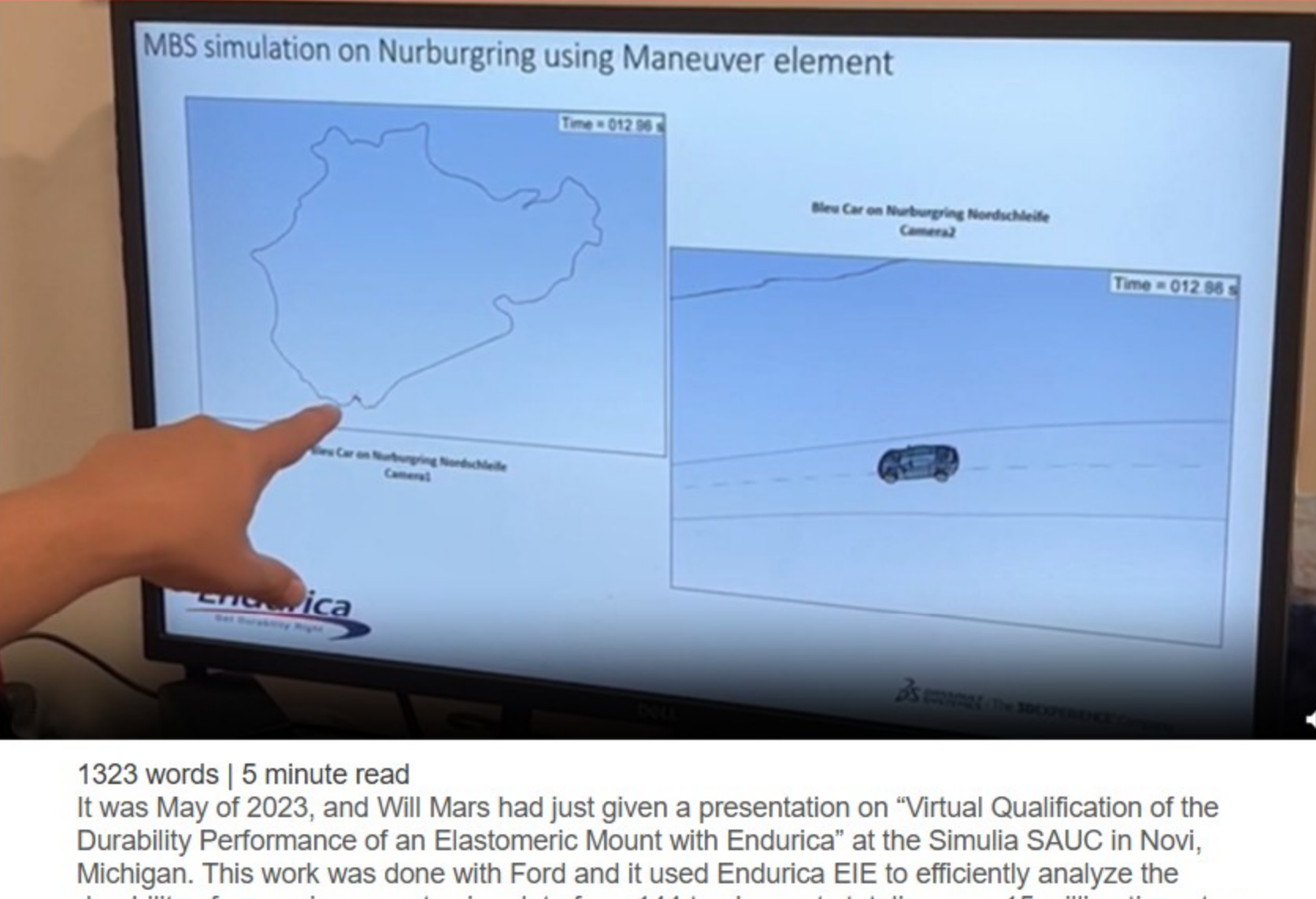


## SPEAKING ENDURICAN **Endurica** Get Durability Right®

### Taming the Tarmac: Simulating Tire Durability on the Nurburgring



1323 words | 5 minute read  
 It was May of 2023, and Will Mars had just given a presentation on "Virtual Qualification of the Durability Performance of an Elastomeric Mount with Endurica" at the Simulia SAUC in Novi, Michigan. This work was done with Ford and it used Endurica EIE to efficiently analyze the durability of an engine mount using data from 144 track events totaling over 15 million time steps with 3 channels of input. This was the largest EIE analysis done to date, and showed how a part could be qualified virtually by utilizing the actual track qualification data ... [READ MORE](#)

