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FEA Information Engineering Solutions

Volume 2, Issue 11, November 2013

Cover: FORD Buffalo, New York, Stamping Plant

Mercedes-Benz to return to China in 2014 DTM season

Aerospace News: Lockheed - Bombardier

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

FEA Information Inc. Publishes:

FEA Information Engineering Solutions

FEA Information Engineering Journal

FEA Information China Engineering Solutions

FEA Information Engineering Solutions:

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

FEA Information China Engineering Solutions

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

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Announcements

Added DYNAmore Nordic to our Social Media Section on LinkedIn
http://www.linkedin.com/company/dynamore-nordic-ab

Elin Ekman- DYNAmore Nordic
DYNAmore Nordic welcomes their new marketing assistant Elin Ekman to their team.

Elin recently graduated in international sales and marketing. Alongside her studies she worked with marketing at Oryx Simulations which builds simulators

ETA Chicago Office

A new ETA office in Chicago provides visibility to all ETA services; Engineering applications, Contract labor, as well as Software products. The office supports west midwest states including Wisconsin, Illinois, Minnesota, Iowa, Indiana, Western Michigan and Western Kentucky. ETA Chicago is targeting a variety of industries, focusing on Heavy Equipment and Agricultural sectors. For more information, please contact mikec@eta.com

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

Engineering paper: "Overcoming Obstacles" by Max
Abstract: Max is on the ground taking notes. Molly is climbing over the fence. Max is doing pre-processing set up.

- "keep climbing, Molly"
- "I'll climb over the fence, if you fall safely, on the other side."

Applications: Drop Test – Impact Analysis
Problem: What to do at the top of a fence.
Keywords: Bark, Whine, Howl , Cry help

Conclusion: The barking, and cry help keywords work simultaneous and with synergy. These two keywords, when used in conjunction, produce the immediate reaction of our owner running to save Molly. This clearly takes place prior to post processing, impact, and drop-test analysis being needed.

FEA Information Engineering Journal

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Showcasing: www.feaiej.com

11th Annual UK Oasys LS-DYNA Users' Meeting - Thursday 16th January 2014.

Location: Arup Campus, Solihull, UK

Website: http://www.oasys-software.com/dyna/en/events/users_jan-14/users_jan-14.shtml

The eleventh in a series of update meetings for Oasys LS-DYNA Users will be held at the Arup office in Solihull, UK, on Thursday 16th January 2014.

As in previous years this event will bring together around 100 UK users of the Oasys and LS-DYNA software to provide information on upcoming features of Oasys and LS-DYNA, and to learn more about current and new applications, as well as other related software products.

We are looking forward to talks from the Oasys team at Arup as well as special guest speakers, details to be confirmed.

The event will be followed by a complimentary meal at The Boot Inn in Lapworth. Please note that the The Boot Inn has a limited capacity so please ensure you register in advance to ensure your place at the evening meal.

Registration

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

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

BETA CAE Systems S.A. announces:
the v14.2.2 release of the ANSA & µETA pre- & post-processing suite

http://www.beta-cae.gr/news/20131119_announcement_ansa_meta_v14.2.2.htm

Introduction

BETA CAE System S.A. announces the release of v14.2.2 of ANSA & µETA pre- and post-processing suite. This maintenance release focuses on the correction of identified issues and on the enhancement of our tools portfolio. The most notable enhancements and issues resolved, are listed by category below.

Understanding the Software Release Schedule
The plan:

We are committed in delivering improved and enhanced software releases, the soonest possible, in order to meet the requirement of our customers for the continuous improvement of their experience and work. Therefore, we are working in releasing new software versions .

with code corrections, new software features and enhancements, in regular, frequent intervals.

- A major software version is released every year. The major version v14.0.0 was made available at the beginning of the year.
- First point releases, such as v14.1.0, v14.2.0 and so on, with code corrections but also with additional software features and enhancements are released every three months.
- Second point releases, such as v14.2.1, v14.2.2, mainly with code corrections only upon their parent first point release, are scheduled on a monthly basis.

Each software release is accompanied by a detailed description of the introduced corrections and/or additions so that our customers can decide whether it is critical to implement this release in their environment

Enhancements and Known Issues Resolved in ANSA

Topo: - The script function HotPointsIntersect would lead to unexpected termination.

Shell Mesh:

- Creating a solid representation of a surface mesh by applying the VOLUMIZE function with the option “Merge” active, would lead to unexpected termination.
- Certain types of surfaces could lead to problematic CFD mesh.

Volume Mesh: - Very large Layer heights would cause layers to intersect.

