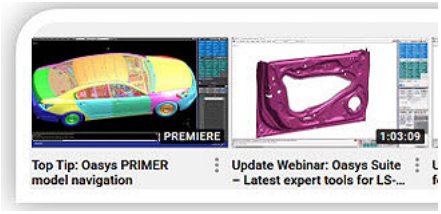
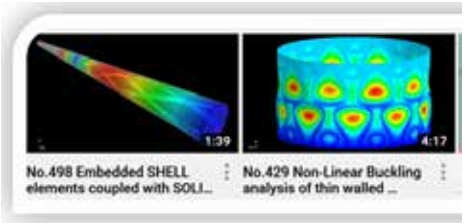
Oasys

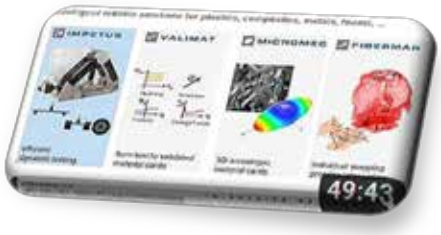


Altair

LANCEMORE

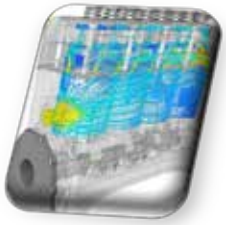


DYNAmore Express



MSC.Software

ANSYS



ESI

Rescale

Art's Blog

LLNL

Tutorial

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Bringing a variety of FEA news, software solutions, and articles.

Hi and welcome to July, featuring news and information and my gossip and friends, recipes and simulations and videos and, and, and, and, LOTS of other interesting things! AND ART's NEW BLOG SECTION!

And more NOT TO MISS:

Curt Chan
Engineer | Technologist | Marketer

Discover how Ansys is radically improving your product design processes with an all-new Ansys Discovery! #Ansys

Register: Introducing an All-New Ansys Discovery - July 29, 2020 11 a.m. (EDT)

Don't miss MSCOne orchestrates flexible token licensing

Bhoomi Gadhia
Structures Product Marketing Manager at MSC Software

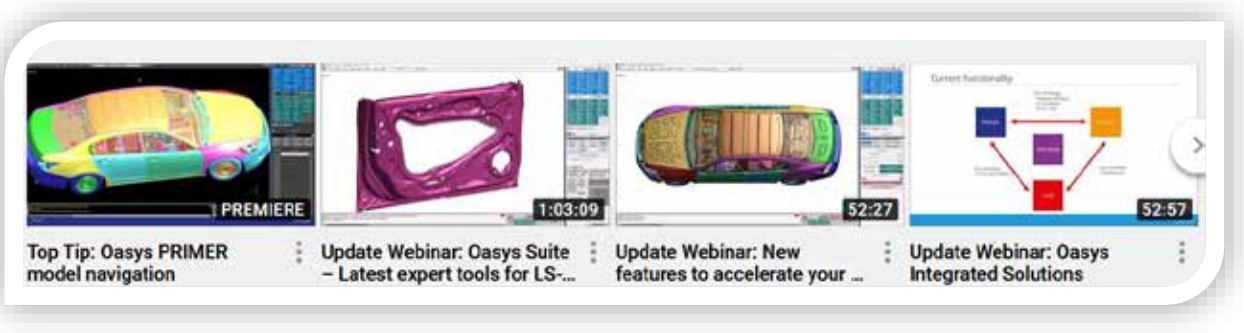
"… John Janevic, Chief Operating Officer of MSC Software, explained: "Companies in every industry are turning to simulation to improve cost, quality, and innovation from R&D through to manufacturing and testing….

Edward Hsu
Unlocking HPC Cloud Transformation for Enterprises

Today I get to share something exciting – something that I believe will be a true enabler for the world of applied science and engineering.

Editor Note: Oasys now offers Uploaded Webinars for viewing

Not To Miss on YouTube



A series of webinars on line for the Oasys LS-DYNA Environment

Upcoming Webinars

Human Body Model Positioning using the Oasys LS-DYNA Environment
1 Jul, 2020 - 12:30 BST
Deciphering LS-DYNA Contact Algorithms
15 Jul, 2020 - 11:30 IST
Oasys PRIMER and D3PLOT: composite tools
16 Sep, 2020 - 12:30 BST

Past webinars are available to watch Here:

- Introduction to the webinar series – Jamie Talbot
- LS-DYNA Updates – Richard Sturt
- Oasys Integrated Solutions – Gavin Newlands and Alasdair Parkes
- New features to accelerate your workflow with the Oasys LS-DYNA Environment – Gavin Newlands and Alasdair Parkes
- Oasys Suite – Latest expert tools for LS-DYNA models – Gavin Newlands and Alasdair Parkes

Tutorials Available to Download

LS-DYNA PRIMER D3PLOT T/HIS REPORTER

Editor Note: [The below article in full is located and copyright to the Altair Blog .]

Empowering Everyone with Augmented Analytics

"By leveraging artificial intelligence and machine learning, augmented analytics will transform how data analytics is developed, consumed, and shared."

Sam Mahalingam CTO, Altair

As I highlighted in my previous blog post, augmented analytics is one of the current tech trends I'm particularly enthusiastic about. And I'm far from alone. Since the term was coined by Gartner back in 2017, augmented analytics has gained considerable traction in the world of data analytics and beyond.

Sometimes, tech buzzwords are more hype than substance. In this case, the excitement is well founded. By leveraging artificial intelligence (AI) and machine learning (ML), augmented analytics will transform how data analytics is developed, consumed, and shared.

There are compelling reasons why data analytics represents fertile ground for a truly disruptive technology. Over the past few years, we've all woken up to the value of big data. However, the sheer volume of information available to organizations is making effective interpretation a real challenge. What's more, the problem is only getting worse. For example, by 2025 it is predicted that there will be five billion cellular IoT connections worldwide compared to 1.3 billion in 2019 (source). That's another vast new data stream to be managed.

To date, the job of organizing, sifting, and drawing insight from this information has largely fallen on the shoulders of data engineers and data scientists. This is a highly skilled role, most notably in the requirement to develop algorithms that can make sense of all the potentially relevant data.

Not surprisingly, data scientists are in short supply. Which means they are overworked. In a world spinning ever faster, insights derived from data typically have a short shelf life. If they do not reach decision makers in good time, their value soon fades.

Editor Note: **The below article in full is located and copyright to the Altair Blog .**

Augmented analytics promises to ease this bottleneck. AI and ML are ideally suited to automating and accelerating the more laborious elements of a data scientist's work: gathering, preparing, cleansing, and finding hidden patterns and correlations in data. Which will give those scientists the freedom to focus on generating and delivering insights quickly enough to support decision making elsewhere in their organizations.

