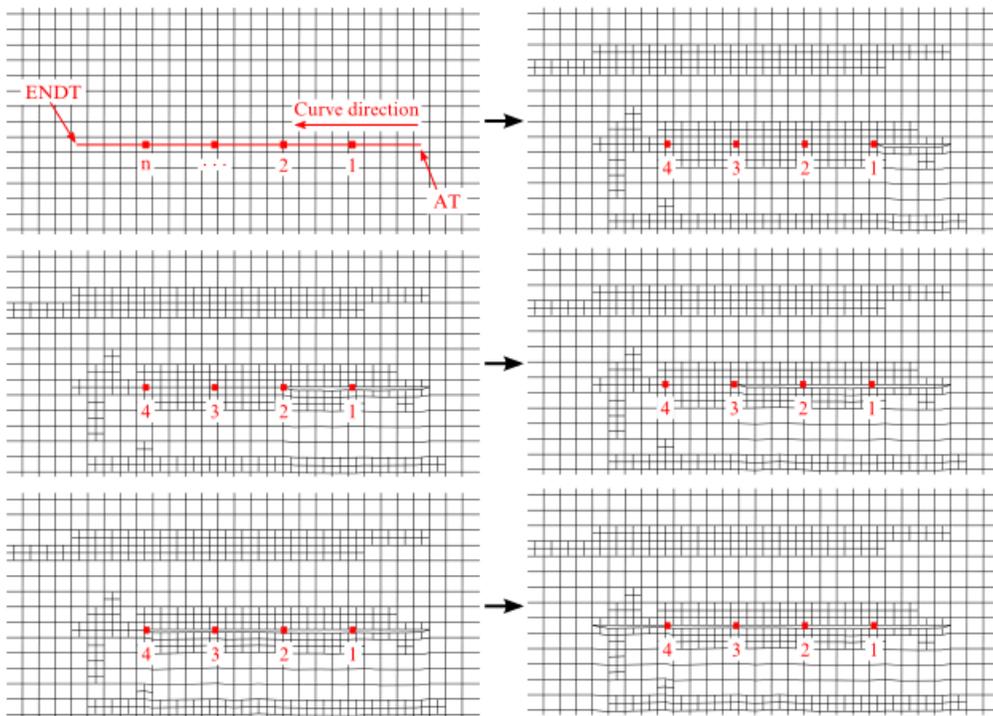


Figure 2. Progressive lancing and parameters definition.

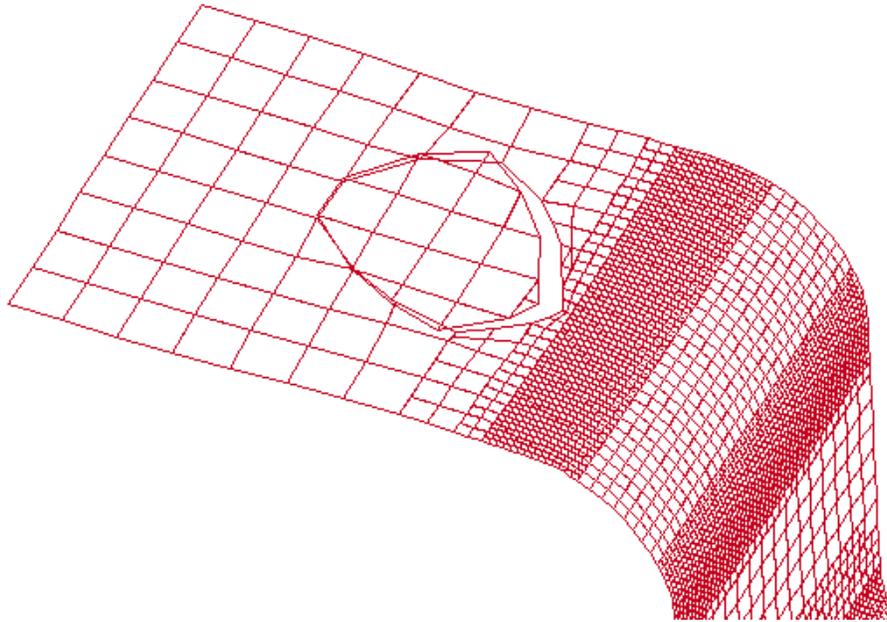


Figure 3. Closed loop lancing.

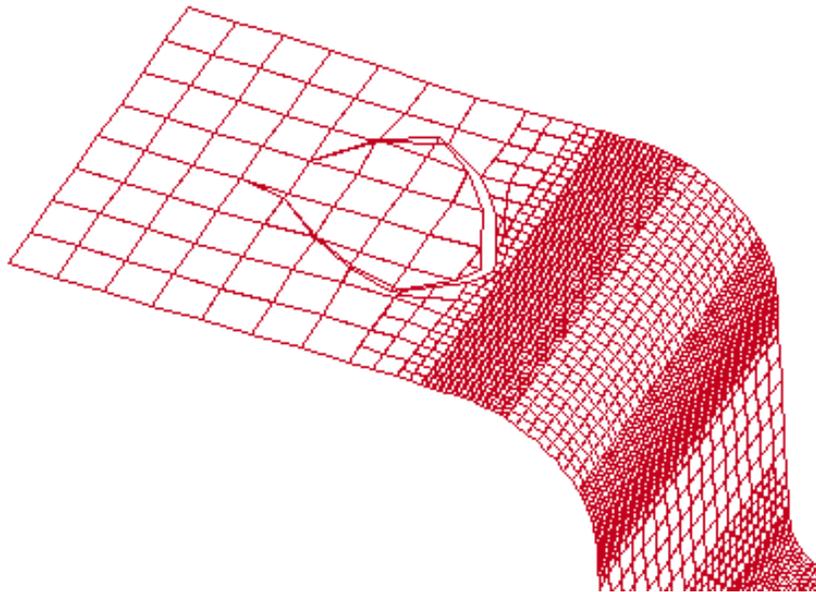


Figure 4. Open loop lancing.

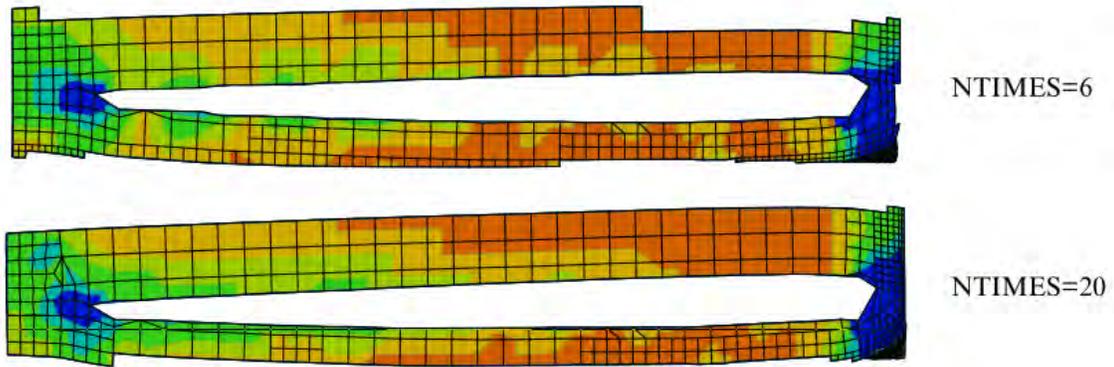


Figure 5. The effect of NTIMES.