Connections & Assembly:

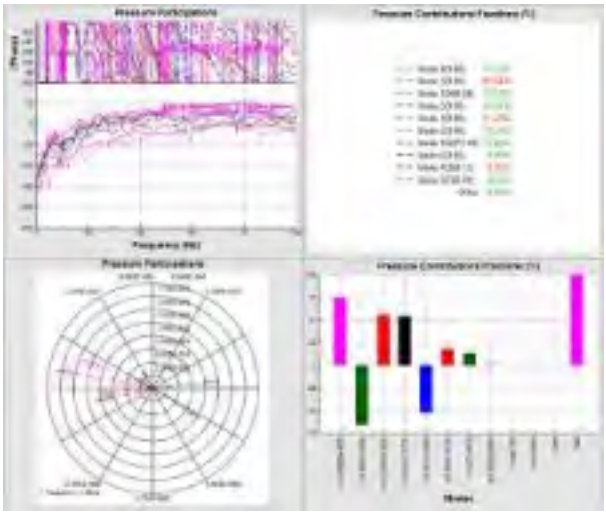
- The option "Do not Reconstruct" is now provided for all relevant to Seamwelds FE representations.
- Unnecessary checks would delay significantly the .xml file import.
- When HEXA CONTACT was applied with the option “single contact” deactivated, it would generate 2 contacts for each connection instead of 2 contacts for all connections.

Scripting: - The SetEntityVisibilityValues function would not work in no-GUI mode.

Solver DECKs:

- After using "Apply" for the FE representations, a user-attribute is now created in the connection’s card that notes whether the Seamline elements are attached on the feature line or shells.
- The EL. THICK view mode combined with the User Min Max option (Color Bar section) of F11 card would lead to unexpected termination.
- Switching elements order through Change Order function occasionally would produce improper results or cause unexpected termination due to linked faces.
- Renumbering elements through RENUMBER function would occupy unusually high amount of memory in 32-bit machines.
- For Entities belonging to different includes, non-existing intersecting ranges would be reported.
- The NASTRAN PBEAM property cards did not store some values when saving the database.

Extensions & Known Issues Resolved in µETA



Fringebar:

- The default title text of the scalar and vector results fringebars is now “Scalar” and “Vector” to help the user to distinguish them.

Section Forces:

- Section forces for solid elements are now calculated from the stress tensor.

User Toolbars:

- When using the CFD-Post toolbar to create Cd/Cl plots the X-Distance axis is now normalized and ranges from 0 to 1.

- The BusRollover toolbar was not read correctly from the .defaults file and was unusable.

Supported Solvers:

- When reading geometry from Abaqus .inp files, the position adjustment of nodes might be incorrect.
- For Abaqus 6.13 .odb files it was not possible to select the outer or inner element results.
- Reading geometry from ANSYS .cdb files could cause unexpected termination.
- Strain/kinetic energy results from Nastran SOL112 analyses would not be read.
- Plotting complex curves from Nastran .op2 files would produce incorrect curves.
- Plotting displacement curves from PERMAS .post.gz file would produce incorrect curves.
- Reading RADIOSS files that included the GRNOD/BOX keyword would cause unexpected termination.

NVH:

- In the Modal Response tool, the acoustic coupling conversion from the Akusmod format to DMIG would not be correct according to Nastran.
- In the Modal Response tool, if the DMIG Nastran acoustic coupling file had coupled nodes with a zero factor, the output coupling would be wrong.

Reporting:

- The .pptx file exported by the Report Composer would contain errors in certain cases.

and more…

For more details about the new software features, enhancements and corrections please, refer to the Release Notes document.

Compatibility

ANSA files saved by all the first and second point releases of a major version are compatible to each other. New major versions can read files saved by previous ones but not vice versa.

The .metadb files saved with µETA version 14.2.2 are compatible and can be opened by earlier versions of µETA.

Download instructions please visit the website

Customers who are served directly by BETA CAE Systems S.A. may download the new software, examples and documentation from their account on our server. They can access their account through the "user login" link at our web site http://www.beta-cae.gr

Contact us if you miss your account details. The [Public] link will give you access to the public downloads area.

Customers who are served by a local business agent should contact the local support channel for software distribution details.

32nd CADFEM USERS' MEETING 2014 - June 4 – 6, 2014; NCC Ost, Nuremberg, Germany
For Full Information please visit the website - www.usersmeeting.com

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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 toyour 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

Mercedes-Benz to return to China in 2014 DTM season –
First appearance of a Mercedes-Benz DTM car in Guangzhou

Mercedes-Benz, DTM, Mika Häkkinen, Bernd Schneider, EURONICS Mercedes AMG C-Coupé, Guangzhou, China

- DTM comeback in China from 26th to 28th September 2014
- Record DTM championship winner Bernd Schneider visits Guangzhou
- DTM set for return to huge Chinese market from 2014 season onwards

After a three-year absence, the DTM and Mercedes-Benz will be returning to China as part of the 2014 race season. On the weekend of 26th to 28th September, the world's most popular touring car series will stage a race in China for only the third time in its history.

Record DTM championship winner Bernd Schneider has already taken a first look at the planned circuit in Guangzhou. The city is situated in the southern Chinese province of Guangdong, formerly known as Canton. Schneider and two-time Formula 1 champion Mika Häkkinen attended an AMG event in China yesterday evening at which the current EURONICS Mercedes AMG C-Coupé was showcased. The track is planned to be 4.1 kilometres in length and – subject to approval by national and international motor racing authorities – will feature four right-hand and two left-hand turns.

The DTM has raced on two previous occasions in China. Both of these events took place on street circuits in the city of Shanghai and were won by Mercedes-Benz driver Gary Paffett. In a special invitation race in 2004, Paffett claimed a narrow win ahead of fellow Mercedes-Benz driver Bernd Schneider. When Shanghai hosted the finale of the 2010 season, Mercedes-Benz once again emerged victorious, with a one-two podium finish for Paffett and team-mate Paul di Resta. Furthermore, second place in this race was enough to secure the 2010 DTM title for the Scotsman.