Valuable as it is, however, I still think this represents low-hanging fruit. Where things get really exciting is the ability of augmented analytics to empower a completely new generation of citizen data scientists.

Citizen data scientists are not specialists. Their 'real' jobs are on the frontline: business line managers, operations managers, and domain experts, for example. Augmented analytics will give them the tools they need to derive insight from data without having to call on the services of 'proper' data scientists.

By making sophisticated data analysis directly accessible to a much wider audience, augmented analytics will do more than cut the expense of, and workload imposed on, specialist data scientists. It will put data analytics within easy reach of the very people who know precisely what insights are needed, and when.

At Altair, our interest is much more than theoretical. In developing our Altair Knowledge Works™ data analytics platform, we are continually asking the 'where next' question. With the arrival of automated analytics, that might be better phrased as 'who next.' Quite simply, we are absolutely committed to enabling more people to get creative with their data.

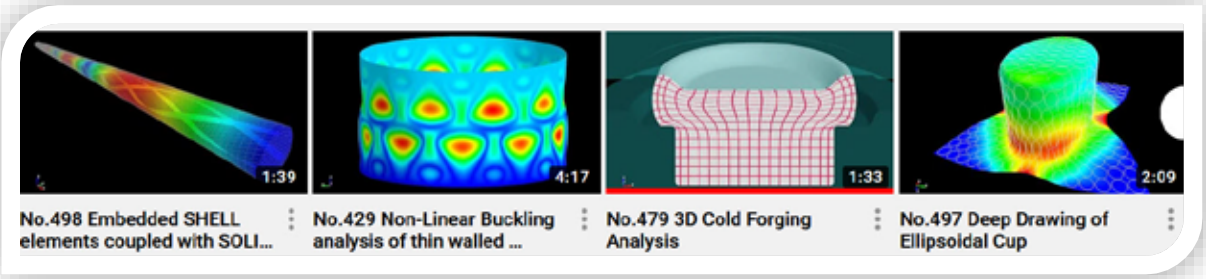
In my next blog post, I'll consider what augmented analytics will look like in practice. In particular, how another tech trend – continuous intelligence – will help key decision makers to get it right, more often.

Editor Note: Lancemore does LS-DYNA analysis and consulting.

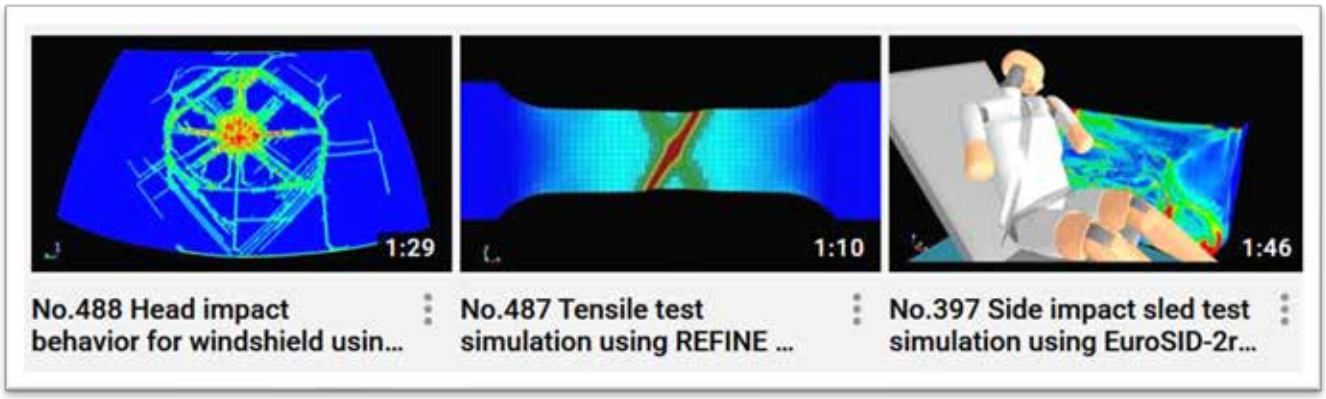
LANCEMORE Co., is one of the most advanced finite element analysis specialists in Japan, including analysis and consulting with LS-DYNA.

Among the Latest Video Simulations Below:

YouTube Channel

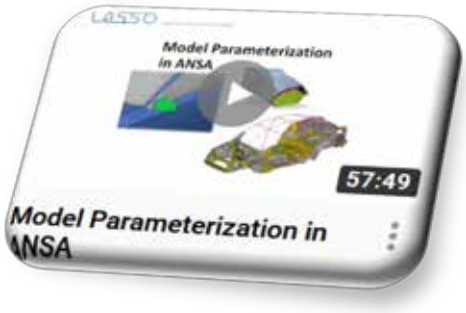


Previous



LancemoreJP YouTube Channel and Website

Editor Note: BETA CAE has a YouTube Channel with videos & webinars



[Model Parameterization in ANSA]

This is a webinar by LASSO Ingenieurgesellschaft mbH which focuses on the features of ANSA for model parameterization.

[Coupling ANSA and META to LS-OPT]

This is a webinar by LASSO Ingenieurgesellschaft mbH on how to couple ANSA and META post with LS-OPT.

[Design Of Experiments (DOE) study in ANSA & META]

Discover the tools and functionality regarding the model parametrization and DOE study setup in ANSA & META.

BETA CAE Systems YouTube Video Channel

Editor Note - MSC Software develops simulation software technology that enables engineers to validate and optimize their designs using virtual prototypes https://www.mscsoftware.com /

Don't Miss MSCOne flexible token licensing

Bhoomi Gadhia
Structures Product Marketing Manager at MSC Software

MSCOne orchestrates flexible token licensing to provide users access to any CAE software they need through the product development lifecycle – from materials R&D and engineering to virtual manufacturing and product testing. This offers engineering leaders the agility to provide immediate access to simulation tools when and where the software is needed and allows organizations to maximize their return on investment, no matter their CAE budget.

Launched today, MSCOneXT (MSCOne Extended Edition) will enhance MSCOne with industry-leading technology partners. MSCOne users will be able to try new products that extend and complement the capabilities of their MSC tools using tokens. Engineering projects will be able to take simulation one step further with access to software that enhances their workflows, but without the complexity, risk, or cost of managing agreements with multiple CAE suppliers.

SmartUQ has joined the MSCOneXT Program to help customers solve their difficult analytics problems while reducing costs and saving thousands of hours of work. “With SmartUQ’s integrations with MSC products, customers now have access to a powerful predictive analytics and uncertainty quantification (UQ) software tool that incorporates real world variability and probabilistic behavior into engineering and systems analyses,” shares Dr. Peter Chien, CEO and Chief Scientist of SmartUQ. “Model calibration and validation, Digital Twins, and Manufacturing Analytics are just a few of the advanced applications SmartUQ adds to the MSC solution set.”