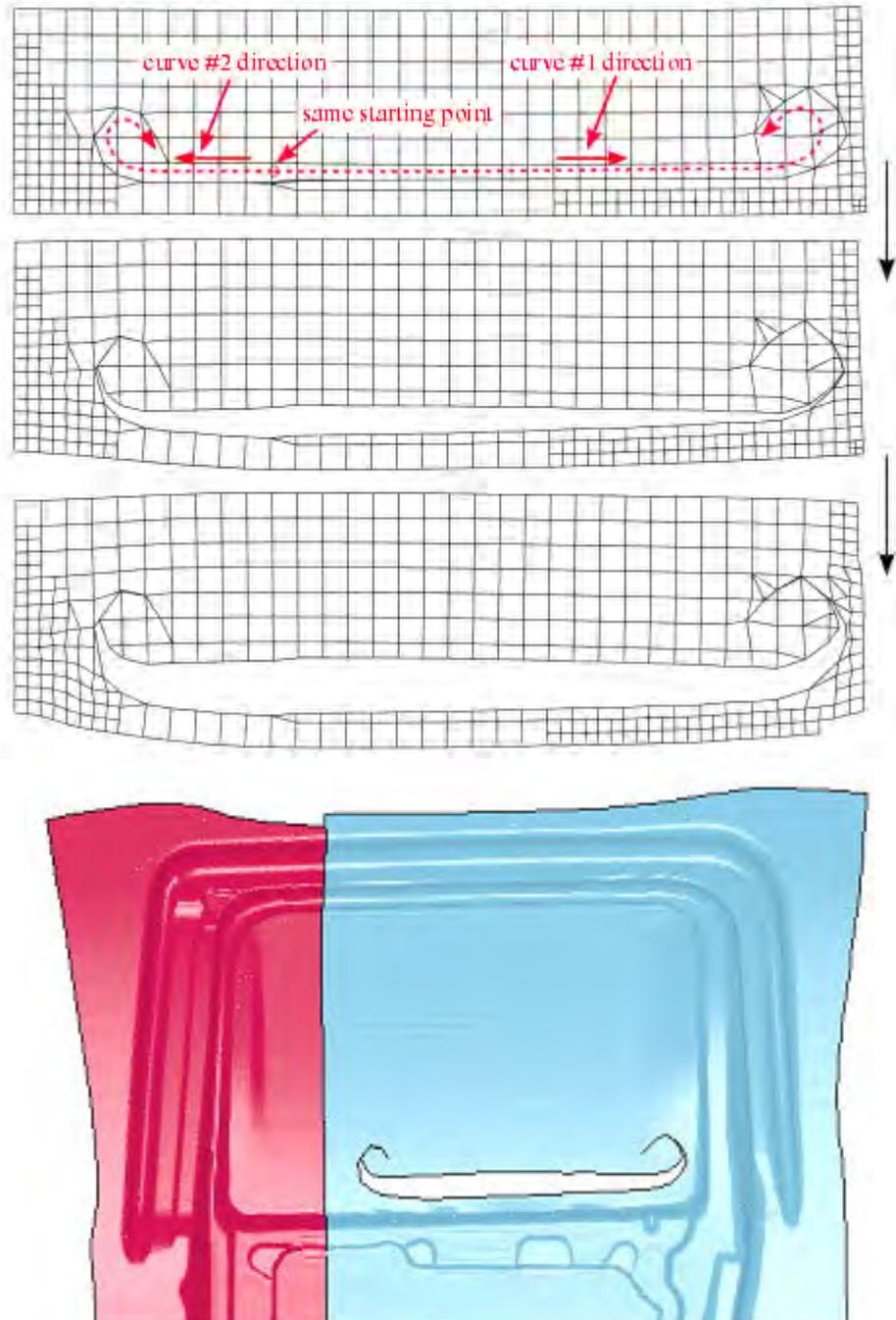


Figure 6. Multiple lancing starting at the same point.

Len Schwer

<http://www.duboisschwertraining.com/future>

Paul Du Bois and I are pleased to announce our 2014 schedule of classes to be presented in Troy Michigan and hosted by our ETA partners (www.eta.com)

A registration form with the class price list is available on our web page.

<http://www.duboisschwertraining.com/classes/Registration%20Details%20Troy%20MI>

Completed registration forms are required prior to 13 May 2014 to establish class size. Class size minimum is four attendees. Once a class is confirmed, an invoice with payment instructions will be emailed.

2014 Schedule of Classes

ETA, Troy, Michigan

Hosted by our ETA Partners www.eta.com

27-28 May 2014 - Concrete and Geomaterial Modeling with LS-DYNA

29-30 May 2014 - Methods and Modeling Techniques: Prerequisite for Blast and Penetration

2-3 June 2014 - Penetration Modeling with LS-DYNA

4-5 June 2014 - Blast Modeling with LS-DYNA

6 June 2014 - Explosives Modeling for Engineers

DYNAmore, Stuttgart, Germany

9-10 October 2014 - Concrete and Geomaterial Modeling (Len)

13-14 October 2014 - Blast Modeling with LS-DYNA

15-16 October 2014 - Penetration Modeling with LS-DYNA

ARUP, Solihull, United Kingdom

20-21 October 2014 - Concrete and Geomaterial Modeling (Len)

20-21 October 2014 - Polymer Modeling (Paul)

22 October 2014 - Explosives Modeling for Engineers

Ford Reveals 2015 Expedition with EcoBoost Engine, Advanced Technology, New Platinum Series



- 2015 Ford Expedition will feature 3.5-liter, direct-injected twin-turbocharged EcoBoost® engine popular in Ford F-Series; engine designed to deliver most powerful, fuel-efficient Expedition ever
- Advanced technology in new Expedition includes Blind Spot Information System® with cross-traffic alert, electric power-assisted steering, SYNC® with MyFord Touch®, available suspension damping to improve passenger comfort; a new high-trim Platinum series debuts
- Ford global utility vehicle sales rose 35 percent in 2013; Ford has been the leader in North America utility vehicle sales since 2011

DALLAS, Texas, February 18, 2014 - The new 2015 Ford Expedition, revealed here today ahead of the 2014 DFW Auto Show, continues to represent the smart choice for people who need a full-size utility vehicle that provides capable performance, usable space and advanced technology.

Expedition now features Ford F-Series' popular 3.5-liter EcoBoost® engine, more technology than ever and a fresh new look. Launching later this year, it is the latest Ford nameplate to offer a Platinum series. Expedition is being shown for the first time in Texas, Ford's largest market by sales volume, and home to the top two cities for Expedition sales – Dallas and Houston.

Expedition debuted in 1996 and is Ford's largest utility vehicle. By most measures, it is a leader in interior space, accommodating eight passengers. Two versions are offered – the

standard 119-inch wheelbase is just more than 6 inches longer than Ford Explorer. It has three rows of seats and up to 108.3 cubic feet of cargo space. The longer-wheelbase version sits on a 131-inch wheelbase, and features three rows of seats and up to 130.8 cubic feet of cargo space.

Expedition remains the only full-size utility vehicle not classified as a luxury offering to feature an independent rear suspension. This helps deliver more confident ride and handling characteristics, and allows for the lower, more convenient fold-flat third-row bench seat.

Both standard and EL versions of Expedition are built at Kentucky Truck Plant in Louisville, alongside Ford's popular Super Duty pickup. Last month, the company confirmed plans to add more workers and invest an additional \$80 million in facility upgrades to improve automation and increase capacity at the plant.

Ford is responding to strong customer feedback and introducing a top-of-the-line Platinum series Expedition with unique, premium interior appointments. The new vehicle features the latest popular technologies like SYNC® with MyFord Touch®, push-button start and Blind Spot Information System®. A new 3.5-liter, direct-injected twin-turbocharged EcoBoost delivers more power and performance than the current 5.4-liter V8, and is designed to be more efficient.

“This new Expedition is proof Ford is committed to remaining the leader in utilities – small, medium and large,” said Jackie DiMarco, Expedition chief engineer. “We listened to our customers and created a full-size utility vehicle that doesn’t compromise in performance, technology or design.”

Improved on the Road

From the outset, engineers worked to make the 2015 Expedition a technologically advanced vehicle that is easy to drive and offers refinement for all types of drivers.

The new EcoBoost engine dramatically changes the driving characteristics of

Expedition. Compared with the 5.4-liter V8, the 3.5-liter EcoBoost gives drivers not just better fuel economy, but more power and torque on demand at very low engine speeds.

“Expedition becoming the latest Ford utility vehicle to wear the EcoBoost badge will be exciting for customers,” said Doug Scott, Ford truck group marketing manager. “Increased torque and horsepower, combined with new levels of efficiency and an advanced suspension not only will make Expedition more fun to drive, but also easier to own. This is another ‘and’ solution from Ford.”



The 3.5-liter EcoBoost will be the only engine offered in the new Expedition in North America. To maximize performance and control, the vehicle is equipped with a six-speed SelectShift® automatic transmission featuring a manual mode that allows the driver to use a shift-mounted rocker switch to select the desired gear.

With EcoBoost now standard equipment across the 2015 Expedition range, the entire U.S. lineup of Ford utility vehicles will be available with EcoBoost power by the end of 2014.

New continuously controlled damping, available for the first time on a Ford nameplate, will make Expedition the only Blue Oval-branded vehicle in the United States with three selectable drive modes – comfort, normal and sport.

Using a suite of sensors that detect 46 unique body, steering and braking inputs, the advanced suspension monitors body motion and then adjusts Expedition's damping system in milliseconds to manage the vehicle's natural body motion. A vehicle with poor damping feels as if it is bouncing on its suspension springs; continuously controlled damping recognizes the weight of the vehicle, steering feedback and road undulations and then reacts accordingly, helping to control body motion so passengers experience an orderly, comfortable ride.

The new Expedition also features Ford's innovative electric power-assisted steering, which gives drivers noticeably improved maneuverability at low speeds and better feel at

high speeds, and saves fuel because it operates more efficiently than traditional pump-driven systems. The technology reduces steering effort and makes Expedition more engaging to drive.

More Technology Customers Want

The new Expedition debuts with popular technology upgrades consumers are now demanding, including SYNC with MyFord Touch and driver-assist features such as radar-based Blind Spot Information System with cross-traffic alert.

The updated interior of Expedition incorporates a fresh center stack to accommodate new technologies, such as an 8-inch touch screen for SYNC with MyFord Touch. The driver information cluster features two full-color 4.2-inch LCD screens.



New Expedition with SYNC and My Ford Touch

Other new technologies on the 2015 Expedition include a 10-speaker, 700-watt Sony audio system; Intelligent Access with push-button start; rearview camera; seven-color, interior ambient LED lighting; and Ford truck apps to help make trailer towing and off-road driving easier.

Fresh Style and Design

The new Expedition pushes full-size utility vehicle design to a higher level, with fresh interior and exterior styling and a diverse series lineup – each with a distinct look and feel to give customers more choice than ever. A Platinum trim package, which has been very successful on Ford F-Series, will be available on Expedition for the first time.

“The Platinum series brings Expedition into a whole new arena of design and style,” said Scott. “One of the strengths of Expedition has always been the different trim series we offer. From XLT to Limited and now with Platinum,

we have an Expedition that will fit any customer’s needs.”

The Platinum series is tailored with lush leather seating described by designers as buttery – soft and smooth to the touch. It’s available in a new Brunello leather, a red wine color with tuxedo-stripe accents and French-seamed stitching. Platinum customers can also choose black leather with Agate Gray accents.