Bernd Schneider: "I think it's great that the DTM will be returning to China next year to a new venue in the South. I had a first look at the planned circuit. It looks impressive with a combination of fast parts and slow corners and should be challenging for the drivers when they race there in 2014. From my experience racing in China has always been very special. The fans always appreciate Mercedes competing here. I think Guangzhou is the right place for the DTM to return to China."

Mika Häkkinen: "The DTM is definitely one of the world's premier racing series and is very much on track with the international expansion into China planned for next year, which will increase its popularity.

The DTM has plenty of hungry, young talented drivers with Formula 1 potential and real characters who are well on their way to making a name for themselves internationally.

My former team-mate Gary Paffett is a good example. He won the first Shanghai invitation race back in 2004 when he was still a young driver. Today, he is one of the world's best-known touring car aces. Earlier this year in Zhuhai, along with my Hong Kong-born team-mate Matthew Solomon, I won a GT Asia race in China at the wheel of an SLS AMG GT3 and saw for myself the enthusiasm and passion of the Chinese fans. I'm sure that the Chinese motor racing enthusiasts will really enjoy seeing the DTM in Guangzhou in 2014."

Wolfgang Schattling, Head of DTM Management: "We are delighted to have been invited back to China as part of next year's DTM. The People's Republic of China is the largest automobile market in the world and is extremely important for Mercedes-Benz as the single most important market for our S-Class. For this reason, we were supportive right from the start of the initiative to stage a DTM race in China. With our DTM involvement in Guangzhou, we aim to play our part in ensuring that the race in one of the largest metropolises in southern China becomes a regular fixture on the DTM calendar and an annual highlight for Chinese motorsport fans. Mercedes-Benz has won the only two DTM races so far contested in China – namely in 2004 and 2010 with Gary Paffett at the wheel – and our goal for September 2014 is obviously to make it a hat-trick."

CRAY Univ. of Tsukuba - Cray CS300 Cluster Supercomputer CRAY

News Release

The University of Tsukuba in Japan Puts Cray CS300 Cluster Supercomputer Into Production

SEATTLE, WA -- (Marketwired) -- 11/19/13 -- Global supercomputer leader Cray Inc. (NASDAQ: CRAY) today announced the Center for Computational Sciences (CCS) at the University of Tsukuba in Japan has put a Cray® CS300™ cluster supercomputer into production. The new Cray CS300 system has been combined with the University's current Cray cluster supercomputer, and is providing researchers and scientists with a 1.1 petaflop system for computational science.

Focused on promoting scientific discovery through the application of advanced computing technologies, CCS supports computational scientific research in Japanese universities and institutes by operating advanced computing systems. The Center performs research on critical issues in fundamental science, material science and environmental science by performing large-scale simulations and large-scale data analysis.

Utilizing Intel® Xeon® processors and NVIDIA® Tesla® K20X GPU accelerators, the new Cray CS300 cluster supercomputer is custom engineered for Tsukuba CCS by integrating its Tightly Coupled parallel computing Acceleration (TCA) mechanism into a standard Cray CS300 system. This new system has been combined with the University's existing Cray cluster, which is the Highly Accelerated Parallel Advanced system for Computational Science (HA-PACS).

"We are pleased to introduce our new Cray CS300 cluster supercomputer with the latest NVIDIA Tesla K20X GPUs as an extension of our GPU cluster HA-PACS," said Prof. Taisuke Boku, a deputy director and system manager at CCS. "The combined HA-PACS/TCA system is equipped with our hardware technology that enables GPU to GPU direct communication over nodes. We can now open a new frontier of accelerated, parallel computing for a wide variety of computational sciences."

"The University's Center for Computation Sciences is one of the premier high performance computing facilities in Japan, and we are honored the Center once again turned to Cray to provide its users with the computational resources of a Cray CS300 cluster supercomputer," said Mamoru Nakano, president of Cray Japan. "The Center is also widely recognized in the Japanese supercomputing community as a leader in accelerated computing, and we are pleased that the Cray CS300 system paired with GPU accelerators provided the right price/performance solution to meet the needs of their applications."

The Cray CS300 series of cluster supercomputers are scalable, cluster solutions that group optimized, industry-standard building block server platforms into a unified, fully-integrated system. Available with air or liquid-cooled architectures, Cray CS300 systems provide superior price/performance, energy efficiency and configuration flexibility. The systems are integrated with Cray's HPC software stack and include software tools compatible with most open source and commercial compilers, schedulers, and libraries. Cray CS300 systems also feature the Cray Advanced Cluster Engine, an essential management software suite designed to provide network, server, cluster and storage management capabilities that are necessary to run large, complex technical applications.

For more information on Cray CS300 cluster supercomputers, please visit
www.cray.com/CS300

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.

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https://media.ford.com/content/fordmedia/fna/us/en/news/2013/11/21/ford-adds-jobs--invests-millions-in-buffalo-stamping-plant.html

Nov 21, 2013 | Buffalo, N.Y.

