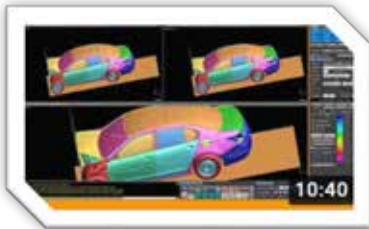




# *FEA Not To Miss Software & Engineering Solutions And News, Gossip & Blog*

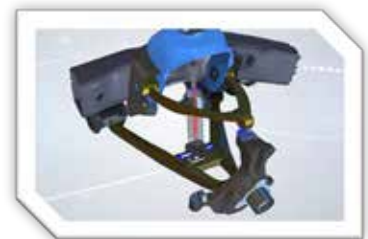
**Oasys**



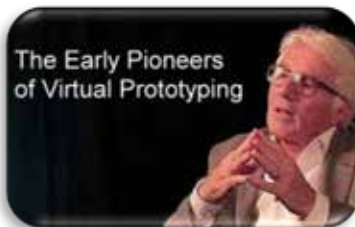
**Altair**



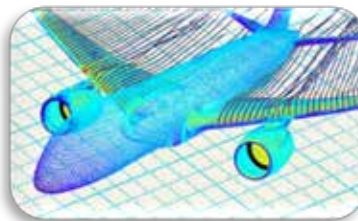
**BETA CAE**



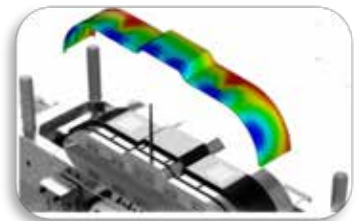
**ESI-Group**



**Rescale**



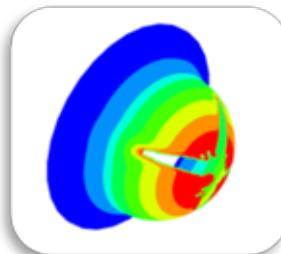
**Autodesk**



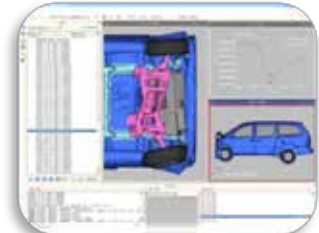
**MSC.Software**



**DYNAmore**



**CDH AG**



**Rolls Royce**



**Lordstown Motors**



**Loyal Wingman**

# ***FEA Not To Miss Profile***

FEA not to miss a/k/a (FEANTM) comprises a group of interested parties sharing information. Information is presented on the website [www.feantm.com](http://www.feantm.com) and this pdf publication.

The FEANTM publication is no fee to receive.

## **Goal**

Our goal is to share information on companies with expertise and innovative products. Strengths that rely on smart work ethics in today's changing world.

## **Compensation**

FEANTM does NOT receive compensation from the companies whose products we showcase. FEANTM is independently owned. Companies and/or information included is at the sole discretion of FEA not to miss a/k/a FEANTM

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We believe in our effort to advance information on software products. We believe this constitutes a "fair use" of the material in accordance with Title 17 USC. Section 107."

## **Opt-Out**

Any company may opt-out at any time by writing to Marsha [feaanswer@aol.com](mailto:feaanswer@aol.com)

After that, going forward from the email's receipt, the content will not include the company in any article.

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Anthony, Art, Marnie, Marsha, Yanhua

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## Announcements

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From our Editor, you all know, Marsha: "Welcome to our new look and sections. We'll continue our goal of bringing you information from the leading companies on the edge of innovations, developments, tutorials, and what you need to be an informed engineer. My ranch section may not fulfill that purpose. Still, it does fulfill "gossip" - SO, enjoy our new FEA Not To Miss Engineering & Solutions Magazine. If you want to reach me with any comments, criticism (not recommended), or ideas, please feel free to contact me at [feaanswer@aol.com](mailto:feaanswer@aol.com)

### New participants



**d3VIEW.** A leading company in data to decision platform. Providing out-of-the box data extraction, transformation and interactive visualizations. Using d3VIEW, engineers can visualize, mine and analyze the data quickly.



**CDH-AG** has 30 years of experience as a specialist in the application of computer aided engineering solutions. Providing specialist software and CAE-services to support virtual product development.



**SCALE GmbH.** Offering software solutions and IT services for process and data management and for FE methods development in the automotive industry.

**November Choice Video - YouTube**

**[The Lego Challenge!](#)**

**Model built by DYNAmore and Scale.**



 **ALTAIR** **AUTODESK** **BETA****CADFEM** **DYNA**  
MORE **d3VIEW** **HUMANETICS** **MSC Software** **Ozen****SIEMENS**  
*Ingenuity for life* **rescale****SCALE**  
IT-Solutions for CAE



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



### (Blog Excerpt) 3 Ways to [Report Data Exploration in Simlytiks](#) - by Elisa

The endless amount of data exploration on Simlytiks makes the ability to effortlessly share our findings for reporting crucial. Reporting an exploration can be implemented via exporting or sharing single visualizers, pages or data sets. We'll go over the most effective ways of exporting or sharing with the intention of efficiently reporting your findings.

For reporting data exploration specifically, certain features over others help organize or share visualized data more productively.

These include:

- Exporting visualizers as images
- Utilizing the PowerPoint builder

- Sharing the Simlytiks dashboard

Each option will work better for different situations. Some aspects to consider when choosing how to report findings:

- How much of the exploration do I need to share?
- How does this exploration need to be presented?
- Does the receiver need to interactive with the exploration?
- Does the report need to be locally savable? And what is the size limit for the file in question?



**Marta Kempa, MBA • 1st**

Marketing Coordinator, Oasys LS-DYNA Environment

### [Not To Miss on YouTube](#)



### Oasys Suite 17.1 now released - [Please visit for complete information](#)

*The Oasys LS-DYNA team are pleased to announce the release of the Oasys Suite 17.1. 17.1 of the Oasys Suite includes bug fixes of PRIMER, D3PLOT, T/HIS, REPORTER and SHELL and has been thoroughly tested through our QA Procedures. This version is available for 64 bit architectures, on both Windows and Linux*

### [Tutorials Available to Download -](#) LS-DYNA PRIMER D3PLOT T/HIS REPORTER [Virtual Arup-delivered training courses.](#)

The sessions will run on Microsoft Teams. Timing for each will be from 9:30 AM - 12:30 PM (BST).

- 11 - 12 November - Oasys PRIMER: Seatbelt fitting and dummy positioning

**NOVEMBER 26<sup>th</sup>, 2020**

### [CADFEM MEDICAL CONFERENCE 2020](#)

The CADFEM Medical Conference is the specialist conference for the application of simulation in the field of medicine and medical technology.

**The Conference** - It demonstrates lived practice and cross-divisional ideas and approaches in order to expand existing processes or process chains with the help of simulation, and to improve them in a sustainable way. The focus is on improved product safety, optimized therapies and diagnostic options, as well as simplified process flows in the area of development and approval.

**The Target Group:** The CADFEM Medical Conference is aimed at decision-makers and innovation drivers. It connects CEOs, project managers, product managers, regulatory affairs managers, engineers as well as doctors, research institutions, notified bodies, and health insurance companies. This creates a unique platform for ideas and the exciting discussion about the future of simulation in medicine and medical technology.

**The Program:** The conference will open with a keynote speech. Two subsequent sessions with keynote speeches deal with innovative product examples from the medical technology industry, supplemented by contributions from representatives of notified bodies and health insurance companies that deal with the subject of approval and reimbursement of simulation-based diagnosis and therapy procedures. The subsequent panel discussion looks ahead, and with a critical eye, at the main theme of the conference: "The central role of in silico medicine - what it can do and what we need for its practice."

**Speakers:** Experience exciting and equally stimulating contributions from our first-class speakers from many areas of the MedTech industry and take the opportunity to exchange ideas with them. The list of speakers is constantly being expanded.





Experience exciting and equally stimulating contributions from our first-class speakers from many areas of the MedTech industry and take the opportunity to exchange ideas with them.