New Ford Expedition Platinum Interior

Beyond the new Platinum series, the 2015 Expedition lineup includes the XLT, Limited and a new King Ranch edition to be revealed later.

The design team, finding inspiration in the world around them, incorporated different themes to define the look for each series. The intent was to reflect a consumer lifestyle, from the sporty XLT, to the confident, elegant Limited, to the sophisticated, urban Platinum. Each series has unique finishes specially selected to reflect the lifestyle and desires of the customer. For example, Expedition Limited features refined yet traditional finishes, while for the Platinum edition, the colors and material finishes are fresh and sophisticated.

The Expedition exterior has been updated with an all-new front end featuring available LED fog lamps for a fresh, aggressive look.



New Ford Expedition Headlight

An all-new wheel lineup including factory-installed 22-inch models, a redesigned rear hatch and subtle, chrome-tipped exhaust pipes round out the exterior changes to the 2015 Expedition.

With this new model debuting at the DFW Auto Show – deep in the heart of the full-size utility vehicle market – Ford is building on a successful tradition of Expedition capability and quality with significant improvements in design, performance, efficiency and available technology.

Department of Defense High Performance Computing Modernization Program Awards More Than \$40 Million in Contracts to Cray



SEATTLE, WA -- (Marketwired) -- 02/11/14 -- Global supercomputer leader Cray Inc. (NASDAQ: CRAY) today announced that the Company has been awarded two supercomputing contracts totaling more than \$40 million to provide the Department of Defense (DOD) High Performance Computing Modernization Program (HPCMP) with three Cray® XC30™ supercomputers and two Cray® Sonexion® storage systems.



Cray will deliver a Cray XC30 supercomputer and a Cray Sonexion storage system to the U.S. Air Force Research Laboratory (AFRL) located at the Wright Patterson Air Force Base in Ohio. Cray will also deliver two Cray XC30 supercomputers and a Cray Sonexion storage system to the Navy DOD Supercomputing Resource Center (Navy DSRC) located at the Stennis Space Center in Mississippi.

"Supercomputing is a critical enabler for the wide variety of science, technology, test, evaluation, and acquisition engineering communities that the DOD HPC Modernization Program supports," observed John West, director of the DOD's High Performance Computing (HPC) Modernization Program. "These new systems are a key component of our strategy of making sure the DOD's scientists and engineers have access to the most modern, capable, and usable computational tools available. We are especially pleased that the successful completion of this purchase marks the realization of the potential value of our streamlined process for large system acquisition, with benefits for both the government and our commercial partners."

In operation for more than 20 years, the DOD HPCMP remains focused on its mission to accelerate technology development and transition into superior defense capabilities through the strategic application of high performance computing (HPC), networking and computational expertise. The HPCMP provides the people, expertise and technologies that increase the productivity of the DOD's Research, Development, Test and Evaluation community.

"The DOD High Performance Computing Modernization Program shares a number of the same attributes as our company -- both organizations are technology-driven, innovation-focused and committed to providing researchers and engineers with advanced supercomputing technologies for taking on important missions," said Peter Ungaro, president and CEO of Cray. "Cray has a long, proud history with the HPCMP, and we are honored that our flagship Cray XC30 supercomputers and Sonexion storage systems will play a vital role in this important program."

The Air Force and Navy chose to deploy the Cray Sonexion scale-out Lustre® storage system, which reduces time to results and simplifies Lustre integration and management. Cray will deliver more than six petabytes of storage capacity and more than a third-of-a-terabyte per-second of storage performance across both storage systems. Cray's Sonexion storage system combines Cray's Lustre expertise with a unique design that allows scalability from five gigabytes per-second to more than a terabyte per-second in a single file system -- and performs optimally at scale. Management is simplified through an appliance design with all storage components including software, storage and infrastructure.

Previously code-named "Cascade," the Cray XC30 supercomputers are Cray's most advanced HPC systems and are engineered to

meet the performance challenges of today's HPC users. The Cray XC30 and Cray® XC30-AC™ supercomputers feature the unique Aries system interconnect; a Dragonfly network topology that frees applications from locality constraints; innovative cooling systems to lower customers' total cost of ownership; the next-generation of the scalable, high performance Cray Linux Environment supporting a wide range of applications; Cray's HPC optimized programming environment; and the ability to handle a wide variety of processor types.

Additional information on the Cray XC30 supercomputer and Cray Sonexion storage system can be found on the Cray website. The systems associated with these two contracts are expected to be delivered and installed in 2014.

About the DOD High Performance Computing Modernization Program (HPCMP)

The HPCMP provides Department of Defense supercomputing capabilities, high-speed network communications and computational science expertise that enable DOD scientists and engineers to conduct a wide-range of focused research, development and test activities. This partnership puts advanced technology in the hands of U.S. forces more quickly, less expensively, and with greater certainty of success.

Today, the HPCMP provides a complete advanced computing environment for the DOD that includes unique expertise in software development and system design, powerful high performance computing systems, and a premier wide-area research network. The HPCMP is managed on behalf of the Department of Defense by the U.S. Army Engineer Research and Development Center.

For more information, please visit the DOD HPCMP website at: www.hpc.mil.

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

Safe Harbor Statement This press release contains forward-looking statements within the meaning of Section 21E of the Securities Exchange Act of 1934 and Section 27A of the Securities Act of 1933, including, but not limited to, statements related to Cray's ability to deliver the systems required by the DOD HPCMP when required and that meet the DOD HPCMP's needs. These statements involve current expectations, forecasts of future events and other statements that are not historical facts. Inaccurate assumptions and known and unknown risks and uncertainties can affect the accuracy of forward-looking statements and cause actual results to differ materially from those anticipated by these forward-looking statements. Factors that could affect actual future events or results include, but are not limited to, the risk that the systems required by the DOD HPCMP are not delivered in a timely fashion or do not perform as expected and such other risks as identified in the Company's quarterly report on Form 10-Q for the quarter ended September 30, 2013, and from time to time in other reports filed by Cray with the U.S. Securities and Exchange Commission. You should not rely unduly on these forward-looking statements, which apply only as of the date of this release. Cray undertakes no duty to publicly announce or report revisions to these statements as new information becomes available that may change the Company's expectations.

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Source: Cray Inc.



BETA CAE Systems S.A.

**Announces The Establishment Of
BETA CAE Italy Srl,**

Its New Subsidiary in Turin, Italy

Thessaloniki, February 10th, 2014

BETA CAE Systems S.A., the leading contemporary industry supplier of CAE software, announces the further expansion of its operations, with the establishment of a subsidiary company in Italy. BETA CAE Italy Srl, based in Turin, has the mission to enhance the customer's service experience for the CAE engineers in Italy and contribute to the further deployment of BETA CAE Systems portfolio.

The upgrade of the regional representative office of BETA CAE Systems in Turin to a subsidiary entity was a natural evolution after the warm welcome from our customers and the significant market share growth of the recent years. This evolution is one more demonstration of our company's commitment to bring our best-in-class software solutions and know-how in multi-disciplinary CAE processes, closer and faster to the market.

"The reinforcement of our presence in Italy is of significant importance for both our company
"

and our customers", said Emidio Giordano, Vice President and Managing Director of BETA CAE Italy. "The positive response we had from our customers and the business growth we experienced during the first year of activity of our representative office has encouraged us to move forward and invest in the establishment of a fully incorporated Italian company. This step is our most effective answer to the turbulent period that Italy is currently facing: we are here to stay, to grow and to expand our activities. We seek to employ young talents and invest our human and financial resources to offer the best-in-class support to our customers, providing them with the right tools to innovate, consolidate, deliver. With the recent developments in the major car-maker asset we can offer a strategic edge to empower the recovery of the automotive Italian tradition: a symbol of passion, style and technique.

"We always had strong partnerships with the Italian automotive and motorsports industries, since they were among the first that welcomed us more than twenty years ago", said Sam Saltiel, Chief Communication Officer and Head of Customers Service of BETA CAE Systems. "The enhancement of this relationship is of paramount importance to us. Upgrading our representative office in Italy to a subsidiary, further increases our potential in all industrial sectors and enables us to deliver a higher level of customers services experience".

About BETA CAE Systems SA

BETA CAE Systems S.A., headquartered in Thessaloniki, Greece, is a private engineering software company committed to the development of best-in-class CAE software systems that meet the requirements of all simulation disciplines. The company's flagship product, ANSA / μ ETA pre- & post-processing package, hold a worldwide leading position, in many sectors, including the automotive, railway vehicles, aerospace, motorsports, chemical processes engineering, energy,

electronics, heavy machinery, power tools, and biomedical. The company's new solution for Simulation Product Data and Resources Management, SPDRM, provides a simple, scalable and intuitive way to capture, deploy, manage and improve CAE work flows.

About BETA CAE Italy Srl

BETA CAE Italy Srl, with headquarters in Turin, Italy, is a subsidiary of BETA CAE Systems SA. Its mission is to broaden the customer basis and offer high-level support for BETA's software portfolio. Staffed with a team of carefully selected experts, BETA CAE Italy assures customer satisfaction and increased benefits from CAE deployment.

Contact:

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10135 Torino, Italy

Tel: +39-011-19580463, Email: ansa@beta-cae.it, URL: www.beta-cae.it



SimApps™ Comet Solutions builds industry and solution focused applications – SimApps™ – that can be deployed on your desktop or through a web browser.