Ford Adds Jobs, Invests Millions in Buffalo Stamping Plant

•Ford will invest $150 million in Buffalo Stamping Plant and add 350 new jobs at the facility to support future product growth

•Ford is more than three-fourths of the way to its goal of creating more than 12,000 hourly jobs in the U.S. by 2015

•Buffalo Stamping Plant produces parts for the Ford F-250, F-350, Flex, Edge, Focus and Econoline, as well as the Lincoln MKX and MKT

Ford Motor Company will invest $150 million and add approximately 350 new jobs at its Buffalo Stamping Plant, reinforcing the company's commitment to the plant, the city of Buffalo and the state of New York.

The investment is for more than 25 new subassemblies, including hoods, doors and fenders, more than 500 new dies and a new blanking line, as well as equipment upgrades and refurbishing to support future product programs. In addition, Buffalo Stamping will add a third shift to its press room to help increase plant capacity.

"We produce crucial components for several key vehicles in Buffalo," said Paul Kosaian, director of manufacturing for stamping operations at Ford. "With the help of our UAW and government partners, we were able to secure additional jobs and investment to keep Buffalo Stamping Plant competitive and efficient."

Jimmy Settles, UAW vice president and director of the National Ford Department, credited workers' commitment to excellence for helping to bring new work to Buffalo Stamping Plant.

"These additional jobs are the direct result of the dedicated effort our UAW members display every day at facilities all across the country, and serve as another reminder of the resilience of American workers and our nation's manufacturing sector," said Settles

.

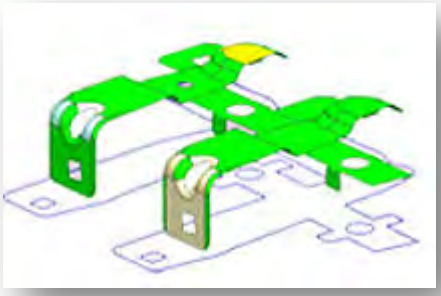
The job additions at Buffalo Stamping Plant are a combination of new workers, transfers and employees coming back from temporary leave. Ford is more than three-fourths of the way to its goal of creating 12,000 hourly jobs in the United States by 2015 to support new products and investment. The company also is investing $16 billion in its U.S. product development and manufacturing operations – including $6.2 billion for plant-specific investments.

Additionally, Ford announced earlier this year its plans to hire 2,200 salaried workers in the United States in 2013 to fill jobs in such key areas as product development, manufacturing and IT.

"Ford's investment of $150 million in its Hamburg facility is proof positive of western New York's status as a leading hub of advanced manufacturing," Gov. Andrew Cuomo said. "With this major investment, Ford is cementing its competitiveness in the region and keeping hundreds of well-paying jobs in western New York. As we work to attract and retain businesses here in upstate New York, the state is committed to providing the support needed to drive our economy and keep it moving forward."

Buffalo Stamping Plant opened in 1950 and has approximately 650 employees. It produces doors, quarter panels, hoods, fenders and other stamped parts for the Ford F-250, F-350, Flex, Edge, Focus and Econoline, as well as the Lincoln MKX and MKT.

About Ford Motor Company: Ford Motor Company, a global automotive industry leader based in Dearborn, Mich., manufactures or distributes automobiles across six continents. With about 180,000 employees and 65 plants worldwide, the company's automotive brands include Ford and Lincoln. The company provides financial services through Ford Motor Credit Company. For more information regarding Ford and its products worldwide, please visit corporate.ford.com.



BSE-in-NX Version 2 Helps Engineers to Determine Ideal Nesting Layouts and Material Usage

The new BSE-in-NX was released at the FABTECH show held on November 18th, 2013.

Blank, nest and process quotations from the 3D part geometry in minutes with the new BSE-in-NX module. This module is a complete solution for accurately estimating blank size along with blank nesting for maximum material usage, scrap and piece price.

- Blank Size Estimation
- Blank Nesting
- Quotation Generation
- FEA Analysis
- Accurate Reporting Results

Inside the NX Environment

No data translation is required for BSE-in-NX. This easy to use forming feasibility and cost estimation tool is offered within the NX environment.

Blank Development

Accurate prediction of flat blank profiles from part geometry. Blank predictions consider linear bends & material stretch.

Nesting

Provides optimal 1-out, 2-out and multiple blank nesting. Includes material usage, fall-off & piece prices calculations.

FEA Analysis

Calculate forming conditions & generate an FLD. Deformation, % thinning, % thickening, major & minor strain.

Reporting Results

Generate cost estimation & quotation reports for tooling. Output blank size, nesting configuration, coil width & pitch. Maximize material utilization & determine piece price.

For more information, please visit:
http://www.eta.com

The LS-DYNA® Aerospace Working Group (AWG)

LS-DYNA Aerospace Working Group http://awg.lstc.com

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®. The actions of the AWG serve to support the use, development, and reliability of LS-DYNA® for aerospace numerical analyses.

S. Korea Decides to Buy 40 Lockheed F-35s (excerpt)
(Source: Yonhap News Agency; published Nov. 22, 2013)

South Korea has finally decided to buy 40 F-35 Block 3s, which it had earlier eliminated as too costly, and to later develop the indigenous KF-X fighter to replace its elderly F-4s and F-5s. (LM photo)

SEOUL --- South Korea decided Friday to purchase 40 Lockheed Martin's F-35A stealth fighters for four years starting in 2018, with an option to buy 20 more later depending on the security situation and budget, the Joint Chiefs of Staff (JCS) said.