**Prof. Dr. Christian Johner**

CEO

Johner Institut



**Frank Reinauer**

Head of Production and Innovations Biomaterials

KLS Martin



**Thierry Marchal**

Global Industry Director Healthcare

ANSYS



**Dr. Simon J. Sonntag**

CEO

Virtonomy



**Dr. med. Dr. med. dent. Lars Bonitz**

Specialist OMS / plastic surgery, specialist dentist for oral surgery

Klinikum Dortmund



**Dipl.-Ing. Denis Feindt**

Business Development Manager

Synopsys



**PH.D. Payman Afshari**

Sr. Principal Engineer

DePuy Synthes - Johnson and Johnson



**Prof. Dr.-Ing. Michael W. Gee**

Chair of Mechanics on High Performance Computers

TU Munich, Germany



**PH.D. Marc Horner**

Principal Engineer, Healthcare

ANSYS

## CADFEM MEDICAL CONFERENCE 2020

**NOVEMBER 26<sup>th</sup>, 2020**



### [ESI-Group on YouTube](#)



### Success Story - Excerpt

#### [Complete Article on ESI-Group](#)



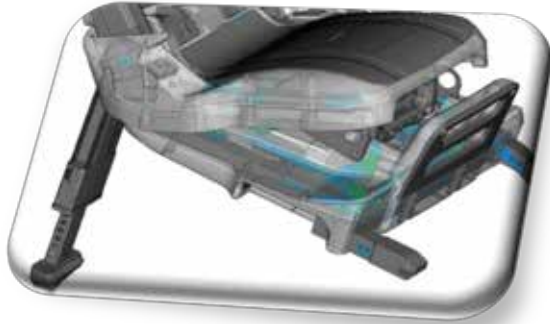
### **GAC Enhances Their ADAS Simulation Platform with ESI's Virtual Prototyping Capabilities**

### **Ensuring Sensor Safety with Simulation**

Autonomous vehicles rely on a range of sensors to ensure each driving experience is superior and safe. To successfully design and develop this next generation of connected, automated, and shared vehicles, OEMs require real-time simulations to ensure their vehicles are ready to navigate the complexities of real-world driving.

GAC R&D Center Silicon Valley, a branch of GAC Group, is an expert in the autonomous

driving space. The company developed its own Multi-domain Vehicle Performance Simulation Platform, which replicates the major components of a vehicle, including the powertrain, thermal system, and control system. That's not all. The platform can also mimic these systems' interactions, modeling the different mechanical, electromagnetic, thermal, and control elements of a vehicle to build a multi-physics simulation....



## [ESI virtual prototyping supports JMDAs Red Dot Design Award](#)

22 October 2020 - Paris, France

**With a relationship that spans more than a decade, JMDA Design and ESI Group worked together on the Tinyseats child car seat project which resulted in the highly acclaimed Red Dot Award: Design Concept 2020.**

Multi-award winning JMDA Design has collaborated with ESI Group, a global player in virtual prototyping software and services for industrials, for many years. Their unique partnership enabled the Tinyseats child car seat project from Tinyseats Europe AB to undergo rigorous testing without the need of any physical prototypes. They were able to do this at the early stages of development to gain additional information about product performance and to help de-risk compliance challenges in a test situation. Using Virtual Prototyping by working with ESI Group, particularly for innovative, cutting-edge child restraint systems (CRS), ensures dynamic performance is optimised with controlled time and investment, from the upstream phases of the product design process.

*“The Red Dot Award: Design Concept 2020 for the Tinyseats child car seat was a ground-breaking project aiming to achieve a very lightweight, compact and convertible car seat for children from 9 months old. Working with ESI Group enabled JMDA to gain substantial insight into the performance of the car seat early on in the design process, especially the load bearing*

*structure, which could be fully evaluated in a virtual environment. As our relationship goes from strength to strength with ESI Group we are backed by a team sharing our passion for innovation with the highest safety standards”.*

**Derrick Barker,  
Founder and Director at JMD**

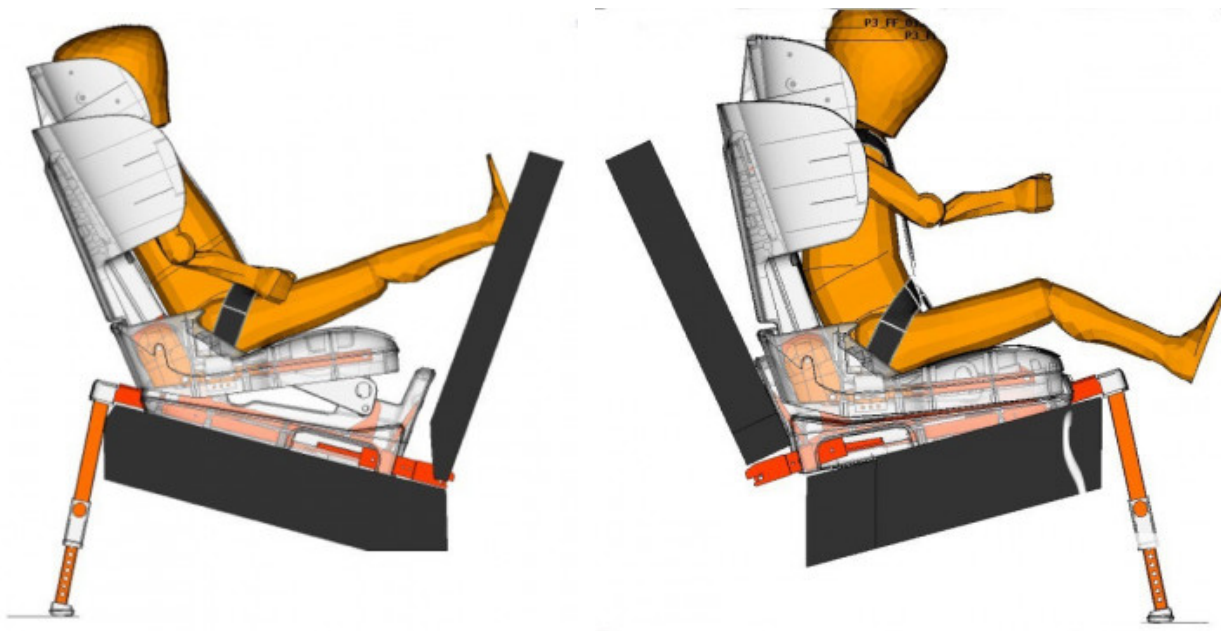
*“We are really proud to be part of JMDA journey for many years now. Their commitment toward safety and comfort compelled with their undisputed design expertise make them a key player in the car seat industry. Helping industrials to commit to such outcome is truly embarked in our DNA and our strategy. This Red Dot Award proves that allowing any compromise between, design, safety and performance is possible with the appropriate expertise, solutions and trust-based relationship.”*

**Jonas Fredriksson,  
Managing Director – ESI Northern Europe**



JMDA Design, a global provider for product design services with nearly 30 years' experience in the industry, is currently

designing their 105th child car seat, have. Partnering with world leading specialists, like ESI Group, is a critical part of ensuring a truly holistic approach to innovative product design.



### About JMDA Design

JMDA Design specialise in the design and development of a diverse range of products including child car seats, stair lifts, showers, smoke alarms and highchairs. JMDA Design have two offices one in Pershore, Worcestershire and one in Shanghai, China.



## The Perfect Fit for Federal Digital Transformation Initiatives

By Stephanie Buckner  
on October 15, 2020

Federal departments and agencies face relentless pressure to improve standards of efficiency, service, and security. This means adopting increasingly sophisticated technologies and adapting in an evolving, complex digital landscape. Systems integrators (SIs) are at the forefront of this strategic repositioning known as a digital transformation.

Like all successful business consultants, these enterprises have a deep understanding of the challenges their clients face, many of whom operate in the federal space. Increasingly, these challenges are complicated by high volumes of data from a diverse range of sources, requiring data preparation, analysis, and visualization.

Altair has deep partnerships with SIs – including Immersion Consulting, CyKor, and BreakForth Solutions – and we are proud to provide a comprehensive portfolio of tools that can perform data analytics quickly and intuitively.

What's more, our open architecture philosophy makes Altair's solutions a seamless fit with existing software ecosystems.

We are seeing remarkably strong growth in our engagements with SIs and business consultants. Altair Knowledge Works™, our data analytics suite, is a key driver for SIs and plays a critical role in a wide array of federal government applications. Going forward, we are excited to build on this momentum.

This synergy is illustrated by a growing list of successful SI use cases. One of the more interesting applications was undertaken by Immersion Consulting for the U.S. Naval Academy Midshipmen Summer Travel Program. For this project, Altair® Monarch®, our powerful data preparation tool, helped establish an automated, repeatable, and sustainable solution for organizing ship travel for more than 3,000 midshipmen.





By leveraging data already present, it delivers timely and comprehensive reports that support decision making in a highly dynamic, complex, and challenging environment. The human errors, delays, overruns, and financial inconveniences inherent in the previous system have been eliminated.