By embedding expert knowledge and methods, but removing the complexity of general purpose CAE tools, SimApps™ make design-driven simulation suitable for use by everyone from CAE experts to design engineer.

The key Comet capabilities that unlock this power are the Abstract Engineering Model (AEM®) and Intelligent Templates.

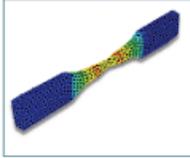
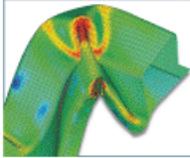
Using purpose-built templates and models, we build and deploy solutions that capture and roll-out best practices; automate repetitive and tedious tasks, and put the power of sophisticated CAE analysis safely into the hands of both experts and non-experts alike.

Our experts can also develop an application to support your own product system design & analysis process.

Comet software is independent from individual CAD and CAE tools, leaving you the flexibility to select and use the design and analysis software of your choice, including:

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- Siemens NX
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- MSC Nastran, Patran, SimXpert, Dytran, Adams, Easy5, Actran
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- MATLAB
- And many others

design properties for CAE



forming hyperelastic crash fatigue molding extrusion

See you at the following events:

- International LS-DYNA Users' Conference:
June 8-10, 2014; Dearborn, MI, USA
- ANSYS Conf. & CADFEM Users' Mtg:
June 4-6, 2014; Nuremburg, Germany
- SIMULIA Community Conference:
May 19-22, 2014; Providence, RI, USA
- CARHS Automotive CAE Grand Challenge:
April 15-16, 2014; Hanau, Germany

testpaks.com is the side of DatapointLabs focused on the material modeling needs of the CAE (Computer-Aided Engineering) community.

With widespread use of modern materials there is the growing need to understand material behavior for the proper utilization of virtual product development tools. testpaks.com is the first web site to feed the "material" needs of the CAE (computer aided engineering) user. It seeks to concentrate the current knowledge base of materials modeling for virtual product design, drawing from the extensive experience of DatapointLabs materials specialists, CAE vendors, and expert users. testpaks.com is important in view of the widespread difficulty experienced by the CAE community and the subsequent limitations it places upon the use of CAE products.

As CAE use has evolved in the past decade, DatapointLabs products for CAE, TestPaks®, have offered CAE users with the most convenient way to get material data inputs specific to their material and simulation programs. For good material models, it is important that the testing and modeling be done by people who understand material behavior, as well as CAE programs. To better understand the needs of CAE, DatapointLabs maintains an active and extensive Alliance Program with all major CAE vendors, and has been serving its client base with not just material data, but "ready-to-load" models that can be exported in digital format as CAE-input decks via MaterealityDDS.

testpaks.com is info-mercial in nature. While it serves as a convenient online catalog for purchase of material testing for CAE, it also serves as a place for CAE community to submit content, opinions and experiences on the modeling of materials. We actively solicit this input and post it subject to review. We have in-house facilities to take relevant papers, presentations, web-links and movies and make them ready for the web. These facilities are at your disposal and you can work interactively with our team to get the desired interconnectivity and results.\

32nd CADFEM USERS' MEETING 2014 - June 4 – 6, 2014; NCC Ost, Nuremberg, Germany
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Language: Lectures can be held in English or German.

Documents for presentation should be – if at all possible – in English.

Please submit the title of your lecture in the language in which you will hold it.

Lecture submission and deadlines: Duration of lecture should be 25 minutes.

Please submit by January 31st, 2014:

- Title of lecture
- Short summary stating subject and contents and the software used (at least 2000 signs)
- technical information
- The field/industry you are working in
- By February 14th, 2014: you will receive information about acceptance.
- by March 14th, 2014: you will receive information about session/time of your lecture.
- by May 16st, 2014: please provide us with your lecture and a short CV.

For templates and further information on lecture submission please refer to:

ACUM2014-Presenters [1.5 MB].

Submissions can be sent in:

- using the fax form: Registration -
- online at: Registration - email to: acum2014@cadfem.de

Remuneration: Please visit the website for information.

Publication: By submitting your lecture you agree to your presentation being published in the conference media and used by CADFEM and ANSYS for marketing purposes after the conference.

If you do not agree to this, please let us know.

Registration for lecturers: You must register for the conference even if you are a lecturer.

If you have chosen a free day of participation as remuneration for your user report, the respective day (presumably Thursday, June 5th, 2014) will not be charged.

ACUM Best Paper Award: A committee is going to award in each discipline (Structural Mechanics, Fluid Dynamics, Electronic-Mechanics and Systems & Multi-physics) the best presentation. Only papers submitted on time can be considered. Winners will receive a terrific surprise.

The main language is German. However, lectures in English are welcome! If you plan to attend, please note that selected sessions and workshops will be held entirely in English and the slides in all sessions will mostly be in English

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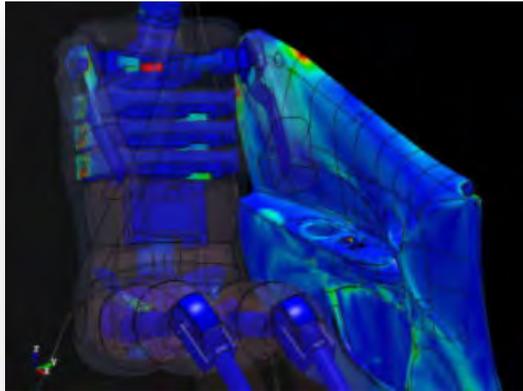


Fig.3 Side Impact Crash Test / Effective Stress

http://www.lancemore.jp/ls-dyna/example_397.html

LS-DYNA Analysis Models

Here we are showing a collection of sample models created through LS-DYNA by Lancemore FEA team. LS-DYNA is useful not only for the nonlinear structural analysis, but also for analyzing FSI (Fluid Structural Interaction) and supporting the implicit method function. It also covers a wide range of fields including particle method, vibration and acoustic analysis, and we are expecting that the range will keep on expanding in the future.

The sample models have been created and collected below for the purposes of letting you know what LS-DYNA can do and demonstrating our knowledge and abilities to create models. We are hoping that our models come in useful for you. If you wish to create a particular model, please contact us. We will offer the best cost-effective solutions. Thank you for your interest in our models!

Contact: info@lancemore.jp



<http://awg.lstc.com>

The LS-DYNA® Aerospace Working Group (AWG)

The LS-DYNA® Aerospace Working Group (AWG) is a partnership of federal agencies, corporations, and universities working together

to develop and publish aerospace test cases and modeling guidelines for finite element analyses with LS-DYNA®.

China's "Jade Rabbit" Moon Rover Awakens With Same Problems



China's lunar rover is not ready to say "good night moon" just yet. The rover, called Jade Rabbit, has awakened from the long lunar night—but only after Chinese state media reported of its death. This gives Chinese mission controllers another chance to figure out the rover malfunction that first led to fears of its untimely demise.

Photo: Reuters

Jade Rabbit's troubles began shortly before it went intentionally dormant for its second lunar night on 25 January. At the time, China's State Administration of Science, Technology and Industry for National Defense said that the rover faced a "mechanical control abnormality" because of a "complicated lunar surface environment," but provided no other details. The news triggered an outpouring of sympathy from Chinese citizens via social media networks. Chinese state media practiced transparency, taking the steps of reporting on

the problem and also preparing citizens for the possibility of the lunar rover's early demise.

The rover's condition left Chinese engineers uncertain about whether the robot's critical systems would endure the two-week, super-cold lunar night, when no sunlight would reach the rover's solar panel. And an official Chinese news service initially seemed to confirm the worst as it reported on Jade Rabbit's failure to awaken this week

But today, China National Radio quoted Pei Zhaoyu, spokesperson for China's lunar probe program, as saying the rover had returned to "wakefulness." But Pei acknowledged that the rover's earlier malfunction remained, according to South China Morning Post.

"Jade Rabbit went to sleep in an abnormal state. We were worried it wouldn't be able to endure the lunar night's extremely low temperatures, but it's come back to life! As long as it's alive, there's the possibility it can be saved."

The rover's landing on 14 December 2013—part of China's Chang'e-3 lunar mission—made China the third country in history to soft-land an object on the moon. The event also marked

Photo: Reuters

the first lunar landing of any kind, manned or unmanned, since 1976. If Chinese engineers can troubleshoot Jade Rabbit's problems, the robotic explorer could potentially finish its planned three-month mission.

Jade Rabbit's apparent survival prompted the message, "Hi, anybody there?" from an unofficial "Yutu Lunar Rover" account on Sina Weibo, China's version of Twitter. Xinhua reports that the message rallied fans and followers, prompting 60 000 reposts and 40 000 comments within two hours. Some social media users joked about the rover waking up with a craving for the traditional sweet dumplings associated with China's Lantern Festival that falls on Friday (14 February) this year.



2014 Camaro Z/28 carries on the legendary Z/28 tradition of lightweight, nimble and incredibly powerful performance that makes it equally at home on the street or the track. It features a hand-assembled LS7 427 cid engine that delivers 505 horsepower and 481 lb.-ft. of torque, mated to a TREMEC TR6060 6-speed manual gearbox. Z/28 also benefits from a wide array of other features designed to improve track performance. (Richard Prince/Chevrolet Photo)

DETROIT – Lightweight, nimble and incredibly powerful, the original Z/28 was designed for road racing. The 2014 Z/28 carries the same spirit, with every detail engineered specifically to create the ultimate track-capable Camaro.