JCS Chairman Choi Yun-hee held a meeting of top commanders to approve the plan to buy the 40 F-35 Block 3s, which are capable of conducting air-to-air and air-to-ground missions with internal carriage and external stations for missiles and bombs. The software configuration is expected to reach the initial operating capability around 2016, according to the U.S. Air Force.

South Korea's Joint Chiefs of Staff decided to purchase 40 Lockheed Martin's F-35A stealth fighters for four years starting in 2018, with an option to buy 20 more later depending on the security situation and budget, officials said in a briefing held at the defense ministry on Nov. 22, 2013.

As the F-35 is sold only through the U.S. foreign military sales (FMS) program, the Defense Acquisition Program Administration (DAPA) is expected to purchase the aircraft through a government-to-government deal and without an open bid. The total budget hasn't been confirmed as the FMS condition requires a foreign government to pay the amount specified by the U.S. government for the F-35s at the time of payment. Seoul had initially assigned 8.3 trillion won (US$7.2 billion) for the past program for 60 jets. (end of excerpt)

Bombardier Wraps Up A Successful Week at the 2013 Dubai Airshow

(Source: Bombardier; issued November 21, 2013)

Bombardier Aerospace today concluded a successful week at the 2013 Dubai Airshow, having announced firm orders and commitments for up to 38 aircraft valued at up to $2.01 billion US. With three of its industry-leading business and commercial aircraft on static display, as well as the CSeries aircraft's full-scale passenger cabin and cockpit demonstrator, the airshow was an excellent opportunity for the Company to showcase a selection of its innovative aircraft and broad range of services to clients and prospects in the Middle East and Africa.

Throughout the event, executives from Bombardier Commercial Aircraft were joined by customers for a series of announcements related to its Q400 NextGen and CSeries aircraft programs. Air Côte d'Ivoire, Palma Holding Limited, Nok Air and Abu Dhabi Aviation signed firm orders and commitments for up to 22 Q400 NextGen turboprops, and Bombardier also confirmed that Nok Air was the launch customer for an extra capacity seating option that will allow the Q400 NextGen aircraft to accommodate up to 86 passengers. Alongside representatives from the governments of Canada and Northern Ireland, Bombardier also announced that Iraqi Airways signed a letter of intent for up to 16 CS300 aircraft, bringing the total number of orders and commitments for CSeries aircraft to 419.

Additionally, on November 18, Boeing announced that it had selected Bombardier's Challenger 605 business jet as the platform for its Maritime Surveillance Aircraft program on the basis of, among others, the aircraft's payload capacity, range and speed.

As part of its ongoing commitment to customer service, Bombardier further expanded its support services in Africa by welcoming Ethiopian Airlines as an Authorized Service Facility (ASF) for commercial aircraft on the continent. The airline can now perform line and heavy maintenance on Q400 and Q400 NextGen turboprop aircraft under the Bombardier ASF banner, and its maintenance facility joins a worldwide network of more than 60 facilities authorized to work on Bombardier commercial and business aircraft.

Separately, Bombardier also announced that it had signed an eight-year repair agreement with Oman Air to undertake all repair work on Rolls-Royce Trent 700 inlet cowls for the carrier's fleet of Airbus A330 aircraft.

Bombardier is the world's only manufacturer of both planes and trains. Looking far ahead while delivering today, Bombardier is evolving mobility worldwide by answering the call for more efficient, sustainable and enjoyable transportation everywhere

Lockheed Martin GPS III Satellite Prototype Proves It Can Successfully Communicate with GPS Satellite Constellation

(Source: Lockheed Martin; issued November 21, 2013)

CAPE CANAVERAL AFS, Fla. --- The Lockheed Martin prototype of the next-generation Global Positioning System (GPS) satellite, the GPS III, recently proved it was backward-compatible with the existing GPS satellite constellation in orbit.

Lockheed Martin's GPS III Non-Flight Satellite Testbed (GNST), a full-sized, functional GPS III satellite prototype, now at Cape Canaveral Air Force Station (CCAFS), Fla., recently communicated via cross-links with Air Force flight-like hardware simulators for the GPS IIR, GPS IIR-M, and GPS IIF satellites, which make up the bulk of the current GPS satellite constellation

During tests that concluded on Oct. 17, Lockheed Martin's GPS III Nonflight Satellite Testbed (GNST), a full-sized, functional satellite prototype currently residing at Cape Canaveral Air Force Station, successfully communicated via cross-links with Air Force flight-like hardware simulators for the GPS IIR, GPS IIR-M, and GPS IIF satellites, which make up the bulk of the current GPS satellite constellation. Testing also demonstrated the ability of an Air Force receiver to track navigation signals transmitted by the GNST.

"These tests represent the first time when the GNST's flight-like hardware has communicated with flight-like hardware from the rest of the GPS constellation and with a navigation receiver," explained Paul Miller, Lockheed Martin's director for GPS III Development. "This provides early confidence in the GPS III's design to bring advanced capabilities to our nation, while also being backward-compatible."