## WINNING ON DURABILITY INDUSTRY SPOTLIGHT: RAIL

### FEATURING DR. NINA HEINRICH, LEAD STRUCTURAL ENGINEER TRELLEBORG ANTIVIBRATION SOLUTIONS



**LIVE WEBINAR:**

**WED, APRIL 23, 2025 at 10 am EDT (UTC-3)**  
 with **Dr. Will Mars, Endurica, Founder & President**  
**Wes McMinimy, Endurica Europe, Business Development Manager**

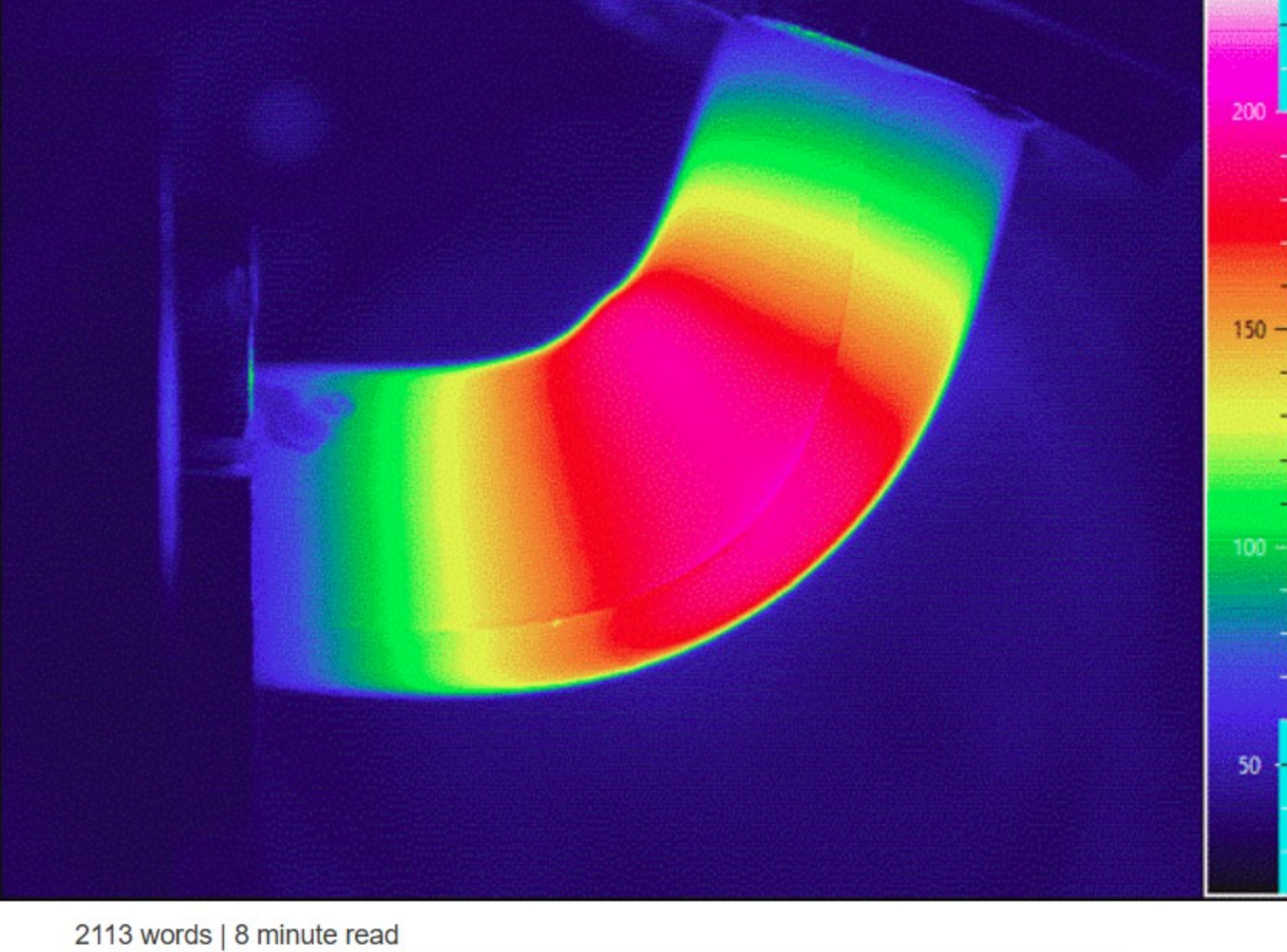


Do not miss this special live episode spotlighting Endurica's work in the rail industry from Trelleborg Antivibration Systems in Switzerland!