In the words of Dan Smalley, CEO for Immersion Consulting: *“Altair Monarch enabled us to integrate data across all systems intuitively. Monarch’s export and import functionalities allowed us to build a 99% automated process flow, resulting in users spending more time on analyzing and researching variances rather than manual data entry.”*

Here’s what our other business consulting partners have to say about their relationship with Altair:

*“Over the years, we’ve developed a thorough understanding of the nuances of the federal*

*technology landscape. As a result, we fully appreciate the benefits that Altair solutions can deliver in this demanding domain.”*

– Mike Guadagnini, president and CEO, CyKor

*“On account of our collaboration with Altair, BreakForth has an even greater advantage in deploying cutting-edge data extraction and sophisticated data visualization solutions to resolve the often complex, sensitive, mission requirements of our customers.”*

– Nichelle Early, president and CEO, BreakForth Solutions

Here at Altair, we believe our solutions are an ideal match for the opportunities and challenges ahead. We’d also like to think we’re a great company to work with. If you’re part of a systems integrator or business consulting team and interested in finding out more, please don’t hesitate to contact us at:

[KnowledgeWorksPartnersTeam@altair.com](mailto:KnowledgeWorksPartnersTeam@altair.com).

### **Stephanie Buckner, Senior Vice President, Corporate Development at Altair**



As senior vice president of corporate development, Stephanie Buckner is responsible for Altair’s strategic business initiatives and its merger and acquisition efforts. This includes building strategic partnerships across Altair’s entire ecosystem including software, hardware, cloud, the Altair Partner Alliance, and with customers.



[YouTube](#)



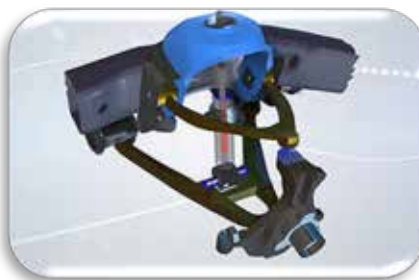
**UFO Updates** - Euro NCAP recently launched specific test and assessment protocols for Highway Assist systems. It's critical to have accurate and repeatable results when testing these advanced driver assist features, as they set the stage for fully autonomous driving in the future. Take a look at how our industry-leading UFO and Driving Robot are built to run the show when it comes to testing complex ADAS and AD scenarios.

Humanetics Group is a global hi tech engineering enterprise. We develop safety test systems, sensors, speciality fiber optics, laser processing and micro manufacturing solutions. When we innovate, humans thrive.

**Our engineering saves lives. Humanetics is the leading global designer, manufacturer and supplier of anthropomorphic test devices (ATDs or crash test dummies), simulation software models and calibration equipment.**



[Not To Miss on YouTube Channel](#)



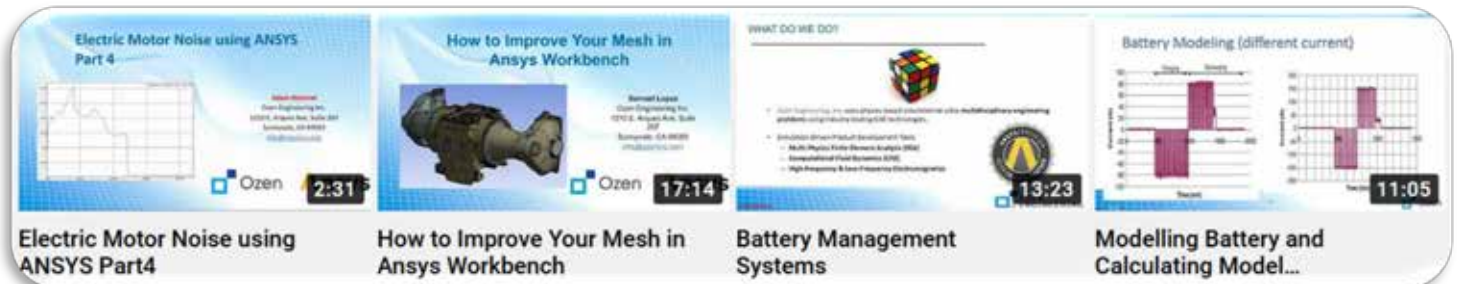
Visit BETA CAE Systems Website for complete announcement and information on their New software version release announcement

[BETA CAE Systems suite v20.14](#)

[BETA CAE Systems YouTube Video Channel](#)



Ozen Engineering YouTube Channel



YouTube Video



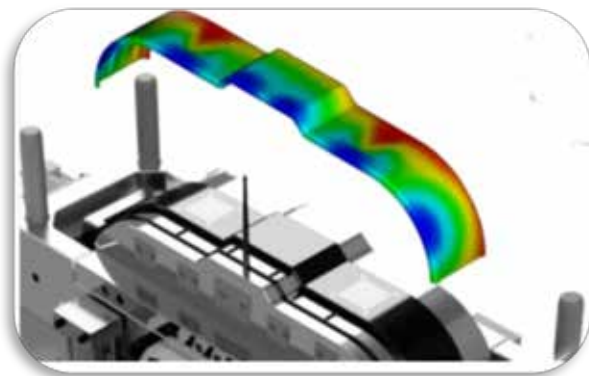
**Ozen Engineering, Inc.**

**Ansys Certified Elite Channel Partner**

**Ozen Engineering, Inc. is the Ansys distributor for California (except San Diego) and Nevada. We sell Ansys software and provide training, technical support, and engineering consulting services.**

**Ozen Engineering is a partner in helping clients successfully solve simulation problems, with on demand tech support only a phone call away. Our award-winning team of experts will provide you with breadth, depth, and ease of use for Ansys simulation software.**





## [Autodesk Moldflow 2021 Now Available!](#)

Excerpt - complete article on above link

Kilroy Kristen, October 22, 2020

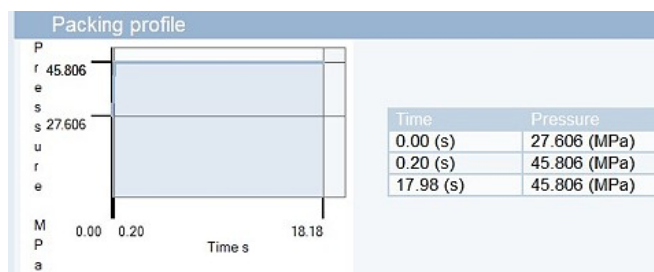
**On October 22, 2020, the latest Autodesk Moldflow Insight, Moldflow Synergy, and Moldflow Adviser releases became available for subscribers!**

Some users were able to participate earlier this year in the Moldflow Insight & Synergy 2021 Beta program to help the developers test many of the great new features and functionalities within this latest release. With the extensive testing, we were able to successfully implement many of those features into this commercial release of Moldflow! Here's a breakdown for some of the new things you'll see within Moldflow software. If you want just a quick overview, take a look at the What's New in Moldflow 2021 overview video, that's under 3 minutes long to give you a high level overview of the new release.

First we'll take a look at what is new in both Moldflow Adviser and Moldflow Insight/Synergy. As with each release, we have added additional material grades totaling about 11,500 thermoplastic materials. We've removed outdated materials, and continue to support importing your own materials to make sure you have the most accurate representations of your final product.

There have been some minor name changes, such as the Fill analysis now being referred to as Flow analysis. There has been no changes to the solvers there, just a name that better represents the overall process.

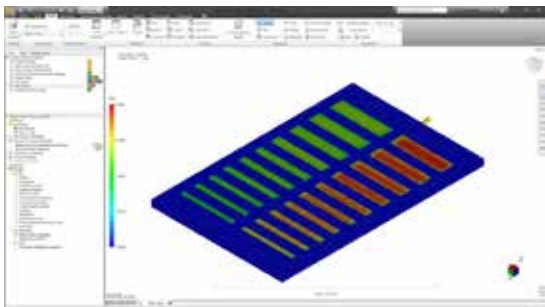
Under the pack/hold settings in the process setting wizard, a new Automatic Pack/Hold Profile option is available. This is a new feature that displays an optimized pack/hold profile after running a Flow analysis, which provides more accurate pack/hold settings when transferring your simulation's settings to the machine.





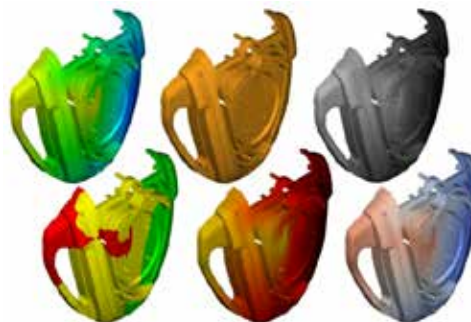


The 3D sink mark results have improved accuracy over past versions of Moldflow. The solvers are now able to capture shallow and wide rib features better on the opposite face.