Lockheed Martin is currently under contract to produce the first four GPS III satellites (SV 01-04), and has received advanced procurement funding for long-lead components for the fifth, sixth, seventh, and eighth satellites (SV 05-08). The first flight-ready GPS III satellite is expected to arrive at Cape Canaveral in 2014, for launch by the Air Force in 2015.

GPS III, a critically important program for the Air Force, will affordably replace aging GPS satellites in orbit while improving capability to meet the evolving demands of military, commercial and civilian users. GPS III satellites will deliver three times better accuracy; provide up to eight times more powerful anti-jamming capabilities; and include enhancements to extend spacecraft life 25 percent further than the prior GPS block. It will be the first GPS satellite with a new L1C civil signal designed to make it interoperable with other international global navigation satellite systems.

An innovative investment by the Air Force under the original GPS III development contract, the GNST has helped to identify and resolve development issues prior to integration and test of the first GPS III flight space vehicle (SV 01). Following the Air Force's rigorous "Back-to-Basics" acquisition approach, the GNST has gone through the development, test, and production process for the GPS III program first, significantly reducing risk for the flight vehicles, improving production predictability, increasing mission assurance, and lowering overall program costs.

The GNST arrived at the Cape on July 19 to test facilities and pre-launch processes in advance of the arrival of the first flight satellite. On Aug. 30, the GNST successfully established remote connectivity and communicated with the GPS Next Generation Operational Control System (OCX), being developed by Raytheon.

Prior to shipment to the Cape, the GNST completed a series of high-fidelity activities to pathfind the integration, test and environmental checkout that all production GPS III satellites undergo at Lockheed Martin's GPS III Processing Facility (GPF) in Denver, Colo.

The GPS III team is led by the Global Positioning Systems Directorate at the U.S. Air Force Space and Missile Systems Center. Lockheed Martin is the GPS III prime contractor, with teammates including ITT Exelis, General Dynamics, Infinity Systems Engineering, Honeywell, ATK, and other subcontractors. Air Force Space Command's 2nd Space Operations Squadron, based at Schriever Air Force Base, Colo., manages and operates the GPS constellation for both civil and military users.

Headquartered in Bethesda, Md., Lockheed Martin is a global security and aerospace company that employs about 116,000 people worldwide and is principally engaged in the research, design, development, manufacture, integration, and sustainment of advanced technology systems, products, and services. The Corporation's net sales for 2012 were $47.2 billion.

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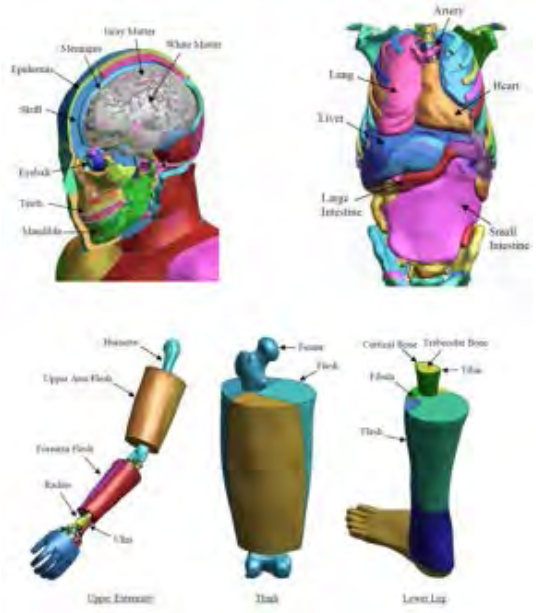
Webinar	**Date**	**Location**
mETApost #1, basic post processing	5 December, 10-12	WEB
Courses	**Date**	**Location**
Concrete and Geomaterial Modeling	5 December	Ulm
Explosives Modeling for Engineers	9 December	Stuttgart
Blast Modeling	10 December	Stuttgart
Penetration Modeling	12 December	Stuttgart
Crash Analysis	17 December	Stuttgart

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.

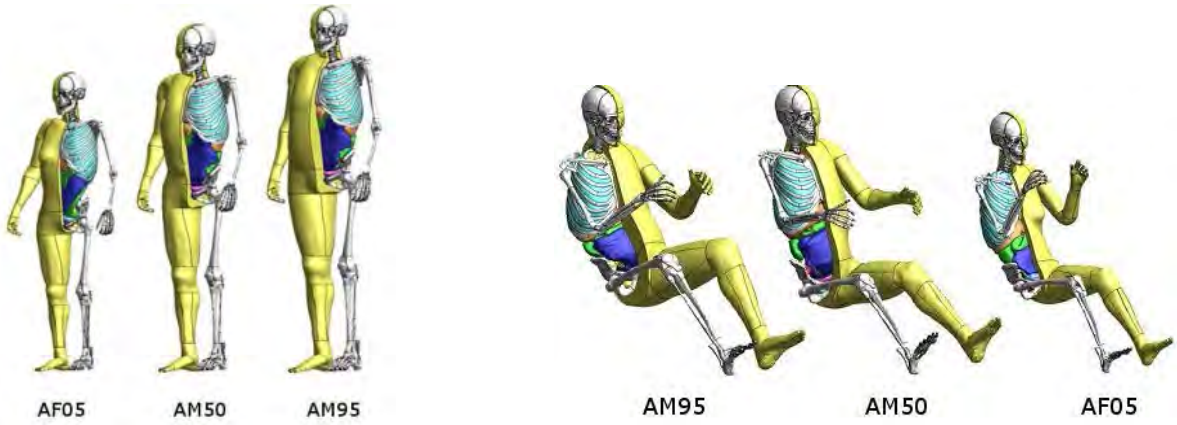


THUMS is limited to civilian use and may under no circumstances be used in military applications.