John Janevic, Chief Operating Officer of MSC Software, explained: “Companies in every industry are turning to simulation to improve cost, quality, and innovation from R&D through to manufacturing and testing. By extending MSCOne to our technology partners, we are offering our customers a smarter way to access tools that enhance our offering to help them achieve greater innovation and productivity.”
“Manufacturers have more reasons to become agile than ever before and CAE underpins many decisions. Through MSCOne, customers can now access our extensive simulation portfolio and e-learning wherever and whenever it is needed, so they can respond to their engineering and commercial priorities and adapt to new working practices.”

MSCOne customers can easily access additional simulation tools that their company may not be able to justify with a separate license purchase. For example, a design team that uses MSC Apex could also use Simufact Additive to validate a new part design for additive manufacturing. This flexibility also allows an organization to allocate resources by distributing tokens across teams and regions, or to use on-premise computing interchangeably with cloud HPC centers.

From today, MSC has also extended access to its extensive CAE e-learning through tokens. This enables any MSCOne user to develop new skills and certifications for any discipline, physics, or product group with structured on-demand courses and step-by-step workshops using the tools available through the platform.

New MSC products, including MSC Apex Generative Design and CAEfatigue have also been made available for the first time through MSCOne. Users can create, test, and perfect every aspect of product development in simulation, from material design to structures, acoustics and fluid dynamics to manufacturing process design and fatigue analysis. The MSCOne portfolio includes, but is not limited to:

- Structures: MSC Nastran, MSC Apex, Patran, Marc, and Dytran
- Multibody Dynamics and Systems: Adams and Easy5
- Acoustics and Fluids: Actran, scFLOW, and scSTREAM
- Durability and Fatigue: CAEfatigue
- Materials: Digimat and MaterialCenter
- Generative Design: MSC Apex Generative Design
- Metal Manufacturing: Simufact and FormingSuite
- Simulation Data Management: SimManager

MSCOneXT supports the entire CAE ecosystem – from supplier to user – by providing an easy way for engineering and design professionals to try new products, and for partners to gain exposure to a new customer base. New partners and tools are constantly being added, and prospective partners are invited to join the program.

For smaller organizations, the MSCOneSE (MSCOne StartEditon) provides a cost-effective and flexible option to access MSC's core products and e-Learning to help teams get started in advancing their product development proceses to include CAE.

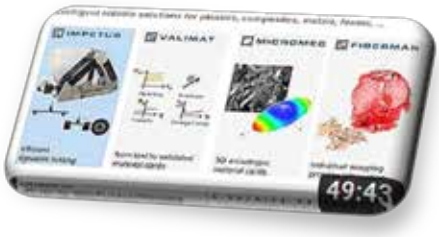
[MSC.Software YouTube Channel - Video - Webinars - Updates]

Editor Note - Dynamore Express is part of DYNAmore Germany and DYNAmore Nordic information

DYNAmore Express - Your YouTube Channel for Learning

Filipe Andrade (DYNAmore GmbH)

Good old MAT 024 A review of LS DYNA's most popular material model



*MAT_024 is probably the most used material model in LS-DYNA and there are good reasons for this. Its algorithmic robustness, efficiency and the load curve based input are among the key reasons why so many
users decide to use it.

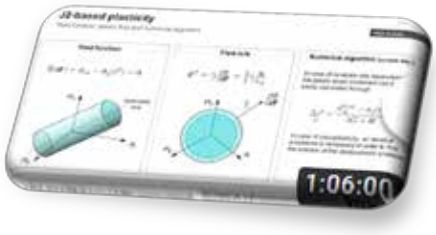
Marko Thiele (Scale GmbH)

LEGO Crash Simulation in LS-DYNA
Data Management for Large-Scale Models

Given that in our professional lives we are dealing on a daily basis with highly sophisticated crash models, it seems obvious that, when we saw a video of an actual physical crash of a LEGO® Porsche Technic Model on YouTube,
we instantly thought we should be able to simulate this with the LS-DYNA® FEM solver.

Peter Reithofer (4a Engineering GmbH)

DYNAmore Express: Modeling Plastics in LS-DYNA (Part 1)
Isotropic Modelling of Thermoplastics

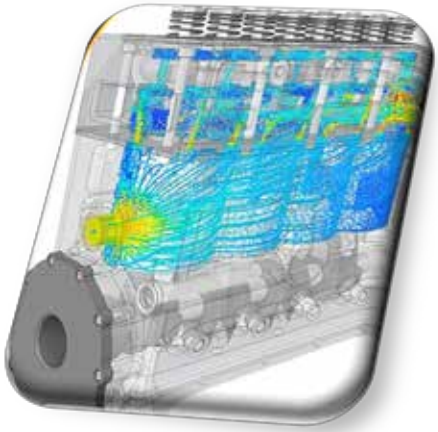


The knowledge of physical material behavior is essential for the simulation of dynamic load cases. This contribution gives an exemplary overview of typically used material models for thermoplastics (e. g. *MAT_187, *MAT_215, …) considering the different mechanical phenomena (general yield surface, anisotropy, damage and failure).

Editor Note - For full links please visit the ANSYS Blog or YouTube Channel

Curt Chan
Engineer | Technologist | Marketer

Discover how Ansys is radically improving your product design processes with an all-new Ansys Discovery! #Ansys



Register: Introducing an All-New Ansys Discovery - July 29, 2020 11 a.m. (EDT)

Radically Improve Your Product Design Processes

Leveraging the all-new Ansys Discovery product early in your product design processes will drive substantial gains in engineering productivity, spur innovation and increase your product's overall performance.

- **Mark Hindsbo**
  Keynote from Mark Hindsbo, Vice President and General Manager, Design Business Unit, Ansys

- **Justin Hendrickson**
  Product demonstration from Justin Hendrickson, Senior Director, Design Product Management, Ansys

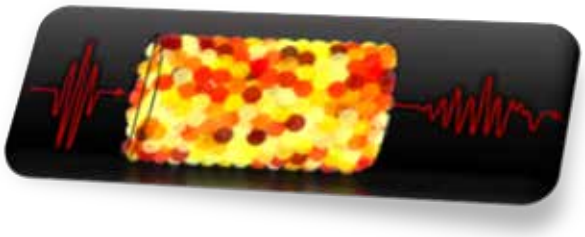
- **Stefan Macho**
  Customer Success Story from Stefan Macho, Head of R&D Simulation, HAWE Hydraulik, in partnership with CADFEM Group, an Ansys Elite Channel Partner

- **Mauricio Toro**
  Customer Success Story from Mauricio Toro, CEO, TECHFIT Digital Surgery