To enable the Z/28 to quickly lap the most challenging road courses, engineers and designers focused on strengthening three key areas during development:

- Increased grip: The Z/28 is capable of 1.08 g in cornering acceleration, due to comprehensive chassis revisions
- Increased stopping power: The Z/28 features Brembo carbon ceramic brakes capable of 1.5 g in deceleration, and consistent brake feel, lap after lap
- Reduced curb weight: The naturally aspirated Z/28 weighs 300 pounds less than the supercharged Camaro ZL1 and 55 pounds lighter than the Camaro 1LE

- with changes ranging from lightweight wheels to thinner rear-window glass.

To enhance the balance and overall driving feel of the Z/28, 100 percent of the unsprung mass – suspension, wheels, tires and brake system – differs from the Camaro SS.

“Like the first-generation Z/28, the new model is a road racer first and foremost. It features a wide range of state-of-the-art exterior performance modifications, and weight-reduction measures. It was bred for the track, pure and simple,” said Mark Stielow, Camaro Z/28 engineering manager.

Exterior Design and Aerodynamics

With the driving goal focused on peak performance capability, nothing on the exterior is without purpose. It shares several racing-inspired, design best practices and lessons learned with the 2014 Corvette Stingray. New and revised exterior content was developed to improve aerodynamics, powertrain cooling and brake-system cooling, helping the Z/28 produce 150 pounds of downforce at 150 mph.

Here are 28 features that helped the Camaro Z/28 lap Germany's famous Nürburgring road course four seconds faster than the Camaro ZL1.

1. Rear spoiler with 'wickerbill'

The aerodynamic coefficient of drag goal was achieved with original Camaro SS content and an accessory rear spoiler, but to meet the downforce requirements for Z/28, the spoiler was modified with a "wickerbill" – a small, vertical tab at the edge of the spoiler. Although an aesthetically minor change, it helped improve rear lift performance by 70 counts. That allows the Z/28 to handle turns at higher

speeds and deliver greater overall high-speed stability.

2. Unique front fascia

The Z/28's unique front fascia is based on the Camaro SS, but the fog lamps, air dam and the upper-base grille are replaced with covers that reduce weight from deleting fog lamps, an air duct support bracket, an airflow-optimized grille for enhanced cooling and a modified fascia bottom that incorporates provisions for the brake cooling ducts. They funnel air from the lower grille to the wheelhouse liners and the unique splitter.

3. Front splitter

The Z/28's front splitter is a large aero panel that provides downforce at the front of the car, enhancing cornering capability and high-speed stability. Designed to withstand 250 pounds of downforce at its tip, it is matched with an aero closeout panel under the front of the engine compartment that also enhances aero characteristics – along with molded-in aero features forward of the front wheels

4. Hood extractor

A functional carbon fiber hood extractor provides increased engine cooling by allowing hot air an exit route. The design is similar in function to the extractor featured on the Camaro ZL1.

5. Rocker moldings and wheel flare moldings

Specific rocker moldings provide aggressive styling and improved aerodynamic performance, while unique wheel flare moldings cover the Z/28's wide tires. Deflectors at the bottom-front corners of the front wheel flares contribute to the car's downforce-producing aerodynamics.

6. Front wheelhouse liners

Unique wheelhouse liners with closeouts work with the vehicle underbody to make the most of airflow.

7. Belly pan

The Z/28 underbody incorporates a belly pan that helps reduce front lift. Developed using computational fluid dynamics and wind-tunnel testing. It provides an aero benefit and contributes to drivetrain cooling. Modified

NACA duct profiles are designed to draw air into the underbody tunnel area, where the highly energized air provides extra cooling for underbody components affected by the exhaust heat energy of the LS7 engine.

Weight Reduction

Making the most of mass is a key component of the Z/28's performance capability, contributing to a balanced feel and a high power-to-weight ratio. With a curb weight of 3,820 pounds and 505 horsepower (376 kW), the Z/28 has a power-to-weight ratio of 7.6:1 – or one horsepower for every 7.6 pounds of the car's mass. That compares favorably to other performance coupes, including Audi RS 5 (8.9:1), BMW M3 (8.9:1) and Porsche 911 Carrera (8.7:1).

The Z/28's curb weight is approximately 300 pounds less than the ZL1 and about 55 pounds less than the 1LE, despite features that add mass, including a dry-sump oiling system with a 10.5-quart reservoir, higher-mass chassis and suspension components such as the support brackets for the front splitter. Engineers offset the mass of those necessary features with a targeted weight-loss program that trimmed the Z/28 to the essential elements of performance

8. Thinner rear window glass

Reducing the thickness of the rear window glass from 3.5 mm to 3.2 mm saved 400 grams.

9. Lightweight rear seat

Although it looks like the rear seat in the SS, the Z/28's rear seat is 4.7 kilograms lighter due to reduced seat foam and a fixed seatback design with no folding/pass-through feature.

10. Lightweight wheels and tires

The Z/28's 19-inch aluminum wheels save 8.7 kilograms compared to Camaro SS wheels. Their thin split-spoke design features a back-cut at the rim, reducing mass at the outermost area of the wheel – and reducing spin inertia by 5 percent, for enhanced performance. They are matched with track-capable tires that save 13.2 kilograms per vehicle, compared to the SS.

11. Carbon ceramic brake rotors

Lighter than comparably sized steel brake rotors, the Z/28's carbon ceramic rotors save 9.6 kilograms, while also reducing un-sprung weight for immediate, responsive handling.

12. No Air conditioning

Because the Z/28 is intended for the track, air conditioning was deemed non-essential component. The deletion saved 12.9 kilograms. Air conditioning is available as an option.

Powertrain: The Camaro Z/28's powertrain is rooted in the 7.0L LS7 engine that made the Corvette Z06 an instant performance icon. With an SAE-certified 505 horsepower (376 kW) and 481 lb-ft of torque (652 Nm), it complements the lightweight vehicle components to give the car its 7.6:1 power-to-weight ratio while delivering the power to accelerate strongly out of corners and achieve high straightaway speeds.

A close-ratio six-speed manual transmission is the only transmission offered and power is distributed to the rear wheels via a limited-slip differential featuring a helical gear set, rather than traditional clutch packs. The new design enables the driver to apply more power and get through corners faster, by continuously adjusting the torque bias to maximize available traction.

The differential works in unison with Chevrolet's proprietary Performance Traction Management system, which allows drivers to adjust the level of throttle and brake intervention to match their capability and driving environment

13. LS7 engine with dry-sump oiling

The racetrack-bred LS7 includes features designed for the high-rpm environment of the track, including a durable forged-steel crankshaft, lightweight titanium connecting rods and high-flow cylinder heads with lightweight titanium intake valves. It also features a racing-style dry-sump oiling system that helps ensure adequate oil pressure during high-load cornering.

14. Air intake system

The LS7 uses a unique open air box intake system to make the most of high-rpm airflow into the engine. It features a K&N conical air filter and delivers the highest airflow performance of any production Camaro filter system. The air cleaner seals around bottom of the hood, reducing the chance of recirculated hot air being drawn into the engine.

15. Track-capable fuel system

Engineered to meet the fueling demands of the high-output LS7 engine during aggressive driving maneuvers, the road course-ready fuel system is designed to keep the primary fuel pump reservoir full even under hard cornering and maximize the amount of fuel available during high-performance maneuvers around the most grueling road courses.

16. Active dual-mode exhaust system and high-flow converter assembly

The 2014 Z/28's dual-mode exhaust system is engineered to provide high-flow and muscular sound character under aggressive acceleration, while attenuating noise levels in cruising conditions. It actively controls valves that change the flow path of the exhaust for the desired performance, depending on transmission gear and engine speed. With the valves open, the system produces less back pressure and more power from the engine. Additionally, the converter assembly has been modified to increase flow and horsepower.

17. TREMEC TR6060 six-speed manual transmission

Used in the Camaro ZL1 and Cadillac CTS V-Series, the TREMEC TR6060 six-speed manual has the capability to stand up to high-performance engines, with short throws, smooth gear synchronization and excellent shift feel. Design features include a combination of double-cone and triple-cone synchronizers on all gears. Double-cone synchronizers have two friction surfaces to affect gear acceleration and triple-cone synchronizers have three friction surfaces – the greater the friction surface, the easier the transmission is to shift

18. 5.1-ratio short-throw shifter

The Z/28 uses a 5.1-ratio short-throw shifter that provides quicker, more precise-feeling gear changes – similar to ZL1 and SS 1LE models.

Chassis and Suspension

The Z/28's performance focus is maximum cornering, braking and lap times. Comprehensive chassis and suspension changes, including a lower center of gravity, specific stabilizer bars, higher-rate coil springs and other chassis and suspension features, enable more than 1.05 g in lateral acceleration and 1.5 g in deceleration. Racing-bred dampers, tires and carbon ceramic brakes play important roles in predictable and consistent maximum performance with every lap.

19. Strut tower brace

The Z/28 uses the same tower strut brace as the Camaro SS 1LE to provide extra chassis stiffness by tying the towers together. It transmits the load of each strut tower during cornering via tension and compression of the strut bar, which shares the load between both towers and reduces chassis flex.