Endurica's Dr. Will Mars and Wes McMinimy talk with Nina Heinrich, Ph.D., the global leader of Trelleborg's simulation-based product development engineers about her work predicting a rubber spring's Wohler line with Endurica in the presence of self-contact.

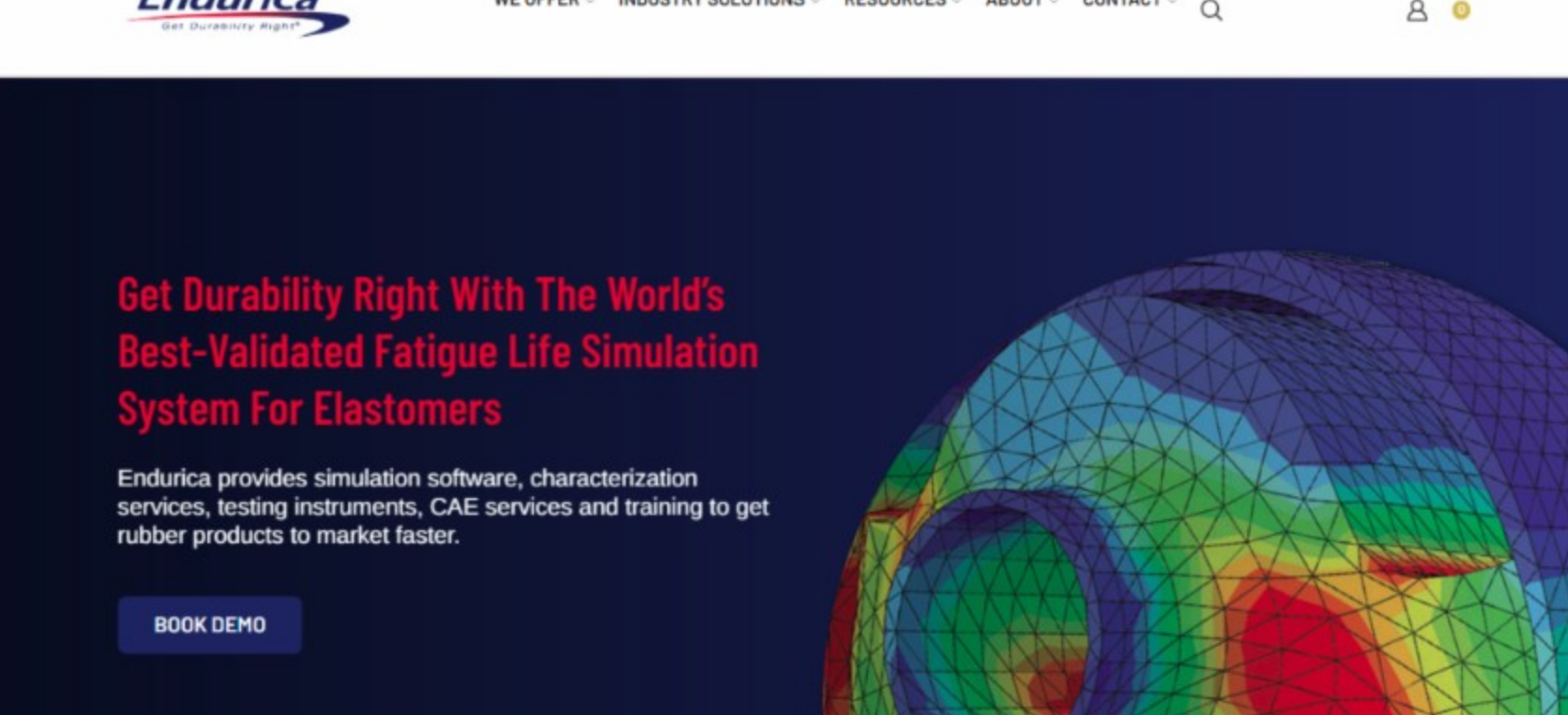
[Learn More and Register](#)