Editor: Art Shapiro About Art (pdf)

	06/29/2020 - An interesting article by By Peter Holderith who advises "The Chrysler Corporation (yes, the car company) used to have an aerospace department."
	06/22/2020 - A video created by minutephysics illustrates "The Astounding Physics of N95 Masks" It is informative and interesting to realize the physics behind the mask
	06/15/2020 - Lear Corp. created a Standard Operating Procedure (SOP) Covid-19 book for their company. It is comprehensive and can be used by many companies or as a starting point for you own SOP

Editor Note: LLNL is Lawrence Livermore National Laboratory located in Livermore, CA



Catching a wave to study granular material properties

Lynda L Seaver

The image is a combination of two sets of data from X-ray scans of single crystal sapphire spheres. The combination and colorization of this data shows the distribution of stresses for each grain under load. This information was used as initial conditions for ultrasonic transmission measurements, where structure-property relationships were measured *in-situ.*

Stress wave propagation through granular material is important for detecting the magnitude of earthquakes, locating oil and gas reservoirs, designing acoustic insulation and designing materials for compacting powders.

A team of researchers including Lawrence Livermore National Laboratory (LLNL) physicist Eric Herbold used X-ray measurements and analyses to show that velocity scaling and dispersion in wave transmission is based on grainy particle arrangements and chains of force between them, while reduction of wave intensity is caused mainly from grainy particle arrangements alone. The research appears in the June 29 edition of the journal the Proceedings of the National Academy of Sciences.

“The mechanisms we investigate have been used to explain earthquake triggering, but also are important for accurately pressing explosive powders,” Herbold said. “The pharmaceutical industry is very interested in how powder gets compacted as well as the mining, farming (literal grains) and construction (slope stability, etc.) sectors.”

Structure-property relations of granular materials are governed by the arrangement of particles and the chains of forces between them. These relations enable design of wave damping materials and non-destructive testing technologies. Wave transmission in granular materials has been studied extensively and demonstrates unique features: power-law velocity scaling, dispersion and attenuation (the reduction of the amplitude of a signal, electric current or other oscillation).

Earlier research, dating back to the late 1950s, described “what” may be happening to the material underlying wave propagation, but the new research provides evidence for “why.”

Editor Note: LLNL is Lawrence Livermore National Laboratory located in Livermore, CA

“The novel experimental aspect of this work is the use of in-situ X-ray measurements to obtain packing structure, particle stress and inter-particle forces throughout a granular material during the simultaneous measurement of ultrasound transmission,” said Ryan Hurley, a former LLNL postdoc and now an assistant professor of mechanical engineering at Johns Hopkins University. Hurley also is a lead author of the paper. “These measurements are the highest fidelity dataset to date investigating ultrasound, forces and structure in granular materials.”

“These experiments, along with the supporting simulations, allow us to reveal why wave speeds in granular materials change as a function of pressure and to quantify the effects of particular particle-scale phenomena on macroscopic wave behavior,“ said Chongpu Zhai, a Johns Hopkins University postdoc who led the data analysis efforts and was first author on the paper.

The research provides new insight into time- and frequency-domain features of wave propagation in randomly packed grainy materials, shedding light on the fundamental mechanisms controlling wave velocities, dispersion and attenuation in these systems.
Scientists from Johns Hopkins University also contributed to the research, which was funded by LLNL’s Laboratory Directed Research and Development program and performed at the Advanced Photon Source, an Office of Science User Facility, operated by Argonne National Laboratory

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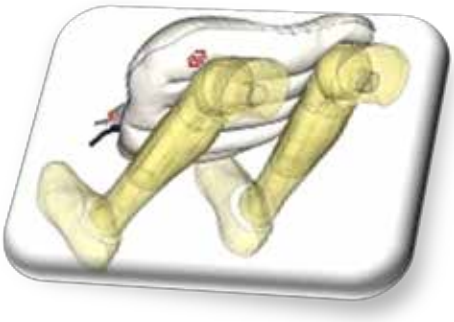
Editor Note: ESI Group is a leading innovator in Virtual Prototyping software and services.



Toyoda Gosei Europe Cuts Lead Times in Half Using Virtual Prototyping -

By Natasha Baccari

Constant changes to automotive safety regulations put pressure on suppliers to build better products with shorter lead times. For Toyoda Gosei Europe, the lead time to build Complex Folded Knee Airbag models (KnAB) became a big challenge. Keep reading to see how they solved their problem.

The Story

Ever-changing automotive safety regulations constantly put pressure on suppliers to build better products within shorter lead times. For Toyoda Gosei Europe (TGE), faced with the challenge of shortening the lead time to build Complex Folded Knee Airbag models (KnAB), they turned to Virtual Prototyping to optimize their airbag. This virtual prototype had to account for manufacturing by virtually modeling the airbag's folding and sewing processes.

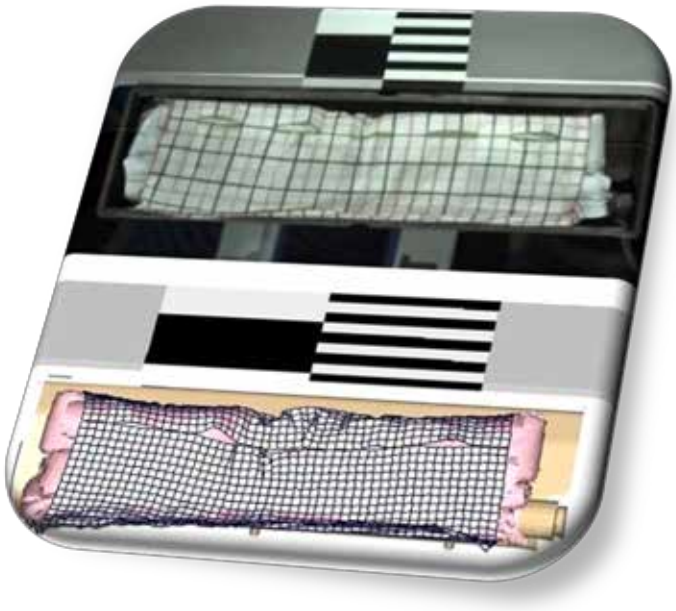
By using ESI Virtual Performance Solution's airbag module for airbag folding and sewing, the accuracy and lead time for developing complex Knee Airbag (KnAB) have improved drastically. Besides the advanced and user-friendly software products, ESI's outstanding support allowed Toyoda Gosei Europe to further improve our simulation-driven development process significantly.

Alexander Diederich Group Leader CAE Toyoda Gosei Europe

"Initially, TGE was creating their models using various simulation codes, which resulted in long lead times because they had to conduct iterations with code modifications and model exchanges. Additionally, they were not using the same tools as their colleagues overseas and therefore had to deal with time-consuming communication and multiple data exchange".