20. Zero-preload limited-slip differential

A high-performance, zero-preload limited-slip differential is employed to make the most of cornering capability and cornering exit traction. It features a concentric helical gear set that generates friction proportional to the input

torque and allows continuous torque biasing and differentiation to be managed between the drive wheels. A conventional limited-slip differential uses preloaded clutch plates and springs to create a fixed amount of friction that is always present).

As torque increases from the engine, the separation forces in the gears increase to drive increased friction, maximizing the capability of individual-wheel antilock brake function during corner-entry braking, mid-corner speed and corner-exit traction. On the track, that translates into quicker lap times, by allowing the Z/28 to put down more power in the turns, with greater traction, greater handling precision and enhanced steering centering. The axle ratio is 3.91.

21. Differential cooler

The Z/28's differential cooler pulled from the knowledge gained in developing the ZL1, which is unlike that found in other sports cars. It incorporates an integral heat exchanger, eliminating the need for an external pump, wiring, relays, temperature sensors and fan. This innovative system pumps overcooled transmission fluid to a heat exchanger inside the differential housing, which removes excess heat from the differential fluid, reducing temperatures by more than 100 degrees F, helping the differential maintain cool, stable performance throughout the most aggressive road course sessions

22. Upgraded lower control arm ride link “travel limiter” bushing

This higher-durometer part offers 50-percent greater stiffness at high load than the SS, improving steering feel and brake force deflection steer while providing more consistent performance for continuous road-course driving. Additionally, the lower control arm lateral link handling bushing is revised on all 2014 Camaros for more consistent track performance.

23. Upgraded rear upper control arm bushing and lower trailing link bushings

The “P-bracket” bushing for the rear upper control arms is redesigned with increased durometer and eliminated voids to improve lateral stiffness during hard cornering, as well as toe-change compliance during braking. The stiffness rate of this part is increased 400 percent, compared with the SS component. Similarly, 25-percent stiffer lower inner and outer trailing links bushings deliver improved lateral stiffness during hard cornering and reduced toe-change compliance during hard braking.

24. Higher-rate coil springs and smaller-diameter stabilizer bars

Engineers increased the stiffness rate of the Z/28’s coil springs – the amount of energy required to compress them – by 85 percent in the front and 65 percent in the rear. The specific tuning of the springs reduces body movement, which allowed the engineers to use smaller, lighter stabilizer bars to maximize grip during hard braking, cornering and acceleration. The solid stabilizer bars are 25mm in diameter in the front and 26mm in the rear – compared to the 28mm front and 27mm solid bars used on the Camaro SS 1LE.

25. DSSV® damper technology

The Z/28 is the first high-volume production road car to employ racing-derived DSSV® or Dynamic Suspensions Spool Valve damper technology from Multimatic. The dampers rely upon a pair of self-piloted spool valves to control fluid through tuned port shapes rather than conventional deflected disc dampers. The design of the inverted-monotube front strut and aluminum-body monotube rear hydraulic dampers offers maximum response, stiffness and tuning optimized for the track, with the highest level of damper predictability, accuracy and repeatability. In short, they deliver optimal wheel control and vehicle control – and they provide almost double the stiffness when compared to the dampers on the Camaro SS 1LE.

26. Performance Traction Management

Performance Traction Management, or PTM, is an advanced system that integrates the chassis mode selection, Traction Control and Active Handling Systems, tuned specifically in the Z/28 for optimal road-course performance and consistency. PTM allows the driver to press the accelerator pedal to wide open at the exit of the corner and manages acceleration based on the given vehicle dynamics. Five performance levels or modes are available to accommodate a variety of driving conditions.

27. Nineteen-inch wheels and Pirelli PZero Trofeo R tires

A major contributor to the lateral performance of the Z/28 is the wheel-and-tire combination, featuring the widest front wheels/tires of any comparable sports coupe. Engineers incorporated a comparatively smaller, 19-inch package, with P305/30/ZR19 tires front and rear – mounted on 19x11-inch front wheels and 19x11.5-inch rear wheels – which contributed to lowering the center of gravity 33mm, for enhanced handling. The forged aluminum wheels are lighter and stiffer than comparable SS wheels, and they're used with Pirelli PZero Trofeo R motorsport compound tires. Designed for summer use on the street, the tires' unique compound was developed for the track and

provides a large contact patch for maximum grip. They also offer a 29.5-pound weight advantage over Camaro SS tires.

28. Brembo® carbon ceramic brakes

Large, robust and track-capable Brembo® carbon ceramic matrix brakes deliver exceptional braking capability, while weighing in 9.6 kilograms under the comparable Camaro SS brakes. The brakes offer unmatched levels of brake feel, lap after lap, with tremendous fade resistance, and the Z/28 is expected to produce 60-0 mph stopping distances of less than 120 feet. The system includes large, 15.5 x 1.4-inch two-piece front rotors matched with fixed monobloc, six-piston front calipers, and 15.3 x 1.3-inch two-piece rear rotors with four-piston calipers. They also feature high-performance pad material with increased pad surface area, and electronic pad-wear sensors.

Founded in 1911 in Detroit, Chevrolet is now one of the world's largest car brands, doing business in more than 140 countries and selling more than 4.9 million cars and trucks a year. Chevrolet provides customers with fuel-efficient vehicles that feature spirited performance, expressive design, and high quality. More information on Chevrolet models can be found at www.chevrolet.com.



Image of last year Update meeting at Bangalore

2014 Venues

Pune

Tuesday, 1st April 2014

The Le Méridien Hotel

Bangalore

Thursday, 3rd April 2014

The Taj Vivanta

Oasys Ltd and Arup India Pvt Ltd are pleased to announce the 7th Oasys LS-DYNA Update meetings in India for the year 2014. First meeting shall be held at Pune on Tuesday 1st April 2014 at The Le Méridien Hotel and second meeting shall be held at Bangalore on Thursday 3rd April 2014 at The Taj Vivanta, 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 from LSTC, Oasys suite updates & technical lectures from Arup and lectures from Automotive OEMs-Tata Motors and Mahindra & Mahindra.

Detailed agenda is available on our website www.oasys-software.com/dyna.

Registration: Please send your registration to this event by email to india.support@arup.com with your name, company/affiliation, telephone number and your choice for event.

Last date for registration is
24th March,2014.

Venue Pune: The event in Pune will be held at The Le Méridien hotel, which is situated in the heart of the city.

The Le Méridien I Hotel
Raja Bahadur Mill Road, Sangamvadi,
Pune, Maharashtra-411001
Tel: 91-20- 6641 1111

Venue Bangalore: The event in Bangalore will be held at The Taj Vivanta, Whitefield which stands right at the main entrance to the International Tech Park, Bangalore.

The Taj vivanta
ITPB, Whitefield
Bangalore 560 066,India
Tel No.:91-80-6693-3333

If you plan to stay over before or after the event, we are pleased to confirm that we have negotiated a special rate for attendees of the Oasys LS-DYNA Update meeting. Please contact us for assistance.

Contact Details

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

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BETA CAE Systems S.A.

www.beta-cae.gr

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BETA CAE Systems S.A.– μETA

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

CRAYwww.cray.com**Cray CS300-AC Cluster Supercomputer**

§ The Cray CS300-AC cluster supercomputer features an air-cooled architecture based on blade server or rackmount server building block platforms. The system is built for capacity and data-intensive workloads. It delivers turnkey high performance computing with a broad range of flexible system configuration options.

§ The CS300-AC system features two new preconfigured [ready-to-go solutions](#), the CS300 shared memory parallel and the CS300 large memory systems.

Cray CS300-LC Cluster Supercomputer

§ The Cray CS300-LC cluster solution features a direct liquid-cooled architecture using warm water heat exchangers instead of chillers. It delivers a turnkey, energy-efficient solution that reduces datacenter power and cooling operation costs for faster

ROI while addressing capacity and data-intensive workloads.

Cray XC30 Supercomputer Series

§ The Cray XC30 family delivers on Cray's commitment to an adaptive supercomputing architecture that provides both extreme scalability and sustained performance. The flexibility of the Cray XC30 platform ensures that users can configure the exact machine to meet their specific requirements today, and also remain confident they can upgrade and enhance their system to address the demands of the future.

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§ Brought to you by Cray, the world's leading experts in parallel storage solutions for HPC and the technical enterprise, the Cray Sonexion is a fully integrated, modular and compact scale-out storage system for Lustre.

DatapointLabswww.datapointlabs.com

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

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

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

ETA – Engineering Technology Associates
etainfo@eta.com

www.eta.com

Invention Suite™

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

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

PreSys

Invention's core FE modeling toolset. It is the successor to ETA's VPG/PrePost and FEMB products. PreSys offers an easy to use interface,

with drop-down menus and toolbars, increased graphics speed and detailed graphics capabilities. These types of capabilities are combined with powerful, robust and accurate modeling functions.

VPG

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

DYNAFORM

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

ESI Groupwww.esi-group.com

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

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

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

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

Visual-Mesh generates 1D, 2D and 3D elements for any kind of simulation.

Visual-Mesh provides automatic and guided surfaces clean up, application specific mesh generation and intuitive post mesh editing features..

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

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

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

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

GNS - Gesellschaft für Numerische Simulation mbHwww.gns-mbh.com**Animator4**

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

Generator2.

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

Indeed

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

OpenForm

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

Compute on demand®/ Gridcore AB Sweden

www.gompute.com www.gridcore.se

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

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

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

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

JSOL Corporation

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

HYCRASH

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

JSTAMP/NV

As an integrated press forming simulation system for virtual tool shop

the JSTAMP/NV meets the various industrial needs from the areas of automobile, electronics, iron and steel, etc. The JSTAMP/NV gives satisfaction to engineers, reliability to products, and robustness to tool shop via the advanced technology of the JSOL Corporation.