General solver enhancements have also been added for both Adviser and Insight. These include more accurate handling of semi-crystalline materials and better convergence of mold temperature calculations in the cool analysis (especially where channels are close to the surface or part cavity).

Speaking of results, the developers added cool new result viewing options through various preloaded legend color choices. Although it is meant for visually impaired to more easily see flow patterns and other results that can't be easily seen through log data, anyone is able to take advantage of these (I really like the black>red>orange>yellow one – which one's your favorite?).



**Kristen is the Technical Product Marketing Manager for Autodesk Moldflow, Heliuss, and CFD products. She has a degree in Plastics Engineering Technology from Pennsylvania State University, and has experience as a facility and project engineer at a custom injection molder. Kristen joined Autodesk in 2013 as a technical support specialist, focusing on working with Moldflow customers. She uses her industry and product expertise to create content and manage digital marketing efforts for Autodesk's simulation portfolio.**



[MSC.Software YouTube Channel - Video - Webinars - Updates](#)



Previous





### Hexagon announces 100%EV initiative to accelerate electric vehicle development

Hexagon's Manufacturing Intelligence division, has today launched 100%EV, a strategic initiative to drive innovation in eMobility. In the wake of seventy-three countries announcing net-zero carbon targets by 2050, the automotive industry must now both meet legislative ambitions and develop winning models. Hexagon's initiative promises to enable rapid innovation towards new classes of vehicle that outperform combustion to overcome customer's performance and cost concerns.

Hexagon's design, engineering and manufacturing technologies are employed by industry leaders such as Volkswagen and Bosch, and touch more than 75% of vehicles produced today, from optimising the efficiency of new electric vehicle (EV) powertrain design and production to quality inspecting new range-boosting batteries. Through 100%EV, Hexagon is focussing its combined technologies and expertise to help manufacturers integrate these

processes and accelerate the global transition to EVs.

Electric vehicles are expected to represent a third of the automotive market by 2025, but customers remain concerned about their range and need compelling reasons to buy at current prices, which is setting new expectations for the in-car experience and innovation. In response, carmakers plan to launch 400 new Battery Electric Vehicle (BEV) models by 2025\* and manufacturers require efficient ways to develop EV platforms and models, but without prohibitive cost.

Such disruption is unprecedented and is driving the need to build upon contemporary design and engineering processes that are the apex of 100 years' automotive advances, and employ new approaches that work in concert with manufacturing lines and suppliers to deliver the same quality and safety for new vehicles in unparalleled timescales.



Paolo Guglielmini, President, Manufacturing Intelligence division at Hexagon said: “We believe the journey towards a cleaner and more sustainable 100% EV future can, and should, be accelerated through innovation. The automotive industry is rallying to meet the demanding deadlines for the rollout of EVs, but wrestling with the complexity of producing new vehicles that consumers want to buy.

“EV development is just getting started. There is a race to build better and more tailored models and we want to help companies think beyond contemporary practices and win market share. We believe such a rapid pivot can only be addressed through smart manufacturing technologies that support eMobility development from concept to customer, making

the journey toward 100% EV faster and more cost-effective.”

Hexagon’s 100%EV solutions will help the automotive industry overcome new EV challenges. For example, optimising the efficiency of electric powertrains from mechanical design and lubrication to precision machining, optimising the acoustics of the vehicle to avoid motor noise, to optimising manufacturing and quality inspection to produce more efficient batteries and electric motors. They will join up fragmented development processes, bringing together previously siloed disciplines to unlock innovation and enable widespread adoption ahead of the regulatory deadlines.



To stop the spread of COVID-19, we need to keep the virus effective reproduction rate,  $R_0$ , beneath 1. When this happens, on average, a contagious person will infect less than one person, and the epidemic will grind to a halt. So how many people need to wear a 50% effective mask to stop the spread of COVID-19? This interactive essay lets you predict answers to these questions (<https://aatishb.com/maskmath/>).



[Hidden Women: The Art of WWI Camouflage](#) (Photos) -  
July 19, 2016 by richardgreen

When the United States entered World War I in 1917, both men and women helped out in the war effort. Women worked in factories, joined the Red Cross, and participated in a number of military organizations. In New York City, a group of female art students joined the National League for Women's Service and trained to serve in the Camouflage Department of the United States Navy.

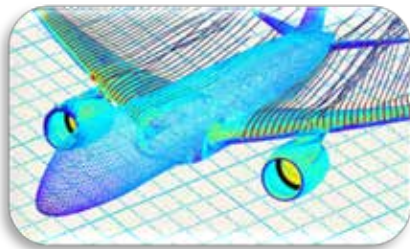


[The Raytheon Phalanx Close-In Weapon System](#) is a rapid-fire, computer-controlled, radar-guided gun system designed to defeat close-in air and surface threats. Spoiler alert: this is computer graphics arama3.com.



Cars in 1940 had about 15,000 parts and weighted 3,000 pounds. The B-24 Liberator Bomber had 450,000 parts, 360,000 rivets and weighed 18 tons. [Ford was up for the challenge and produced 1 aircraft per hour at the Willow Run assembly plant helping to win World War II.](#)





## **Platform Updates and Software Release Notes**

**– October 2020**

**Jolie Hales**

**Rescale works with more than 600 applications.**

Here are a few recent highlights:

- Siemens Simcenter STAR-CCM+ – v. 15.04.010 – Simcenter STAR-CCM+ is a complete multiphysics solution for the simulation of products and designs operating under real-world conditions.
- CONVERGE 3.0.16 – CONVERGE CFD by Convergent Science is revolutionary CFD software that eliminates the grid generation bottleneck from the simulation process.
- ThreeParticle/CAE – ThreeParticle/CAE by Becker 3D is a Multiphysics Discrete Element Method (DEM) simulation platform for bulk materials with complex shapes and built-in MBD, FEA & Fluids in a comprehensive and powerful environment.
- Ansys Q3D Extractor (2020R2) – Ansys Q3D Extractor efficiently performs the 3D and 2D quasi-static electromagnetic field simulations required for the extraction of RLCG parameters from an interconnect structure.
- Ansys SIwave (2020R2) – Ansys SIwave is a specialized design platform for power integrity, signal integrity and EMI analysis of IC packages and PCBs.
- Fire Dynamics Simulator v. 6.7.5 – Fire Dynamics Simulator (FDS), developed by the National Institute of Standards and Technology (NIST) of the United States Department of Commerce in cooperation with VTT, is free large-eddy simulation (LES) code for low-speed flows, with an emphasis on smoke and heat transport from fires.
- Particleworks – Particleworks by Prometech Software, Inc., is CFD simulation software for evaluating the behavior of liquids such as water and oil.

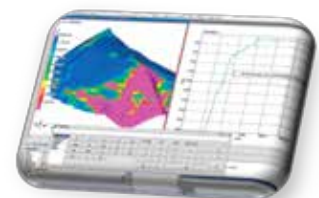
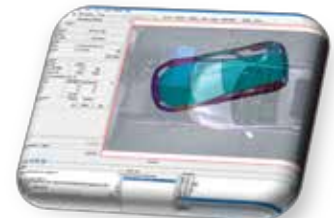


## [Animator4 - Leading Post-Processor for FEM Analysis](#)

Animator4 is a high performance and resource efficient FEA post-processor for animation and analysis of extremely large finite element models. Animator4 supports a wide range of finite element analysis (FEA) and interfaces to popular commercial FE solvers including LS-Dyna, Pamcrash, Radioss, Nastran, Abaqus and Madymo

**FEATURES** (For additional information: 3D Interfaces, Graphic performance, TH Interfaces System Requirements visit [Animator 4](#))

- Extremely fast FEA post-processing and visualization utilizing latest computer technologies and resources efficiently.
- Intuitive graphical user interface (GUI)
- Easy to learn - easy to use
- Powerful visualization features
  - support of multiple render modes
  - Multi-slot visualization technology
  - Cross section views
  - Stereoscopic 3D options to support 3D animation using 3D glasses.
- Correlation and overlay of crash-test videos with FEA results.
- Animator4 supports calculation of missing camera parameters using reference points selected by the user.
- Animator4 command language supports generation of session files for batch processing. The TCL scripting interface allows customization of GUI and user defined post-processing functionality.
- Extensive graph and curve functionality to visualize nodal and element time history data and to perform mathematical analysis operations and/or apply filters (e.g. SAE, CFC) for complex safety analysis algorithms (HIC, VCC, etc.)