Using ESI Virtual Performance Solution (VPS), TGE built a detailed KnAB model with high accuracy and in less time, accounting for the airbag folding process. They were able to provide their customer with predictable simulation models for various types of crash simulations, even for Out-of-position (OOP) scenarios. Additionally, TGE investigated the robustness of the complete KnAB module as well as the robustness of single parts within the KnAB assembly early in the developmental state. This level of prediction of the simulation model has been the basis for several product decisions and improvements at TGE since the deployment of VPS.

Editor Note: ESI Group is a leading innovator in Virtual Prototyping software and services.



Robustness study of protection cloth; physical test (left); with ESI Virtual Performance Solution

Proven by CT scans, the accuracy of the models exhibits the high-quality achieved by the newly implemented modeling process and confirms the capabilities of VPS. Besides reducing their costs – by limiting the number of physical prototypes, increasing the accuracy of their models, and by implementing a new assembly procedure – using the VPS airbag module allowed TGE to cut the time needed to build complex folded KnAB by half, while at the same time increasing the quality of their product. The team can now allocate more time to tasks that are important to their customers rather than struggling to exchange data between departments or countries.

Natasha Baccari began her career with ESI in 2014, gaining unparalleled experience in the Virtual Prototyping space, while also establishing herself as a respected voice in the industry.

Editor Note: Rescale is a technology company that builds cloud software and services

Edward Hsu

Unlocking HPC Cloud Transformation for Enterprises

Today I get to share something exciting – something that I believe will be a true enabler for the world of applied science and engineering.

I joined Rescale in part because I strongly related to its mission to accelerate science and engineering innovation by transforming high performance computing (HPC). From battling pandemics, to addressing climate change, solving the world's hardest science and engineering challenges require HPC. It's also everywhere – HPC enables nearly every physical product we use today, from the safer cars we drive, to the advanced smartphones we use.

Given HPC's pivotal role enabling businesses to commercialize new product innovations, it's striking how slightly this ~$40B market has changed in recent years. Only 20% of HPC workloads are in the cloud, compared to ~80% for general enterprise workloads. Today, all major cloud service providers (CSPs) offer specialized HPC infrastructures – great progress, but challenges remain.

The first challenge was turning raw cloud HPC infrastructure into turnkey simulation platforms that engineers find useful – something Rescale is really good at. During my travels late last year to meet and listen to our customers, one comment stood out. "Rescale, you guys make cloud tolerable," said a highly experienced HPC practitioner.

He explained that in his previous job he managed fixed on-premises HPC infrastructures solving for high utilization. But now he works at an engineering-driven company, where his primary responsibility is maximizing engineering throughput. This meant using the cloud (which has the necessary scale and latest HPC architectures), providing a broad simulation software portfolio, staying on budget, and doing it all securely in a highly regulated industry. According to him, without Rescale's automation platform, cloud HPC expertise, and support, this simply would not have been possible. A win for their engineering team.

But there's another challenge that we need to tackle, and that's helping engineering teams and enterprise IT work together. Tension between IT and lines of business (LOBs) is an age-old problem not unique to HPC. IT is charged with an enterprise-wide security, reliability, and efficiency strategy, while LOBs pursue business outcomes. Until recently, most enterprise digital transformation efforts ignored engineering workloads. But this is changing: HPC spend growth rate is twice that of overall IT, and business leaders are starting to pay attention. This is an unprecedented challenge for HPC service owners as the economics of HPC have been historically opaque.

Editor Note: Rescale is a technology company that builds cloud software and services

As a former consultant serving business technology leaders, I've seen this movie before. In helping IT organizations improve their interactions with the business, the solution typically included four things: data-driven transparency, clear rules of engagement, a service catalog for the business to make cost/performance tradeoffs, and continuous improvement. It's time to apply this discipline to HPC, particularly since cloud computing is an enterprise-wide CTO & CIO decision.

And so Rescale Insight was created, to deliver data-driven business management for HPC.

And we're just getting started. Today we also announced the industry's first AI engine to match simulation workloads with the best architecture from our multi-cloud infrastructure library. We're putting our eight years of cloud HPC experience into platform intelligence. Now in tech preview, Rescale's coretype AI gives simulation engineers the best of AWS, Azure, and GCP without changing their workflow in any way. All this happens within IT-defined policies on which cloud providers, price points, or pre-defined architectures are enabled.

Rescale Insight provides enterprise IT transparency and control, while empowering engineering teams to drive new product innovations. Simply put, it is a bridge between enterprise IT and LOB engineering teams so that organizations can focus on why they do HPC in the first place:

To accelerate science and engineering breakthroughs.

To bring new product innovations to market.

To change the world.

So, today, I'm excited to finally share Rescale Insight, the new standard for enterprise HPC business management

Edward Hsu - VP of Product

Edward is responsible for product strategy, design, roadmap, and go-to-market, and driving the commercial success of Rescale's product portfolio.

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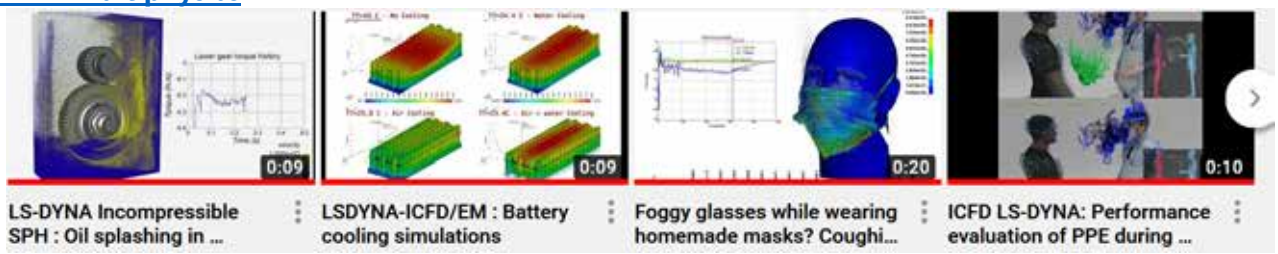
SVS FEM