## Rubber Fatigue ≠ Metal Fatigue Part 3: Thermal Effects




2113 words | 8 minute read  
 All materials are temperature dependent, but some more than others: metals tend to be crystalline solids and will melt at sufficiently high temperatures; in contrast, crosslinked elastomers are always solids. They can be glassy or rubbery, crystalline or amorphous. When heated to extreme temperatures, they burn rather than melt, producing new substances, usually low molecular weight hydrocarbons (i.e. tarry substances and smoke). Of course, you do not have to melt or burn a material to see the effects of temperature. In fatigue analysis, we are concerned with stress-strain and crack growth behaviour. These can be temperature dependent for both metals and rubbers. However, while metals have a very high thermal conductivity, rubbers have amongst the lowest. Therefore, fatigue analyses involving large temperature gradients are much... [READ MORE](#)

### Check out our updated site: [endurica.com](http://endurica.com)



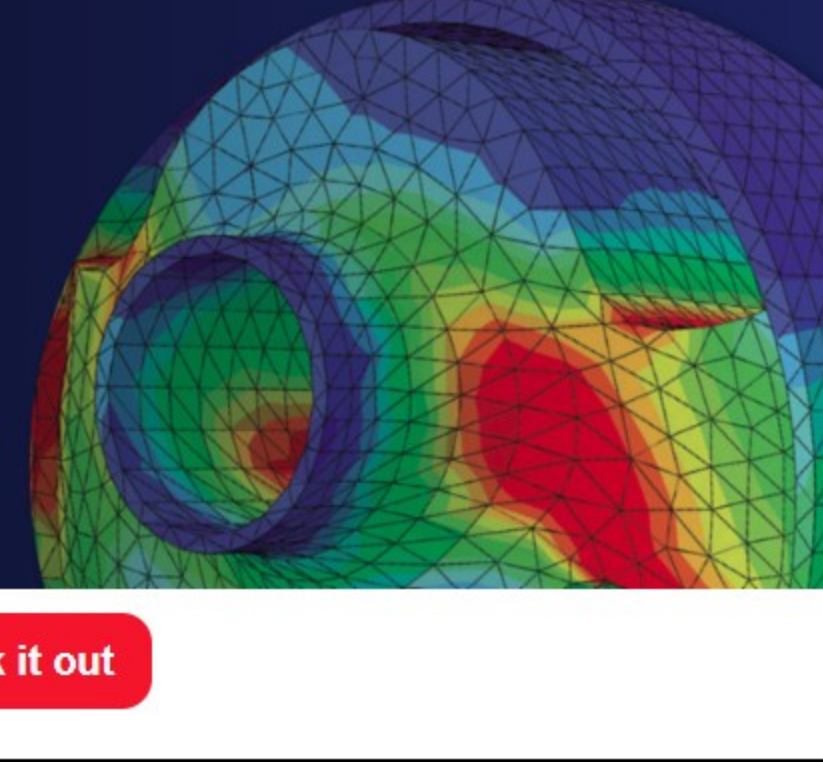
[Check it out!](#)

### Raw Materials Suppliers: reveal the power of your raw materials and compounds




**EVINCE**  
Reveal Your Material

To evince is "to reveal the presence of". Endurica **EVINCE** gives raw materials suppliers a cutting-edge way to reveal the benefits of their offerings. With this combined testing and modeling service, Endurica ranks the performance of your compounds and provides you with graphics, technical data and resources to build use cases. All of this happens WITHOUT the time and cost of building molds, interrupting production, producing prototypes or running long, expensive physical tests.