CDH AG has 30 years of experience as a specialist in the application of computer aided engineering solutions. For our international manufacturing industry customers from the aerospace, automobile, general and marine engineering sectors we provide specialist software and CAE-services to support virtual product development.



**ETA Inc., Engineering Technology Associates  
Announces DYNAmore as Master Distributor**



Media Contacts: Keisa Allen, ETA Inc., Marketing Manager, [kallen@eta.com](mailto:kallen@eta.com)

**TROY, Michigan (USA) /STUTTGART, Germany – September 8, 2020 –**

ETA Inc. (Engineering Technology Associates), an engineering and software innovator with over 37 years in the automotive engineering community, has signed a master distribution agreement with DYNAmore GmbH. DYNAmore is one of the largest distributors of LS-DYNA simulation software worldwide.

“I highly appreciate to further strengthen our long-standing and very good cooperation with ETA and to coordinate the distribution of Dynaform throughout Europe. Together we are well positioned to meet the increasing demands on deep drawing, hydroforming and tube bending simulations.”

**Ulrich Franz,**  
**Managing Director, DYNAmore GmbH**

‘It is my pleasure to welcome DYNAmore, our long time Dynaform partner and German

distributor as our new Master Distributor for Dynaform in the European Union. I am pleased by DYNAmore’s business expansion, as they increase their presence in new growth markets across Europe.’

**Dr. Akbar Farahani,**  
**CEO & President, ETA Inc.**

ETA and DYNAmore have been the most prominent LS-DYNA distributors for over 25 years. This new partnership will bring both companies closer, strengthen the software sales and support to the end-customer and showcase a unified market expansion to European OEMs’ and suppliers.

ETA and DYNAmore are committed to creating a powerful virtual presence with webinars, online support and training for customers during the current pandemic and beyond.



DYNAmore will lead the following efforts:

- Supporting customers with the 6<sup>th</sup> generation of Dynaform
- Providing assistance to European sub-distributors
- Delivering consistent, streamlined communication for software sales and support throughout Europe

### **About ETA, Inc.**

Advanced product development engineers working as structural analysts for the world's largest automotive manufacturers established ETA in 1983. ETA provides product design and development solutions, along with supplying research and analysis using CAE, CAD and optimization tools (Durability, Vehicle Dynamics, NVH, Crash/Safety, Die System Structure and Manufacturing Processes). The firm is proactive in the creation and implementation of new technology and software, ETA's software products include; ACP OpDesign™\*, Dynaform®, PreSys® and VPG Suite™.

For further information on ETA, please visit [eta.com](http://eta.com) or call 248.729.3010








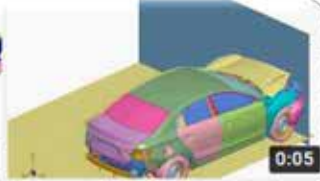




\*Accelerated Concept to Product (ACP) Process

### **About DYNAmore**

Experts of DYNAmore have been involved in the development of LS-DYNA since 1985. DYNAmore is one of the largest distributors of LS-DYNA simulation software. While also providing expert support in all areas of application for the LS-DYNA and LS-OPT software packages; offering FEM calculation benchmarks as well as general consulting on questions concerning structural dynamics. Additional areas of expertise include; pilot and development projects for simulating nonlinear dynamic problems, software development for solver technologies and simulation data management as well as consulting and support for modern, massively parallel computer systems.

For further information on DYNAmore, please visit [www.dynamore.de/en](http://www.dynamore.de/en).

[YouTube Videos](#)

 <p>CADLM Lunar v4.1 Video Views • 4 days ago</p>	 <p>ETA Website Video Banner Intro</p>	 <p>Accelerating Blank Cost Estimation by Utilizing Blank...</p>	 <p>Future Steel Vehicle - Courtesy of WorldAutoSteel</p>
 <p>CADLM Intro</p>	 <p>Yaris example</p>	 <p>SLED</p>	 <p>Front crash using LS dyna</p>
 <p>ACP Bottle Opener</p>	 <p>VPG Overview</p>	 <p>Dynaform Overview</p>	 <p>ACP Overview</p>

[Product Information - Visit Engineering Technology Associates \(ETA\)](#)

ETA Software Products			
 <p>Optimal Design Gateway</p>	 <p>Uncover Design Flaws with Forming Simulation</p>	 <p>Evaluate Product Designs in a Virtual Environment</p>	 <p>Pre/Post Processor</p>



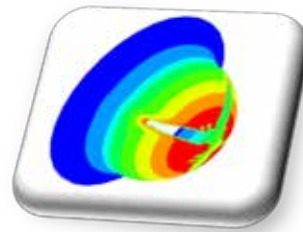


**Material Competence Center** - The aim of the LS-DYNA Material Competence Center is to offer the entire engineering service from a single source, starting with the execution of the test up to the delivery of a material map calibrated for the special customer application.

LS-DYNA is regarded as one of the world's most powerful software tools for structural simulation - both in terms of possible model sizes, achievable speed-up in parallelization for cluster systems, and the availability of complex and specialized material models. This offered functionality is extended towards many application areas where coupled systems, e.g. thermal, electromagnetic or fluid dynamic problems, play a significant role.

Access to high-quality material data down to the failure and fracture range is critical for the predictive capability of corresponding simulation calculations, enabling the identification of all necessary model parameters and ultimately the successful calibration of material models. To this end, DYNAmore has in recent years advanced the data acquisition from experiments and the efficient parameterization of material models and recently bundled the competences of our employees with the move to new premises and the creation of a Material Competence Center in Leinfelden-Echterdingen at one location.

### **Calibrated material cards and optimal modeling techniques**



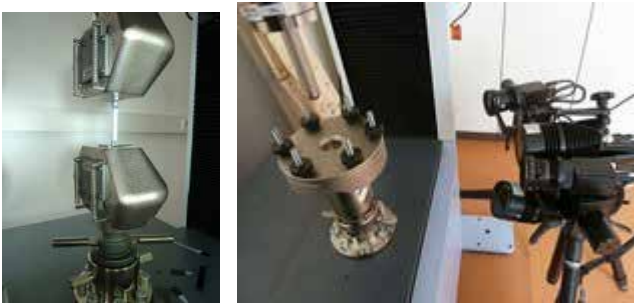
- Metallic materials up to failure prediction (GISSMO, eGISSMO, DIEM, etc.)
- Polymers and composites (non-reinforced, short fiber-reinforced, continuous fiber-reinforced)
- Elastomers
- Glass (float, thermally or chemically tempered) and ceramic materials
- Connection technology (punctiform, linear, flat)

Furthermore we see our competence in the calibrated transfer of simulation process data from component manufacturing (injection moulding, extrusion, forming, heat treatment, hot forming, casting, solid forming, draping, etc.) into downstream component or full scale simulations (crash, impact, stiffness, etc.). For this purpose we regularly use our process mapper ENVYO, a DYNAmore in-house development.



## Experiments

The mechanical properties of many materials that are required for simulation are often unknown. Defining these precisely is typically very expensive and often involves a considerable wait. In contrast, the experiments we select in accordance with the specific requirements of the client provide a quick and reliable basis for generating predictive material cards for polymers, metals and composite materials.



## Our services

- Static, dynamic, and cyclic testing
- Tensile, compression, puncture, and bending testing
- Component testing
- Sample conditioning
- Sample processing and collection from components, sheets and panels
- Optical 3D strain measurement and detailed local distortion evaluation

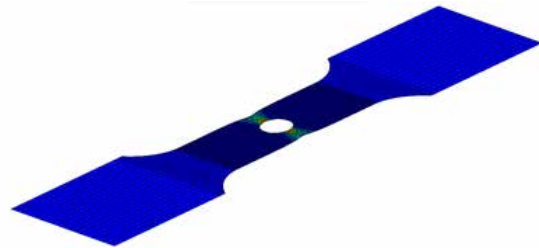
## Your benefits

- Testing and adjustment from a single source

- Time and cost efficient
- LS-DYNA developer team is always nearby

## Material models and calibration

The quality of the material cards has a significant influence on predictability in numerical calculations. In addition to advanced testing processes, our customers benefit from our engineers' many years of experience in the area of numerical description of mechanical material behavior.