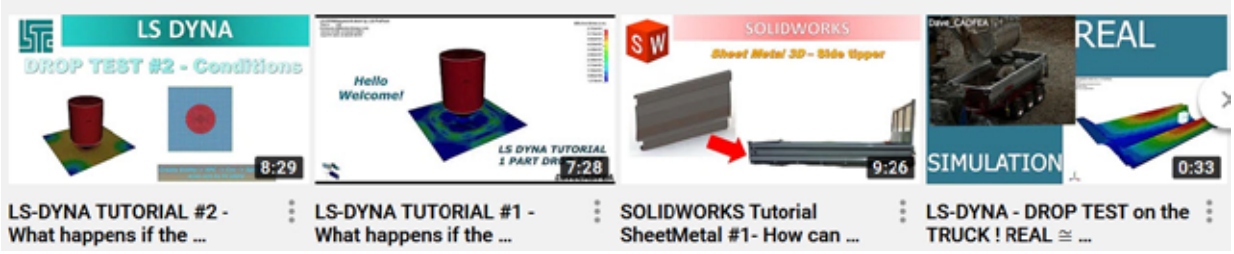
Previously Showcased

LS-DYNA Multiphysics

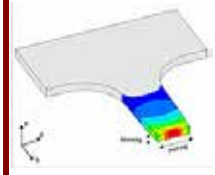
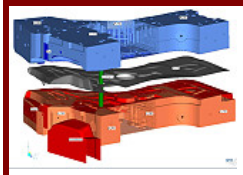
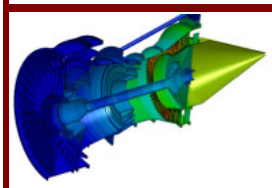
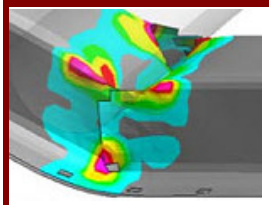


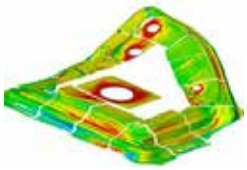
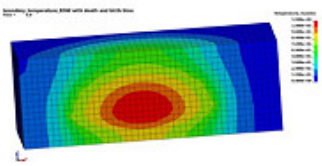
By Levity

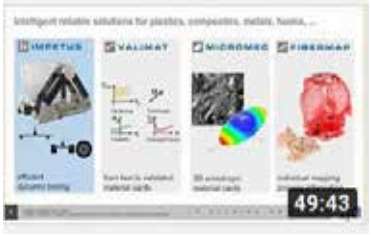
By DaveCADFEA



By Ameen Topa

	B. Fröhlich - Virtual Testing of Curved Vehicle Restraint Systems
	**F. Andrade - A Hosford-Based Orthotropic Plasticity Model in LS-DYNA**
	T. Tryland - A Simple Material Model for Composite Based on Elements with Realistic Stiffness
	**D. Sihling - Setting up a Hot Stamping Simulation considering Tool Heating with OpenForm**
	L. Benito Cia (GNS) - Airbag Folding for LS-DYNA using Generator4
	G. Blankenhorn - Using a Rolls-Royce representative engine model to evaluate scalability of LS-DYNA thermal solvers
	K. Saito - A New Modelling for Damage Initiation and Propagation of Randomly-Oriented Thermoplastic Composites
	W. Lietz - Undamped Extension of a Nose Landing Gear

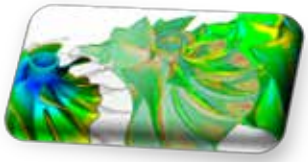
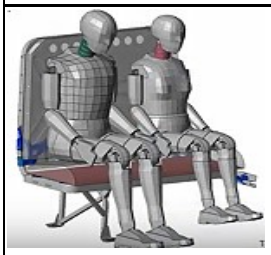
	M. Schill - Simulation of Sheet Metal Forming using Elastic Dies
	D. Aggromito - **Application of Impact Simulation for Protective Barrier Design**
	**T. Klöppel** - **LS-DYNA Developments in the Structural Conjugate Heat Transfer Solver**
	A. Rühl, - Bolted Joint Connections of FRP-Components in Submarines Subjected to Underwater Shock
Oasys PRIMER Bolt & Adhesive Connections	**03/30/2020 - Gavin Newlands - Oasys PRIMER_ Connections – Bolt and Adhesive Modelling**
	03/23/2020 -Ameen Topa - Tensile Test with Solid Elements and Variable Thickness Shells
	03/08/2020 - Total CAE - Submit LS-DYNA to HPC Clusters and Cloud with TotalCAE

	**06/29/2020 Peter Reithofer** Modeling Plastics in LS DYNA - Isotropic Modelling of Thermoplastics
	06/22 - Ameen Topa A short and light tutorial on how to generate solid mesh of a simplified bullet model from scratch.
	06/15 - Gavin Newlands Update Webinar: Oasys Suite – Latest expert tools for LS-DYNA models
	06/08 - Filipe Andrade MAT 024 A review of LS DYNA's most popular material model
	06/01 - Martin Helbig Introduction to Material Characterization

Editor Note - Marsha, our resident coffee drinker, is Editor of the guest Section.

	06/29/2020 - I'm intellectual - Okay all of you can stop laughing now! **George Laird - ITAR - Data Security For All Our Clients**
	06/22/2020 - Response time of serving coffee is important but Man Bus is more important! **Eric Kam - ESI Talk - MAN Bus Reduces Response Time From Days to Hours**
	06/15/2020 - Yes, I know I need to brew the coffee in half the time! **By MSC (James Pura) - MSC Apex makes hexahedral meshes practical and cuts the entire workflow time in half**
	06/08/2020 - And then we will put the Why back in the coffee. **by Altair - The Future of Augmented Analytics: Putting the 'Why' Back Into Your Data**
	06/01/2020 I want an electric vehicle - tractor, wheelbarrow, etc. AND coffee holder on all. **by Peiran Ding, Ph.D - How to Make Electric Vehicles Safer and Cheaper? Start by Analyzing the Battery**
	05/18/2020 Mooo! I read this to the cows in the next pasture, they were very grateful for Altair's blog! Mooo **Altair - Digital Debunking: Could a Tornado Make a Cow Fly?**

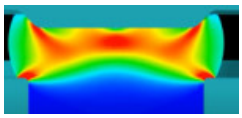
Editor Note - Marsha, our resident coffee drinker, is Editor of the guest Section.

	05/04/ - I will name a coffee Formula 1 - a very fast blend. From BETA CAE Systems - Webinar - CFD geometry preparation of a Formula-type car
	04/20 - This is to important to miss. **From ESI Blog: Computers Unite: Fighting Back Against COVID-19** **What's faster than the top seven supercomputers in the world, combined?**
	**04/13 - I think a molding process for my coffee cups is important - NOT!** **From Altair Blog: Dr. Wolfgang Korte for Better Simulation of the Vibration Behavior of Structural Parts**
	**03/30 - I use tasting techniques to get my coffee to the correct results.** **Predictive will show you projects that involve nonlinear analysis techniques to arrive at the correct result.**
	03/23 - Now I just need one for a tractor and I am set for the ranch. **GM's all-new modular platform and battery system (Photo by Steve Fecht for General Motors)**
	03/08 - I live on a ranch and I can use this to build a shed for hay, grain, saddles, tractor, COFFEE! **Kaizenat Support - Factory Shed design using Solidworks 2020**

Editor Note - Our weekly website reviews, of course, with coffee references.