JMAG

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

Livermore Software Technology Corp.

www.lstc.com

LS-DYNA

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

LS-PrePost

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

LS-OPT

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

The graphical preprocessor LS-OPTui facilitates definition of the design input and the

creation of a command file while the postprocessor provides output such as approximation accuracy, optimization convergence, tradeoff curves, anthill plots and the relative importance of design variables.

LS-TaSC

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

LSTC Dummy Models

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

LSTC Barrier Models

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

Oasys, Ltd

www.oasys-software.com/dyna

Oasys LS-DYNA® Environment

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

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

Key benefits:

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

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

Key benefits:

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

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

Key benefits:

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

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

Shanghai Hengstarwww.hengstar.com**Center of Excellence**

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

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

On Site Training

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

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

Distribution & Support

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

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

Comet Solutions

www.cometsolutions.com

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

Comet software is a tool-open, extensible, vendor-neutral performance engineering

workspace that lets engineers and engineering project teams readily carry out multi-fidelity, multi-physics modeling and simulation.

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

Canada **Metal Forming Analysis Corp MFAC** galb@mfac.com

www.mfac.com

LS-DYNA LS-OPT LS-PrePost LS-TaSC

LSTC Dummy Models LSTC Barrier Models eta/VPG

eta/DYNAFORM INVENTIUM/PreSys

United States **CAE Associates Inc.** info@caeai.com
www.caeai.com

ANSYS Products CivilFem Consulting ANSYS

Consulting LS-DYNA

United States **DYNAMAX** sales@dynamax-inc.com
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www.esi-group.com

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LS-DYNA Cloud Service

Additional software

Additional Services

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steve.brown@cometsolutions.com

Comet Software

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Generator

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Sweden**GOMPUTE**info@gridcore.comwww.gridcore.sewww.gompute.com

LS-DYNA Cloud Service

Additional software

Switzerland	DYNAmoreSwiss GmbH		info@dynamore.ch	
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Australia LEAP

www.leapaust.com.au

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

China ETA – China

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

India	Oasys Ltd. India	lavendra.singh@arup.com		
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India	CADFEM Eng. Svce	info@cadfem.in		
	www.cadfem.in			
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India	Kaizenat Technologies Pvt. Ltd	support@kaizenat.com		
	http://kaizenat.com/			
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	Complete LS-DYNA suite of products		LSTC Barrier Models	LS-TaSC

Distribution & Consulting	Asia Pacific	Distribution & Consulting
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Japan	CTC www.engineering-eye.com	LS-dyna@ctc-g.co.jp		
	LS-DYNA	LS-OPT	LS-PrePost	LS-TaSC
	LSTC Dummy Models	LSTC Barrier Models	CmWAVE	

Japan	JSOL www.jsol.co.jp/english/cae			
	JSTAMP	HYCRASH	JMAG	
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Japan	FUJITSU http://jp.fujitsu.com/solutions/hpc/app/lodyna			
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Japan	LANCEMORE www.lancemore.jp/index_en.html	info@lancemore.jp		
	Consulting LS-DYNA			

Japan	Terrabyte Co. www.terrabyte.co.jp	English: www.terrabyte.co.jp/english/index.htm		
	Consulting LS-DYNA			

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wschung@kornet.comwww.lsdyna.co.kr

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Training Classes**France Alyotech Technologies****Training Classes**

For course location visit www.alyotech.fr

Training Classes**UK ARUP****Training Classes**

For course location visit www.oasys-software.com/dyna/en/training

The training classes are held at our Bangalore and Pune locations

Details about the trainings offered are given below

LS-DYNA Basic Training Feb 12-14	Advanced Crash Analysis Apr 17-18
Contact Modelling Advanced Training Feb 20-21	LS- DYNA Basic Training Apr 23-25
LS- DYNA Basic Training Feb 26-28	LS- DYNA Basic Training May 7-9
LS- DYNA Basic Training Mar 12-14	Airbag Deployment Application May 15-16
Material Modelling Advanced Training Mar 20-21	LS- DYNA Basic Training May 21-23
LS- DYNA Basic Training Mar 26-28	LS- DYNA Basic Training Jun 11-13
LS- DYNA Basic Training Apr 9-11	Advanced Material Forming Analysis Jun 19-20
	LS- DYNA Basic Training Jun 25-27

[Information and Agenda](#)

Classes generally start at 9:30 a.m. and end at 5:00 p.m. Access to computer for workshop exercises and lunch each day are included with the registration. For any queries/clarification please contact us @ support@kaizenat.com

**FACEBOOK**

BETA CAE SYSTEMS SA

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

Cray Inc.

<http://www.facebook.com/crayinc>

ESI Group

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**LINKEDIN**

BETA CAE SYSTEMS SA

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

Cray Inc.

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

DYNAmore Nordic

<http://www.linkedin.com/company/dynamore-nordic-ab>

ETA

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

Oasys

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

**YOUTUBE**

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

Cray Inc. <http://www.youtube.com/user/crayvideo>

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**NEWS FEEDS**

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



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

For the complete list of ATD Models developed and/or offered by DYNAmore visit <http://www.dynamore.de/en/products/models/side>

PDB WorldSID-50

DYNAmore has developed a model of the WorldSID 50%. The model is validated with material, component and sled tests. The model was developed with a consortium of the German OEMs (PDB: Audi, BMW, Daimler, Porsche, and VW). The methods applied are the same as in the previous projects with the FAT for the ES-2, ES-2re, USSID, and BIORID model. The table below provides some general information about the release 2.0.1 of the WorldSID 50th percentile male model:

FTSS SID-IIs Model

The dummy represents a small female body and is used in an IIHS side impact load case, in the FMVSS214 and the US-NCAP load cases. The table below provides some general information about the release 3.1a of the SID-IIs model. A version for Build Level C (BLC) and Level D (BLD) is available.

FAT EuroSID Model

The dummy is used in the legal authorization in South Korea, Australia, China and India. The

FAT ES-2 and ES-2re Dummy Model

The dummy is used in US-NCAP- and Euro-NCAP side impact assessment, the ES-2re will be used in the new FMVSS214. The dummy is also used for the legal authorization in Europe, Japan and the United States. The table below provides some general information about the release v5.01 of FAT ES-2 model. The version v5.01 of the ES-2re, a variation of the ES-2 for the authorization and the evaluation in the United States, is also available with a comparable number of entities.

table below provides some general information about the actual release 3.6 of the model.

FAT US-SID and SIDHIII Model

The latest model of the FAT US-SID is version v5.0. The dummy is used in the subsiding FMVSS214 regulation and in the SINCAP load case. The modified version, the SIDHIII v5.1 is used in lateral impact to a pole. For both dummies a detailed model is available. The table below provides some general information about the actual multiple validated model of the US-SID.

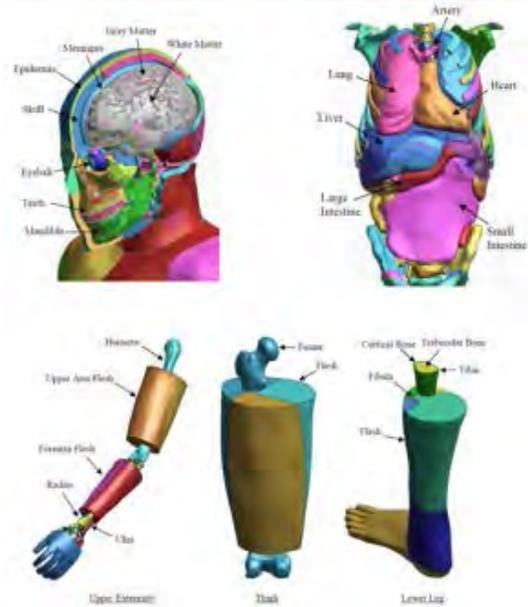
Total Human Model for Safety - THUMS

LSTC is the US distributor for THUMS

About

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

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

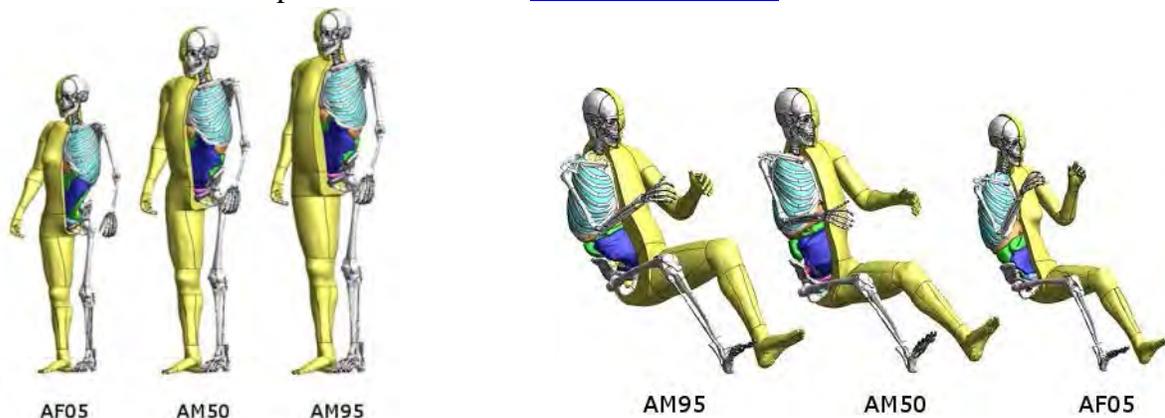


Model Details: Each of the different sized models is available as sitting model to represent vehicle occupants and as standing model to represent pedestrians.