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.

BETA CAE Systems S.A. www.beta-cae.gr

BETA CAE Systems S.A.– ANSA

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

BETA CAE Systems S.A.– μETA

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

CRAY www.cray.com

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.

Cray Sonexion Scale-out Lustre Storage System

§ 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.

DatapointLabs **www.datapointlabs.com**

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

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

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

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

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

ETA – Engineering Technology Associates www.eta.com

etainfo@eta.com

Inventium Suite™

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

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

PreSys

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

VPG

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

DYNAFORM

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

ESI Group www.esi-group.com

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

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

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

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

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

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

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

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

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

GNS - Gesellschaft für Numerische Simulation mbH

www.gns-mbh.com

Animator4

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

Generator2.

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

Indeed

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

OpenForm

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

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

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

Gridcore has wide experience of different industries and applications, developed a stable product portfolio to simplify an engineer/scientist's use of computers, and has established a large network of partners and collaborations, where we together solve the most demanding computing tasks for our customers. Gridcore has offices in Gothenburg (Sweden), Stuttgart (Germany), Durham NC (USA) and sales operations in The Netherlands and Norway.

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

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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 Hengstar www.hengstar.com

Center of Excellence

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

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

On Site Training

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

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

Distribution & Support

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

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

Comet Solutions www.cometsolutions.com

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

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

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

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

United States	**ESI-Group N.A** www.esi-group.com			
	QuikCAST	SYSWELD	PAM-RTM	PAM-CEM
	VA One	CFD-ACE+	ProCAST	Visual-Process
	VisualDSS	Weld Planner	Visual-Environment	IC.IDO
United States	**Engineering Technology Associates – ETA** www.eta.com		etainfo@eta.com	
	INVENTIUM/PreSy	NISA	VPG	LS-DYNA
	LS-OPT	DYNAform		
United States	**Gompute** www.gompute.com		info@gompute.com	
	LS-DYNA Cloud Service		Additional software	
	Additional Services			
United States	**Comet Solutions** Comet Software		steve.brown@cometsolutions.com	

United States	**Livermore Software Technology Corp**		sales@lstc.com	
	LSTC www.lstc.com			
	LS-DYNA	LS-OPT	LS-PrePost	LS-TaSC
	LSTC Dummy Models	LSTC Barrier Models	TOYOTA THUMS	

United States	**Predictive Engineering** www.predictiveengineering.com		george.laird@predictiveengineering.com	
	FEMAP	NX Nastran	LS-DYNA	LS-OPT
	LS-PrePost	LS-TaSC	LSTC Dummy Models	
			LSTC Barrier Models	

France	**DynaS+**		v.lapoujade@dynasplus.com	
	www.dynasplus.com			
	LS-DYNA	LS-OPT	LS-PrePost	LS-TaSC
	DYNAFORM	VPG	MEDINA	
	LSTC Dummy Models		LSTC Barrier Models	

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

Germany	**DYNAmore GmbH**		uli.franz@dynamore.de	
	www.dynamore.de			
	PRIMER	LS-DYNA	FTSS	VisualDoc
	LS-OPT	LS-PrePost	LS-TaSC	DYNAFORM
	Primer	FEMZIP	GENESIS	
	TOYOTA THUMS		LSTC Dummy & Barrier Models	

Germany	**GNS**		mbox@gns-mbh.com	
	www.gns-mbh.com			
	Animator	Generator	Indeed	OpenForm

The Netherlands	**Infinite Simulation Systems B.V**		j.mathijssen@infinite.nl	
	www.infinite.nl			
	ANSYS Products	CivilFem	CFX	Fluent
	LS-DYNA	LS-PrePost	LS-OPT	LS-TaSC

Italy	**EnginSoft SpA**		info@enginsoft.it	
	www.enginsoft.it			
	ANSYS	MAGMA	Flowmaster	FORGE
	CADfix	LS-DYNA	Dynaform	Sculptor
	ESAComp	AnyBody	FTI Software	
	AdvantEdge	Straus7	LMS Virtual.Lab	ModeFRONTIER
Russia	**STRELA**		info@dynarussia.com	
	LS-DYNA	LS-TaSC	LS-OPT	LS-PrePost
	LSTC Dummy Models		LSTC Barrier Models	
Sweden	**DYNAmore Nordic**		marcus.redhe@dynamore.se	
	www.dynamore.se			
	ANSA	µETA	LS-DYNA	LS-OPT
	LS-PrePost	LS-TaSC	FastFORM	DYNAform
	FormingSuite		LSTC Dummy Models	
			LSTC Barrier Models	
Sweden	**GOMPUTE**		info@gridcore.com	
	www.gridcore.se		www.gompute.com	
	LS-DYNA Cloud Service		Additional software	