Monday 06/29/2020 - We have wind turbines here in Livermore, CA SO in honor of that we are having Turbine Chocolate Coffee all day at no fee. (well, no fee was an exaggeration but the coffee is good)

Rotating wind turbine problem with sliding mesh using the incompressible LS

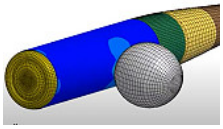


Monday 06/22/2020 - While I was doing cold coffee analysis I came across below video of Cold Forging Analysis. Now you're asking youselves how did this woman go from coffee to engineering? IF you have the answer to that question you can go to the head of the class (old board game I liked to play - REAL old)

Lancemore shares with us No.479 3D Cold Forging Analysis

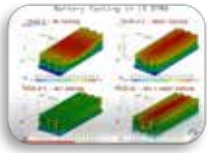
Monday 06/15/2020 - And grab that coffee cup and of course something this week cinnamon! HA! you all thought I would say chocolate? WRONG! Off we go to YouTube singing skip to my loo my darling!

Kaizenat shares Motion Simulation of Hypocyclic Engine Using LS-DYNA | Ansys



Monday 06/08/2020 - Gotta love Predictive Engineering with their video below. SO, that said we will serve this week CC - Conference Coffee!!! GO US! AND now let's go watch the video

ANSYS LST Conference 2020 LS-DYNA Exhibition Video - Predictive Engineering FEA Consulting Services



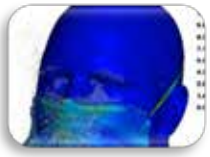
Monday 06/01/2020 - Being on the ranch battery cooling is important - then again anything I use that has a battery. SO we will have BC - battery coffee without the battery SO we will add chocolate! I bet you all knew I'd add chocolate.

LS-DYNA -ICFD/EM : Battery cooling simulations

FEANTM - Previous News

Editor Note - Our weekly website reviews, of course, with coffee references.

Monday 05/25/2020 - Now while munching the cake, at least two slices, we are going to watch oil in a gear box on YouTube monitor.LS-DYNA Incompressible SPH : Oil splashing in gearbox



May 18 - Next we join with another Covid-19 solution below:

Foggy glasses while wearing homemade masks? Coughing through a homemade mask, an ICFD/FSI solution

Monday 05/11/2020 -I just need to figure a mask with a straw through it where it is safe. Then I can have Mask Ala Mode Coffee flavor! I like it! NO, you can't use the straw for beer! It is only a coffee drinking idea.

ICFD LS-DYNA: Coughing flow through porous commercial masks: FSI model adjustment around the face

Monday 05/03/2020 - I'm not sure what I like most - lego's, dreaming that I own a Porsche, or dreaming of owning a Bugatti. Well since I can rule out owning a Porsche or Bugatti I will name this week's coffee Dreaming with a hint of mocha almond! I can afford Coffee - Life is good!

LS-DYNA® simulation vs. real LEGO® crash - Porsche (42056) vs. Bugatti (42083) view from left behind This video shows the crash of the Porsche and Bugatti LEGO® models from a view left behind.

FEANTM - Previous News

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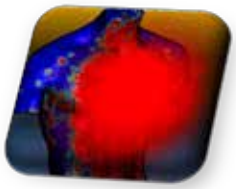
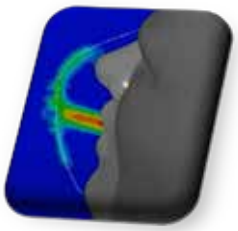


Monday 04/27/2020 - OUCH! Even watching this video makes me yell OUCH and hold my coffee cup up for protection. That will work - it is magical coffee called Kevlar repell with our chocolate magical repel blast spell.

Blast on human torso with SPH Method in the LS-DYNA

Cihan SAVAŞ - Did you ever think that what would happen if blast on human torso is performed ?



Monday 04/20/2020 - To enter my coffee shop you MUST have on your masks. If you can remember to put on a shirt, or tie, or skirt, or spike heels, you can certainly remember a mask. NOW, YES you can sip coffee by picking up the mask and not breathing at someone! I AM MAD at people breathing without masks! GRRRRRRR, snarl, snap, bite!

LS-DYNA ICFD Solver is used to simulate porous flow through masks.

For more information contact: support@kaizenat.com

Monday 04/13/2020 - Guess where I'm NOT taking my truck on our hill! WHY you ask? Fine, grab your Coffee To Go and we'll drive, flat terrain, over to YouTube to visit Ameen.

Rollover Analysis of Pickup Truck

Ameen Topa - LS-DYNA Rollover Analysis. In the starting part of the simulation, the vehicle rolls and falls to the ground due to the gravity load.

Monday 04/06/2020 - AND this week's coffee is called, Pin Ball Wizard with chocolate! and MORE chocolate so grab that to go cup and let's go play!

Self-controlling pinball simulation using LS-DYNA

Sensors in LS-DYNA are used to activate or deactivate other entities, such as boundary conditions and contacts, during an ongoing simulation. You can use sensors to add complexity to your model and make the model more self-controlling.

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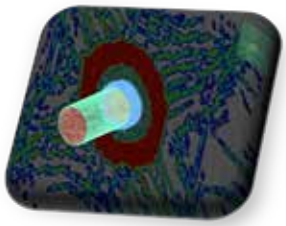
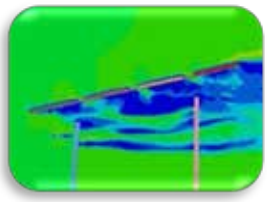


Monday 03/30/2020 - AND this week's coffee is called, Yuri with a hazlenut impact flavor! Grab that to go cup and we will head like a missle to YouTube. (oh stop groaning, I liked the missle reference)

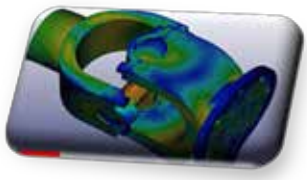
Yuri Novozilov Simulation of a soft missile impact on reinforced concrete slab - Sugano impact test



Monday 03/23/2020 - Today we have Blue Tokai Coffee AND another great video from Kaizenat Support. AND since I live in California Solar is important.

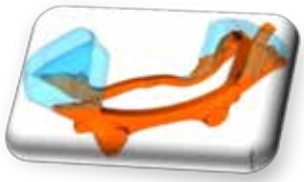
FSI(Fluid Strucuture Interaction) Simulation performed to study the Solar Panel structure Response for the Cyclone Wind load.