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

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

For more information please contact us at THUMS@lstc.com.



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

Reference Library	Recommended Reading	Reference
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Finite Elements in Fracture Mechanics	Prof. Dr. Meinhard Kuna
Time-Domain Finite Element Methods for Maxwell's Equations in Metamaterials (Springer Series in Computational Mathematics)	<i>Jichun Li</i>
Finite Element Analysis: A Primer (Engineering)	<i>Anand V. Kulkarni - V.K. Havanur</i>
Finite Element Methods for Engineers	Roger T. Fenner
July 2013 Finite Element Mesh Generation	<i>Daniel Lo</i>
January 2013 The Finite Element Method: Theory, Implementation, and Applications (Texts in Computational Science and Engineering)	<i>Mats G. Larson -, Fredrik Bengzon</i>
January 2013 Finite and Boundary Element Tearing and Interconnecting Solvers for Multiscale Problems (Lecture Notes in Computational Science and Engineering)	<i>Clemens Pechstein</i>
January 2013 Structural Analysis with the Finite Element Method. Linear Statics: Volume 2: Beams, Plates and Shells (Lecture Notes on Numerical Methods in Engineering and Sciences)	<i>Eugenio Oñate</i>
Elementary Continuum Mechanics for Everyone: With Applications to Structural Mechanics (Solid Mechanics and Its Applications)	<i>Esben Byskov</i>

Jianming Jin (Author) - [The Finite Element Method in Electromagnetics](#)

Finite Element Analysis Theory and Application with ANSYS (3rd Edition)	Practical Stress Analysis with Finite Element	A First Course in the Finite Element Method
Saeed Moaveni	Bryan J Mac Donald	Daryl L. Logan
Finite Element Modelling Techniques in MSC.NASTRAN and LS/DYNA	Finite Element Analysis/formulation & verification	Introduction to Theoretical and Computational Fluid Dynamics
Sreejit Raghu	B. A. Szabo	C. Pozrikidis

Finite Elements in Fracture Mechanics Prof. Dr. Meinhard Kuna		CAE design and sheet metal forming... Li Fei Zhou Deng	Applied Metal Forming
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Micro Metal Forming (Lecture Notes in Production Engineering)	The Finite Element Method: Theory, Implementation, and Applications (Texts in Computational Science and Engineering) [Hardcover]	
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Reference Library Recommended Reading Reference Library

<p>Viskoplastische Stoffgesetze für Thermoplaste in LS-DYNA: Theorie und Aspekte der Programmierung Matthias Vogler</p>	<p>Meshless Methods in Solid Mechanics Youping Chen</p>	<p>Geotechnical Earthquake Engineering Steven Lawrence Kramer</p>
<p>Fundamentals of Earthquake Engineering Amr S. Elnashai</p>	<p>Computational Fluid Dynamics John David Anderson</p>	<p>Computational Fluid Dynamics: A Practical Approach [Paperback] Guan Heng Yeoh</p>
<p>Biomechanical Systems Technology: Computational Methods Cornelius T. Leondes</p>	<p>Numerical response of steel reinforced concrete slab subjected to blast and pressure loadings in LS-DYNA. Vivek Reddy</p>	<p>Formulas for Mechanical and Structural Shock and Impact Gregory Szuladziniski</p>
<p>The Finite Element Method Thomas J. R. Hughes</p>	<p>Computational Fluid Dynamics T. J. Chung</p>	



www.LSDYNA-ONLINE.com using GO TO MEETING.

- Course Notes with Class, or by separate purchase
- Tutorials and Movies can be purchased
- Workshops - Tutorials - YouTube Videos
www.youtube.com/user/LSDYNATV/videos

Courses are easy to sign up for and attend with simple steps:

- Register and pay for the training.
- You will receive the course notes few days prior to the class date in PDF format.
- You will be sent the “go-to-meeting” “invitation 2 days before the course date.
- You login to go to meeting few minutes before the class time.
- The class starts and you attend the interactive lectures.

Customer Location

Courses can be presented at the customer location. We offer several preset courses similar to the ones on line and/or we can custom design courses for your engineering needs.

For courses at your location preset, or special customization contact:

courses@lsdyna-online.com

Course Titles

- Material Models in LS-DYNA (new course)
- Intro LS-DYNALS-DYNA
- ImplicitFluid Structure Interaction in LS-DYNA
- Advance Fluid Structure Interaction in LS-DYNA
- Blast using LS-DYNA
- Penetration using LS-DYNA
- Composite Materials in LS-DYNA
- Contact in LS-DYNALS-DYNA
- DummiesAdvance Impact Simulations Using LS-DYNA
- Material Modeling Using User Defined Material
- Intro LS-PREPOST
- Advance LS-PREPOST
- Multi-Physics LS-DYNA

Dr. Al Tabiei has been a consultant on the use of LS-DYNA for more than 20 years to more than 60 companies.

He has been teaching different courses on LS-DYNA for more than 18 years nationally and internationally.

His primary work focus is in the area of multi-physics simulations, crash simulation, impact simulation, and material model development for isotropic and composite materials..

JOB POSTING**Biomedical Engineering & Computational Modeling****Center for Injury Biomechanics at Wake Forest University****Research Engineer, Full-time**

This position is focused on computational modeling and is currently available in the Center for Injury Biomechanics, in the Department of Biomedical Engineering at Wake Forest University School of Medicine. We are searching for an outstanding individual to join our research and development group focused on Finite Element Modeling, Computer Aided Design, and other initiatives related to injury prediction and prevention.

In the course of performing the duties of this position we anticipate that the individual will:

- 1) apply knowledge of state-of-the-art dynamic finite element modeling techniques, including but not limited to: Parametric mesh development, optimization and improvement of existing finite element meshes, material model optimization, contact algorithm selection, and geometry development to support the core mission of the center's research projects.

- 2) Have the opportunity to participate in a number of ongoing interdisciplinary research projects related to injury biomechanics underway in our center,
- 3) develop excellent written and oral presentation skills,
- 4) develop a valuable peer network through collaboration with industry and university partners and
- 5) encourage the individual's own professional growth through attending pertinent training courses as necessary.

The injury biomechanics group at Wake Forest University is closely partnered with Virginia Tech's Center for Injury Biomechanics. This joint center is a leading research institution in the field, offering state-of-the-art facilities for conducting all aspects of injury biomechanics research.

A unique attribute of our center at Wake Forest is that we are under the auspices of the Wake Forest University School of Medicine, facilitating collaboration with clinical faculty.

The ideal candidate should have the following attributes.

Required:

~ BS in Engineering, MS will be considered. A degree in a closely related field with appropriate computational modeling experience will also be considered.

~ 3+ years of experience (preferred) in computational methods and simulation, including structural finite element analysis (dynamic, non-linear are pluses)

~ Experience with commercial volume meshing software (Hypermesh, Truegrid, IA-FEMesh, etc.)

~Strong engineering fundamentals

~Works well within a team setting, excellent verbal and technical writing skills

How To Apply

1. Go to <http://www.wakehealth.edu/Job-Openings/>
2. Enter the job code 5348 in the “search by keywords” box
3. Click on the post that says "Research Engineer | Biomedical Engineering"
4. This will show the full job description and have a button that says “Apply Now”
5. You will need to register on the site before submitting your application if this is the first time you have applied to a job with Wake Forest Baptist Health.

Click the link that says “Click here to register”.

Equal Employment Opportunity

Contact:

Scott Gayzik, Assistant Professor
Biomedical Engineering,

Wake Forest University School of Medicine,
sayzik@wakehealth.edu

Dr. Helen McGrath



Seeking Authors of Finite Element Books

A publishing house based in Dublin, Ireland.

**Publisher of
“Practical Stress Analysis with Finite Elements”
by Dr. B. Mac Donald from Dublin City University**

The company was established in 2007 with the aim of producing high quality and innovative books for the academic and technical markets. Our first book was “Practical Stress Analysis with Finite Elements” by Dr. B. Mac Donald from Dublin City University. This book was aimed at newcomers to finite element analysis and focused on addressing the concerns and queries of analyst attempting their first FEA. The philosophy of this book was to take the learner gently through their first few FE analyses with confidence and to gently instil the under lying mathematical theory of FEA in as practical a form as possible. This book has proved to be very successful and continues to sell strongly every month. Due to great demand, a second edition of the book was produced in 2011.

Technical Engineering Focus:

Based on our experience with this book we have recently focused our efforts more on the technical/engineering side of our business (as

opposed to the general academic). We currently have a number of technical books in pre-publishing production which we expect to release later this year.

Seeking Authors:

We are now actively searching for authors who may have written, or intend to write, books in the field of Finite Element Analysis. Our experience of publishing books in this area has shown that there is great demand in this area, particularly for advanced topics. Our business model allows us to publish books that may have a limited or specialized field so we are open to all proposals.

If you would like to discuss working with us on publishing your book on FEA, or a related area, then please contact us using the details below.

Contact: Dr. Helen McGrath
Director, Glasnevin Publishing
Email: info@glasnevinpublishing.com