Switzerland	**DYNAmoreSwiss GmbH**		info@dynamore.ch	
	www.dynamore.ch			
	LS-DYNA		LS-OPT	LS-PrePost
	LS-TaSC		LSTC Dummy Models	
			LSTC Barrier Models	
UK	**Ove Arup & Partners**		dyna.sales@arup.com	
	www.oasys-software.com/dyna			
	LS-DYNA		LS-OPT	LS-PrePost
	LS-TaSC	PRIMER	D3PLOT	T/HIS
	REPORTER	SHELL	FEMZIP	HYCRASH
	DIGIMAT	Simpleware	LSTC Dummy Models	
			LSTC Barrier Models	

Australia	**LEAP**			
	www.leapaust.com.au			
	ANSYS Mechanical	ANSYS CFD	ANSYS EKM	Recurdyn
	ANSYS DesignXplorer	ANSYS HPC	FlowMaster	Ensigh
	LS DYNA	DYNAform	Moldex 3D	FE-Safe
China	**ETA – China**		lma@eta.com.cn	
	www.eta.com/cn			
	Inventium	VPG	DYNAFORM	NISA
	LS-DYNA	LS-OPT	LSTC Dummy Models	LS-PrePost
			LSTC Barrier Models	LS-TaSC
China	**Oasys Ltd. China**		Stephen.zhao@arup.com	
	www.oasys-software.com/dyna			
	PRIMER D3PLOT	HYCRASH	T/HIS REPORTER	SHELL
	LS-DYNA	LS-OPT	LSTC Dummy Models	LS-PrePost
	DIGIMAT	FEMZIP	LSTC Barrier Models	LS-TaSC
China	**Shanghai Hengstar Technology**		info@hengstar.com	
	www.hengstar.com			
	LS-DYNA	LS-TaSC	LSTC Barrier Models	
	LS-DYNA Courses	LS-OPT	LSTC Dummy Models	LS-PrePost

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

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

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

Japan	**CTC**	LS-dyna@ctc-g.co.jp		
	www.engineering-eye.com			
	LS-DYNA	LS-OPT	LS-PrePost	LS-TaSC
	LSTC Dummy Models	LSTC Barrier Models	CmWAVE	
Japan	**JSOL**			
	www.jsol.co.jp/english/cae			
	JSTAMP	HYCRASH	JMAG	
	LS-DYNA	LS-OPT	LS-PrePost	LS-TaSC
	LSTC Dummy Models	LSTC Barrier Models	TOYOTA THUMS	
Japan	**FUJITSU**			
	http://jp.fujitsu.com/solutions/hpc/app/lsdyna			
	LS-DYNA	LS-OPT	LS-PrePost	LS-TaSC
	LSTC Dummy Models	LSTC Barrier Models	CLOUD Services	
Japan	**LANCEMORE**	info@lancemore.jp		
	www.lancemore.jp/index_en.html			
	Consulting LS-DYNA			
Japan	**Terrabyte Co.**			
	http://www.terrabyte.co.jp			
	Consulting LS-DYNA			

Korea	**THEME**	wschung@kornet.com		
	www.lsdyna.co.kr			
	LS-DYNA	LS-OPT	LS-PrePost	LS-TaSC
	LSTC Dummy Models	LSTC Barrier Models	eta/VPG	Planets
	eta/DYNAFORM	FormingSuite	Simblow	TrueGRID
	JSTAMP/NV	Scan IP	Scan FE	Scan CAD
	FEMZIP			

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

Taiwan	**Flotrend**	gary@flotrend.tw		
	www.flotrend.com.tw			
	LS-DYNA	LS-OPT	LS-PrePost	LS-TaSC
	LSTC Dummy Models	LSTC Barrier Models	eta/VPG	FCM

Taiwan	**APIC**			
	www.apic.com.tw			
	LS-DYNA	LS-OPT	LS-PrePost	LS-TaSC
	LSTC Dummy Models	LSTC Barrier Models	eta/VPG	FCM

Germany	Gompute	www.gompute.com
Sweden	Gompute	www.gompute.com
United States	Gompute	www.gompute.com

Training Classes Germany CADFEM GmbH Training Classes

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

Training Classes Germany DYNAmore Training Classes

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

Training Classes United States LSTC Training Classes

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

Training Classes Sweden DYNAmore Nordic Training Classes

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

Training Classes France DynAS+ Training Classes

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

Training Classes	Thailand	Training Classes

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

Training Classes	United States ETA	Training Classes

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

Training Classes	United States CAE Associates	Training Classes

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

Training Classes	France Alyotech Technologies	Training Classes

For course location visit www.alyotech.fr

 **FACEBOOK**

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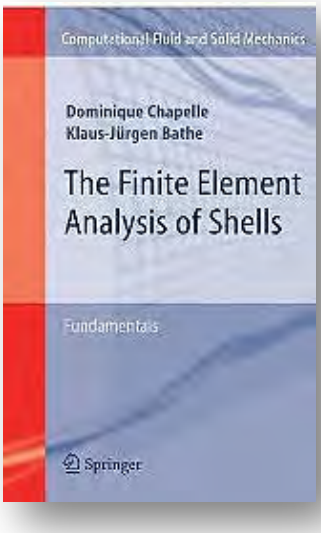

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