Our characterization spectrum includes

## Deformation behavior

- Viscoelastic and viscoplastic
- Isotropic or anisotropic
- Tension–compression asymmetry
- Deformation behavior:
  - Viscoelastic and viscoplastic
  - Isotropic or anisotropic
  - Tension–compression asymmetry



## Damage and failure modeling

- GISSMO (Generalized Incremental Stress State dependent damage Model)
- DIEM (Damage Initiation and Evolution Model)
- eGISSMO (Mat Add Generalized Damage)
- Damage development under cyclic load

We are sure that we can also offer an economically interesting solution for your material challenge.

Please contact us!



**Andre Haufe** [Website Article](#)



**SCALE GmbH.** Offers software solutions and IT services for process and data management and for FE methods development in the automotive industry.

Products

In the past years, DYNAmore and SCALE have created a variety of different software products under contract to AUDI:

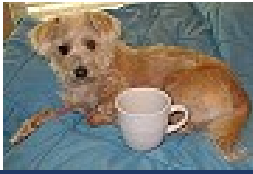
### Products


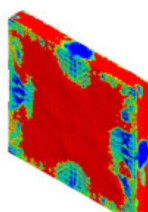
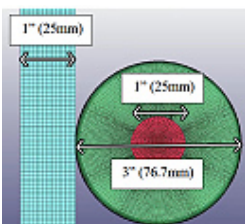

- LoCo:** Simulation model management, variant management, model assembly and load case creation, depiction of CAE processes
- CAViT:** Integrated provision and comparison of simulation and test results.
- Status.E:** Monitoring of the development status of vehicle projects, including document management.

Dr. Heiner Müllerschön, Managing Director of SCALE

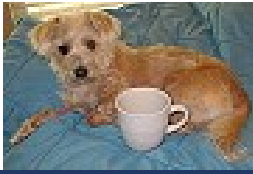
"In the fast-growing field of simulation and process management, it's important to us that we be able to more easily develop our software into standardized products. With AUDI, we have a strong partner who shares our vision and who is working with us to further develop our products. At the same time, we are now able to offer our solutions to other customers both within the Volkswagen group and beyond it."

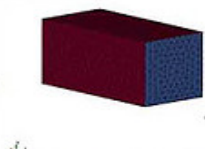



The DYNAmore name stands for excellent support when it comes to the numerical solution of non-linear physical problems. We offer numerous FE models for crash simulation (dummies, barriers, pedestrians, human models, etc.). Core activities include support, sales, training, engineering services, software development and system integration. DYNAmore is among the top names when it comes to pilot and development projects for the simulation of non-linear dynamic problems.





	<p>10-26 - <b>M. Seulin</b></p> <p><a href="#">Drag Coefficient Optimization for a Sports Car Using the Coupling Between LS-DYNA® ICFD Solver, LS-OPT® and DEP MeshWorks Software</a></p>
	<p>10/19 - <b>Y.V. Novozhilov -</b></p> <p><a href="#">Aircraft NPP Impact Simulation Methodology</a></p>
	<p>10/12 - <b>J. Puryear</b></p> <p><a href="#">Wear Analysis of Machinery Components in Buildings</a></p>
	<p>10/05 - <b>D. Grindle -</b></p> <p><a href="#">Further Validation of the Global Human Body Model Consortium 50th Percentile Male Pelvis Finite Element Model</a></p>

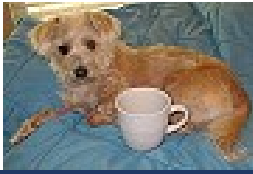




	<p>10/26 - <b>Kaizenat</b> - <a href="#">Tutorial on LS-DYNA ICFD Flow Analysis</a></p>
	<p>10/19 - <b>Oasys</b> <a href="#">PRIMER Introduction and Demonstration of Automotive Tools</a></p>
	<p>10/12/2020 - <b>BETA CAE</b> <a href="#">New supported file formats from solvers in META</a></p>
	<p>10/05/2020 - <b>Jenson Chen</b> <a href="#">Dynaform 6.1 - New Features and Enhancements</a></p>

## Previous

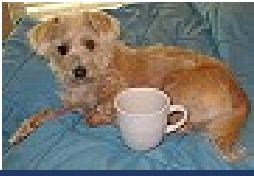
	<p>09/21/2020 - <b>BETA CAE Systems</b> <a href="#">Enhancements of the seatbelt tool.</a></p>
	<p>09/14/2020 - <b>Kaizenat</b> <a href="#">Model Editing using LS-PrePost</a></p>



	<p>10/26/2020 - <b>Ohio State, Honda partnership</b></p> <p>Marks two decades of success - <a href="#">Simulation Innovation and Modeling Center</a></p>
	<p>10/19/2020 - <b>Elisa</b> - d3View</p> <p><a href="#">My new blog area, and our new updated website - d3View, the data-to-decision platform</a></p>
	<p>10/12/2020 - <b>Adam Remmel</b> - Ozen Engineering</p> <p><a href="#">Battery Impact and Thermal Runaway</a></p>
	<p>10/05/2020 - <b>Altair</b></p> <p><a href="#">Design High-Quality Plastic Components Faster with New APA Product, S-Life Plastics</a></p>

## Previous

	<p>09/21/2020 - CADFEM -</p> <p><a href="#">ITficient and CADFEM presents the new service of a valve manufacturer for oil &amp; gas conveyors</a></p>
	<p>09/06/2020 -</p> <p><a href="#">Dynaform Overview Die Simulation Solution</a></p>



10/26/2020 - You HAVE to wear your seatbelt if you don't want to spill your coffee. Then again, don't drink coffee while you drive! What should you do you ask? Look, listen, be alert, or you may hit that rock below! AND, you should know how and why your seatbelt works

**Learn Engineering** [Seatbelt | How does it work?](#)



10/19/2020 - I know almost ALL engineers want to play with Leggo's - it is such an odd phenomenon! SO, I will drink a cup of coffee called Leggo La Latte, and you can all build a Leggo car and crash it.

**DYNAmore and Scale** - [The Lego Challenge](#)

Can simulation predict reality? Model size: 45 Mio elements  
Impact speed: 60 km/h



10/12/2020 - FIRST, let us not forget that October 13th is my 71st birthday (yes, this was self-serving) BUT 71!! Damn I'm old! Okay, No way in the below video could that person hold their To Go Coffee Cup!

**Saeed Ahmadi** - [Side crash of two vehicles using LS-DYNA explicit finite element code](#)



10/05/2020 - As engineers I do know that you may not be interested in The Early Pioneers of Coffee - SO, we can take our To Go Coffee Cups and head over to listen to The Early Pioneers of Virtual Prototyping.

**Alain de Rouvray, Founder and Chairman of ESI** Group discusses some of the early beginnings of ESI Group with co-founder Eberhard Haug



09/28/2020 - Today we'll have a new coffee flavor. I call it the O'Connor with Hazelnut, OR you can even have a dash of Chocolate. Humanetics is a company you shouldn't miss.

**Chris O'Connor** - [We are Humanetics](#)



10/26/2020 - Now, keep in mind Tiki on the blue blanket is sleeping on the floor. He has to be safe. Tiki is missing one eye, the other is 90% blind, and he doesn't hear. Yes, it makes it difficult, BUT he has learned to follow carpet runners, so he finds his way. I was hoping Molly (on the pink blanket) would be friendlier to him since he's now blind. He does try to follow her but Molly jumps up on something and watches him! YES, I lectured her on being nice to him - She looked at me with an expression as if saying, "NOT GOING TO HAPPEN!"



10/19/2020 - The below picture is my favorite time - right before sunset. An hour before sunset, I always take my last cup of coffee (yes, it is decaf) and ride my tractor around the ranch. I also feed the horses their dinner. Muck out three paddocks just to do it - it's nice tonight and not hot. Then I watch as the sun goes down, AND then I hear my ferals, "Mom, go inside the house, it's our time." Oh, WAIT - I also hear my neighbor's rooster crowing! WHAT! He crows in the mornings, in the afternoon, and now at sunset? I have to google and ask why a rooster does more than only announce the sun is coming up.





10/12/2020 - My space is NO space! Now, let's see - my tractor is the small green tractor. Don's is the large orange tractor. I love my tractor because it is small enough for me to handle. Now, I go outside and my tractor is not in its place. I walk down to the barn (since obviously I can't ride my tractor) AND for once it is not my ferals lousing up my space, their space. NOPE it is DON!!! Using my tractor!



10/05/2020 - Gotta love my boys! I am out here in the heat, smoke in the air, mucking out their horse shit! Are they helping? Are they standing here saying, "Mom, we love you, thanks for shoveling horse shit in this horrible weather" Nope - they took off to graze as I opened the gate





The Complete Recipe PDF - [RECIPE PDF](#)

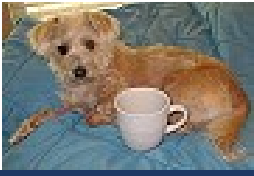
November - Pasta e Patate - **Serving: 2 - Total time: 40 min**

*Cuisine by Corrado Tumminelli*

**CORRADOT**

PROVANDO E RIPROVANDO....