Monday 03/16/2020 - I apologize, but I'm exhausted and can't post. Tiki had major eye removal surgery on one eye. 03/30/2020 - He does amazing with one eye - he touches a wall, backs up and goes a different direction - Dog great, I am a nervous wreck wanting to keep guiding him.



Monday 03/08/2020 - Well, since I just replaced my transmission and driveshaft in my Ford Sport Trac, the below is crucial to me! This week we will have UJV. That stands for Universal Joint Coffee and as always with a tad of chocolate! NOW, let's get jogging to YouTube for aerobics for that chocolate calorie intake! OH like an intake manifold?

LS-DYNA - Failure simulation of a universal joint Simu-K-Inc



Monday 03/02/2020 - I like this filling simulation because my coffee cups fill like that! It would be nice to see the coffee swirl into a cup. SO off we go to YouTube at a jog, for cardio, and then we can drink coffee and have a muffin!

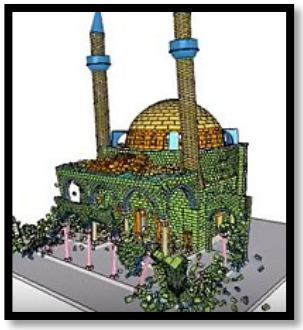
3D Mold filling in Ls-Dyna using level set

Editor Note - Our weekly website reviews, of course, with coffee references.

Monday 02/24/2020 - At times I think my coffee needs a protective screen! But it tastes so good I drink it to quickly so I guess we can just visit Simu-K Inc and their below simulation.

Simu-K Inc. - Simulation of a protective screen for tank fail

A multiphysique simulation with LS-Dyna. Liquid is modeled with SPH and the protective screen use finite element with material plasticity.



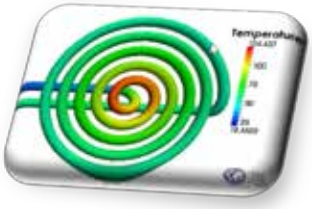
Monday 02/17/2020 - I know where I don't want to be standing drinking my coffee! The simulation below is earthquake - All I can think of is RUN! Now, that is scary!

LS-DYNA Simulation of the collapse of Takiyya al Sulaymaniyya under earthquake loads has been done in LS-DYNA.

Monday 02/10/2020 - Well, now I know what my car will look like if I run into one of the below wires. But my vehicle starts yelling at me if I go off the line it wants. It shakes the wheel; it screams - COFFEE USE BRAKE! COFFEE WATCH LANE - you would think it wants to own a coffee shop and has its flavors picked out!

Car impact into wire rope safety barrier

Simulation of an impact of a 900 kg car toa wire rope safety barrier.



Monday 02/03/2020 - Cafe Coil is our new product. It is small and will heat your coffee which is why I have the below simulation. Pop Quiz - What software rules Heat Transfer? No coffee for you if you didn't answer LS-DYNA.

LS-DYNA conjugate heat transfer in a coil heated by an electric current

Predicting the temperature of the coil to which a current is applied.

Editor Note - Good news is Marsha is done with clouds but not the varmints!

Coffee & Gossip
By Marsha & Molly

June 29, 2020

Wanted - Felony Sunflower Seed Theft
Not Armed - Not Dangerous - Only cute!!

06/29/2020 Okay, just couldn't resist the pictures below - he was on guard for the Bobcat, who was out in the pasture.

06/22/2020 Well in the picture on the left the ranch coyote was so proud of himself stalking. UH OH! it ran under the fence - he was so upset he just stood there staring at it running away. SO, I put out two cans of cat food and he ate the cat food. I felt so badly for him - he tries so hard to catch things but his timing is horrible. Then he looks so confused, and he has no clue what he did wrong. He needs to take lessons from the ranch bobcat!

Editor Note - Good news is Marsha is done with clouds but not the varmints!

06/15/2020 - What a happy sight as I walked out of my front door - NOT!

The cleanup crew is here, and that is happy for them, and I do appreciate their role in living on a food chain ranch, BUT it doesn't quite make my morning.

06/08/2020 - SO I tell the mini's they can have their position back as treasurers (see profile) AND what do they do? I hear them in their stall conspiring how to buy apples without me knowing!

06/01/2020 - HOW the heck did we get to half a year is gone. Well, I guess welcome to June! This will be the last squirrel picture (yes, I heard someone yell "About Time!") BUT they were two cute not to take a picture of. And what will we do for the second half of this year? DIET!!! AHAHAHA The same weight I made a new years resolution about and OOPS didn't lose it.

Editor Note - Good news is Marsha is done with clouds but not the varmints!

05/25/2020 - My squirrels have to shelter in place and social distance - I call this swim day. Sitting on the edge of the water bowl, leaning down to take a drink of the water. Hawk can't swoop down since Ranch Mom is cleaning horses. No Hawk - No Squrriel COVID - no little COVID squirrel mask needed today. Yep, good day!

05/18/2020 -Now since you're engineers, I have a pop quiz. The first clue - is the old blue 10 cu ft. Wheelbarrow. Second is my happy new green one that is only 4.5 cu ft. Third

- Picture them filled with horse manure (I didn't want to gross anyone out with horse manure filled bins)

Okay now, 1) steep hill 2) Me at 70 3) Which one can I push further up the hill? 4) How dumb was this quiz! Grin!

BUT the moral of the story is that it may take me more trips up that hill, but it sure is more comfortable pushing uphill with that smaller green one

05/11/2020 Okay, I am into the baby squirrels, BUT I now noticed 3 bobcats on the property. SO, guess what they like for dinner! UGH

Editor Note - Good news is Marsha is done with clouds but not the varmints!

05/04/2020 - It is BABY bunny time of year and baby squirrel. Okay, baby rattlesnakes but not in the pictures, and they meet a terrible ending, if they come on the property, sad but true. SO back to bunnies, and squirrels!

04/27/2020 - SEE, even the cattle can do social distancing! They moo to each other and have grazing togethether BUT at a safe MOOOO distance.

NOW on a scale of 1-10 how dumb was this post? NO, I don't want to know your answer to the question!

04/13/2020 - Okay, due to the information about clouds and the question of why all the cloud pictures you will be pleased that I have a picture of Romo trying his Virus Mask or his look of What Is She Trying To Put On My NOSE?

Coffee & Recipes

Marsha Victory, Molly Zhao & Friends

Welcome to recommended recipes by FEANTM friends - picked from YouTube. - If you have a favorite recipe please send it to Marsha Victory and Molly Zhao

	Recommended By
	06/01 Harland - Low Carb Cloud Bread 3 ingredients
	05/25 Noi Sims - THAI PAD KRA PAO GAI
	05/18 Molly Zhao - Pork and Cabbage Chinese Dumplings
	05/18 Anna Danilova - Russian Shuba Salad