## **Bird Strike in Aviation: Statistics, Analysis and Management**

(available at additional on-line stores)

**Ahmed F. El-Saved (Author)**

Groundbreaking Handbook Offers Detailed Research and Valuable Methodology to Address Dangerous and Costly Aviation Hazard

Though annual damages from bird and bat collisions with aircraft have been estimated at \$400 million in the United States and up to \$1.2 billion in commercial aviation worldwide and despite numerous conferences and councils dedicated to the issue, very little has been published on this expensive and sometimes-lethal flying risk. Bird Strike in Aviation seeks to fill this gap, providing a comprehensive guide to preventing and minimizing damage caused by bird strike on aircraft.

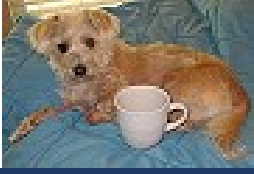
Based on a thorough and comprehensive examination of the subject, Dr. El-Sayed offers different approaches to reducing bird strikes, including detailed coverage of the three categories necessary for such reduction, namely, awareness/education, bird management (active and passive control), and aircraft design. In addition, the text discusses the importance of cooperation between airplanes, airports and air traffic authorities as well as testing methods necessary for certification of both aircraft frame and engine. Other notable features include:

- Statistics and analyses for bird strikes with both civil and military helicopters as

well as military fixed wing aircrafts, including annual costs, critical flight altitudes, critical parts of aircraft, distance from air base and specifics of date and timing

- Thorough review and analysis all fatal bird strike accidents and most non-fatal accidents since 1905, the first book to provide such a reference
- The use of numerical methods in analyzing historic data (ex. probability functions, finite element methods for analyzing impact on aircraft structure, experimental measurement technique for displacement, vibration, component distortion, etc.)
- Instruction on identification of bird species (using visual, microscopic, and DNA evidence) and details of bird migration to aid air traffic control in avoiding scenarios likely to result in collision

With its wealth of statistical data, innovative research, and practical suggestions, Bird Strike in Aviation will prove a vital resource for researchers, engineers and graduate students in aerospace engineering/manufacturing or ornithology, as well as for military and civilian pilots and flight crew or professionals in aviation authorities and air traffic control.

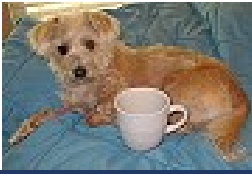


Picture

November

Cowell Ranch Beach. Photographed by Ed Helwig





**Rolls Royce**

**November**

**WINNERS REVEALED IN WORLDWIDE ROLLS-ROYCE  
YOUNG DESIGNER COMPETITION**



*Motor Cars PressClub Article.*

**Rolls-Royce announces winners in its Young Designer Competition**

- Winners awarded in four categories, with further entries awarded Highly Commended
- Selected by Rolls-Royce Design Team from more than 5,000 entries submitted online by children in over 80 countries during Covid-19 lockdown

*Press Contact. Andrew Ball, Rolls-Royce Motor Cars, Rolls-Royce*

*Rolls-Royce Motor Cars is delighted to announce the global winners in its Young Designer Competition, which invited children around the world to design their dream Rolls-Royce of the future.*

*"We are delighted to announce the winners in our Young Designer Competition. The entries that stood out for us were those that showed a real depth of thought, effort and expression, and incorporated lots of different details. The winning entrants didn't just draw 'the nicest car': they created amazing experiences that showed the freedom of their imagination, not hindered by physical, real-world constraints."*

**Torsten Müller-Ötvös, Chief Executive Officer, Rolls-Royce Motor Cars**

*"The number and diversity of the entries proves once again something we've always believed and lived by within Bespoke Design: that Inspiration is Everywhere. As adults, we're often too quick to stop ourselves pursuing fantastical ideas. At Rolls-Royce, we encourage clients to*

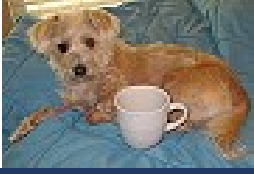
*be bold and creative, unfettered by conventional notions of what they think a car 'should' be like. This competition and the ideas generated reminds us of the incredible power of the question: 'Wouldn't it be great if...?'"*

**Gavin Hartley, Head of Bespoke Design, Rolls-Royce Motor Cars**

Rolls-Royce Motor Cars is delighted to announce the global winners in its Young Designer Competition, which invited children around the world to design their dream Rolls-Royce of the future.

The four category winners, who hail from Japan, France, China and Hungary and range in age from six to 16, will each enjoy a chauffeur-driven journey with their best friend in a Rolls-Royce to school. The designs of the winners and three additional Highly Commended entrants have all been transformed into beautiful digitally-rendered illustrations by the Rolls-Royce Design Team, using the same software and processes as they would in a 'real' Rolls-Royce design project.





Devised to provide a creative outlet for children aged 16 and under, confined by Covid-19 lockdown restrictions, the competition attracted more than 5,000 entries from over 80 countries. With no rules or specified judging criteria to constrain them, children were able to let their imagination run free, creating designs of extraordinary richness, creativity and diversity.

Faced with a truly formidable task, the judges selected overall winning designs in four categories – Technology, Environment, Fantasy and Fun – based on the most popular themes that emerged from the 5,000-plus entries. Three further entries that defied categorisation but caught the judges' attention were Highly Commended; the panel also selected winning entries from the various regions around the world in which Rolls-Royce Motor Cars operates.

Launched in April as lockdown conditions were imposed across the globe, the competition proved an instant success; so much so, the original deadline for entries was extended. Asked only to design their 'dream Rolls-Royce of the future', children had complete creative freedom, allowing them to develop ideas of astonishing scope, complexity and vision far

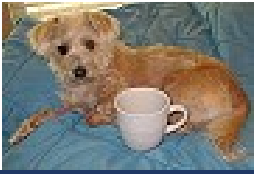
beyond the realms of automotive design.

Entries included designs inspired by (amongst other things) unicorns, turtles, space travel, the Egyptian pyramids, Pablo Picasso and bumblebees. Many are capable of flying or travelling underwater; the designs also featured a host of clever devices and novel technologies to save labour, provide pleasure and entertainment and benefit humanity and the environment.

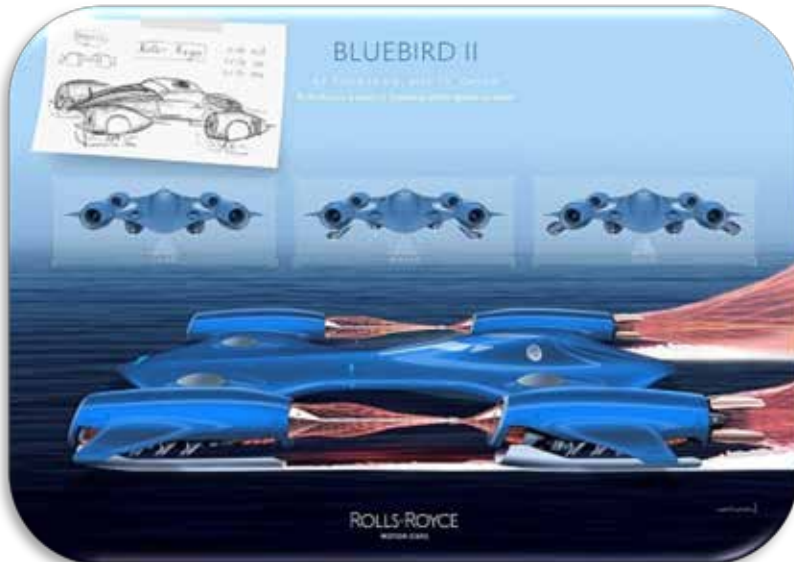
Reflecting on the competition, Torsten Müller-Ötvös, Chief Executive Officer, Rolls-Royce Motor Cars, said, "On behalf of myself and everyone at Rolls-Royce, I would like to thank every single Young Designer who entered the competition, and for all the thought, hard work and creativity that went into their designs. There is some amazing talent out there, and I wouldn't be surprised if some of our entrants went on to work as car designers one day – perhaps even at Rolls-Royce."

He concluded, "The most important thing I've learned from this competition is that whatever our circumstances, we have the power to create amazing things, because our imagination is always free to fly. I hope the children who took part will recognise this, too, and that it will be something positive they can take from their pandemic experience."





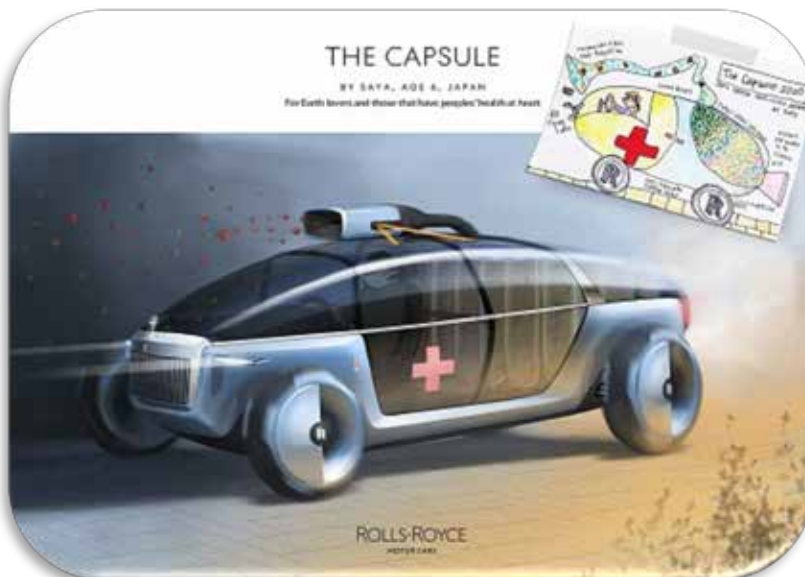
CATEGORY WINNERS:



TECHNOLOGY

Chenyang

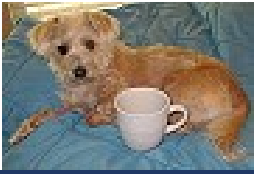
ROLLS-ROYCE BLUEBIRD II BY  
CHENYANG, AGE 13, CHINA.  
TECHNOLOGY CATEGORY  
WINNER IN THE ROLLS-ROYCE  
YOUNG DESIGNER COMPETITION.



ENVIRONMENT

Saya

ROLLS-ROYCE CAPSULE, BY  
SAYA AGE 6, JAPAN.  
ENVIRONMENT CATEGORY  
WINNER IN THE ROLLS-ROYCE  
YOUNG DESIGNER  
COMPETITION.



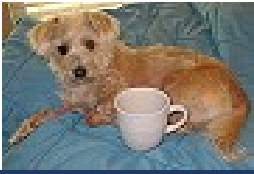
### FANTASY - Florian

ROLLS-ROYCE TURTLE CAR, BY FLORIAN AGE 16, FRANCE. FANTASY CATEGORY WINNER IN THE ROLLS-ROYCE YOUNG DESIGNER COMPETITION.



### FUN - Lena

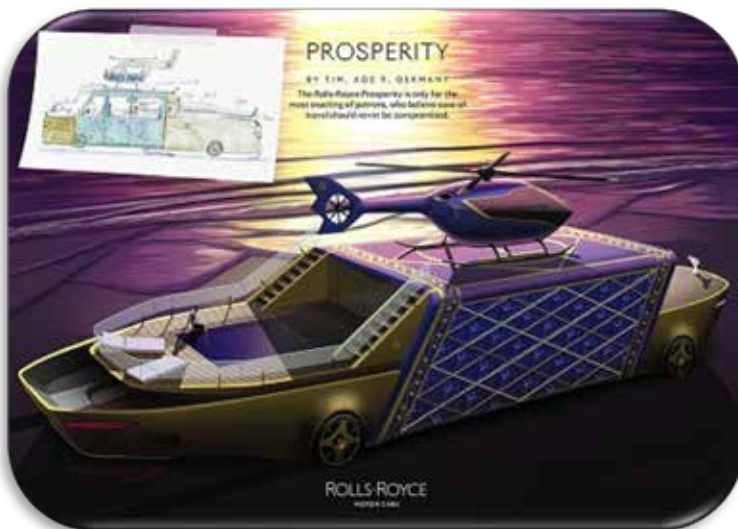
ROLLS-ROYCE GLOW BY LÉNA, AGE 11, HUNGARY. FUN CATEGORY WINNER IN THE ROLLS-ROYCE YOUNG DESIGNER COMPETITION.



**HIGHLY COMMENDED:**

**Declan**

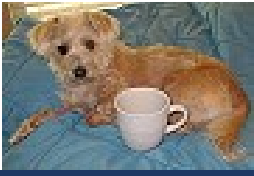
**ROLLS-ROYCE BOLT BY DECLAN, AGE 10, UNITED KINGDOM. HIGHLY COMMENDED IN THE ROLLS-ROYCE YOUNG DESIGNER COMPETITION.**



**HIGHLY COMMENDED:**

**Tim**

**PROSPERITY BY TIM, AGE 9, GERMANY. HIGHLY COMMENDED IN THE ROLLS-ROYCE YOUNG DESIGNER COMPETITION.**



[Join us on YouTube to watch The All Electric Endurance -](#)



**Lordstown Motors Corp.** designs and manufactures electric vehicles that revolutionize the way work gets done. The vehicles we build reduce burdensome costs, provide functional style for today's job sites, and act as an extension of the worker—smarter, safer and more productive.

Work has evolved, and it's time for vehicles to evolve with it. Electric works better.



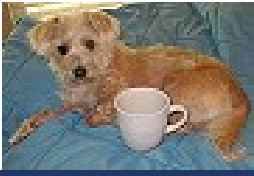
Endurance pickups are made in America at our headquarters in Lordstown, Ohio. In addition to our experienced executive team made up of automotive leaders from Tesla, Toyota, GM, VW, Hyundai, and more, we will also leverage a skilled local labor force at this legendary manufacturing plant to build our electric trucks.

- \*Safety Rating (Front, Side, Rollover) 5 / 5 / 4
- \*ADAS-LDW, AEB, Rear Cross Traffic Alert Yes
- \*Software - OTA (Over the Air Updates) Yes
- \*Fault monitoring - OTA realtime Yes
- \*EV Range (EPA cycle) 250+ miles Charging time (20-80% SOC, Level 2 11kW AC/Level 3 DC) 10 hrs / 0.5 to 1.5 hrs
- \* Off-board power for tools and accessory (stationary) 110V/120V, 20 amp Yes

- \*Seating Capacity 5
- \*Towing Capacity 7,500 lbs
- \*Drivetrain layout 4 Hub Electric Motors
- \*Brakes Front/Rear Custom in hub motor brakes
- \*Wheels 20 in
- \*Horsepower Peak 600 hp
- \*Power Steering Assist Electrical
- \*Top Speed (Software Governed) 80 mph (128 kph)
- \*Gradeability at GVW 30%
- \*Warranty 3-years bumper-to-bumper; 8-year battery warranty







## Australia's First Loyal Wingman Completes Low-Speed Taxi Testing

[YouTube Video](#) [Below Article](#)

AUSTRALIA, October 22, 2020 – The Boeing Loyal Wingman aircraft being developed with the Royal Australian Air Force (RAAF) recently moved under its own power for the first time, a key milestone for the aircraft that's expected to make its first flight this year.

"Air Force partners with industry to ensure we can find innovative solutions to meet our future priorities," said Air Vice-Marshal Cath Roberts, RAAF Head of Air Force Capability. "Boeing's Loyal Wingman project is a perfect example of what this collaborative approach can achieve."

"Seeing the prototype take to the runway for this low-speed taxi test is an exciting moment – another significant development milestone ahead of its first flight."

Reaching a maximum speed of 14 knots (approximately 16 mph, or 26 kilometers per hour), on the ground, the aircraft demonstrated several activities while maneuvering and stopping on command.

"The low-speed taxi enabled us to verify the function and integration of the aircraft systems,

including steering, braking and engine controls, with the aircraft in motion," said Paul Ryder, Boeing Australia Flight Test manager.

Three Loyal Wingman prototypes will be the foundation for the Airpower Teaming System that Boeing will offer customers worldwide.

The aircraft will fly alongside other platforms, using artificial intelligence for such teaming missions. It has advanced design and flight characteristics, including a modular nose section that's customizable for specific needs and a conventional takeoff and landing approach suitable for many missions and runway types.

"Runway independence ensures the aircraft will be a highly flexible and adaptable system for our global customers," said Dr. Shane Arnott, program director, Boeing Airpower Teaming System. "This latest test marks the first full unmanned movement of the Loyal Wingman with our Australian partners and takes us a step closer to first flight."