[Learn More About EVINCE](#)

### Next Up: Conferences



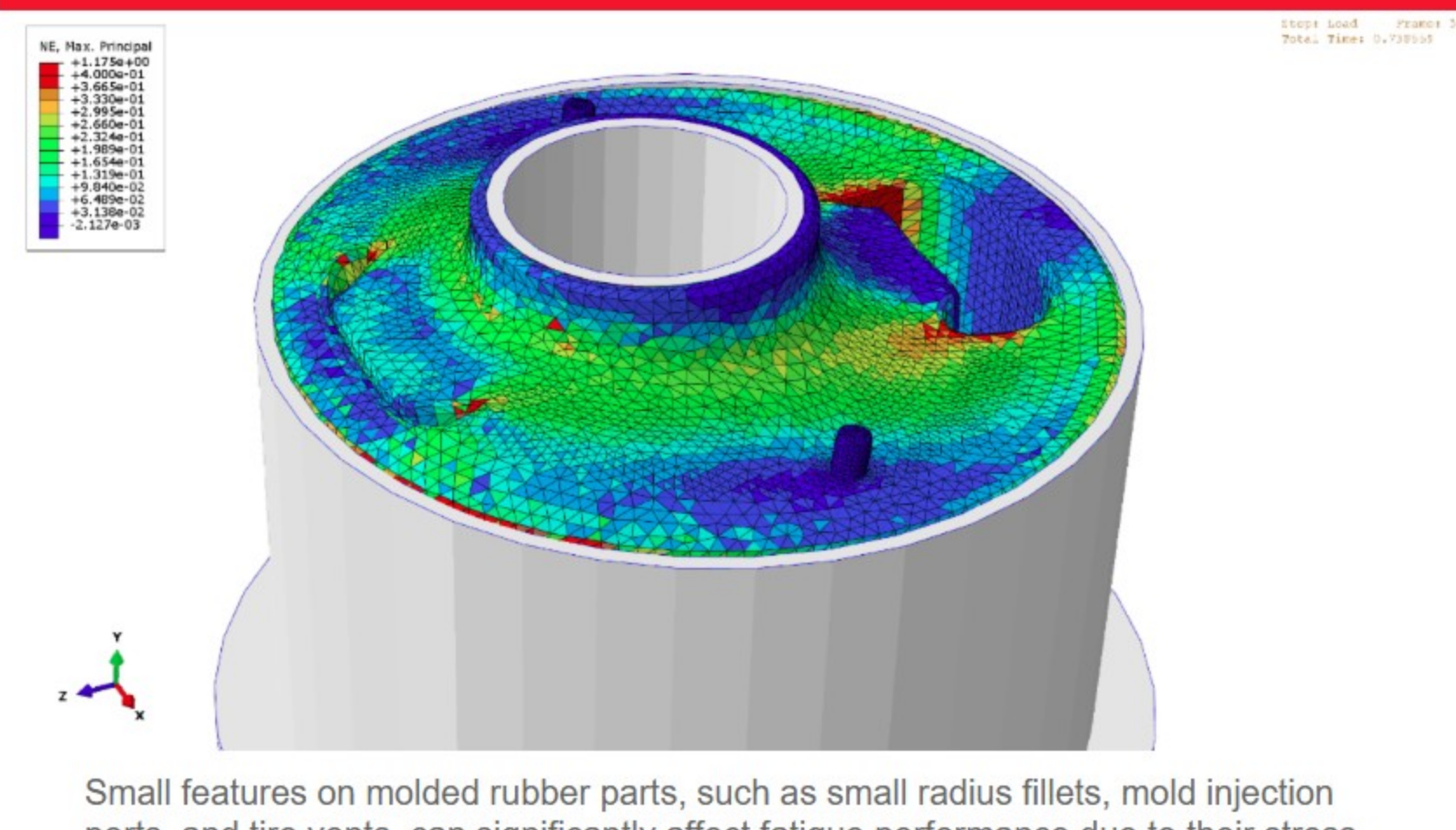
**WCX** April 8-10 2025  
DETROIT, MICHIGAN

See us at Booth 514  
 Do not miss the technical presentation  
**Validation of SLA Control Arm Bushing Fatigue Life Under Multi-Channel Road Load Input Fatigue Analysis and Design**  
 Tuesday, April 8 @ 8:00 AM in Room 250A  
 Will Mars, Endurica LLC; Kevin Barbash, Matthew Wiczorek, Liem Pham, General Motors LLC;  
 Scott Braddock, Tenneco; Ethan Steiner, Endurica LLC; Scott Strumpler, General Motors LLC

## SIMULIA AMERICAS USERS CONFERENCE

Novi, Michigan  
 April 29 - May 1, 2025  
 Gold Sponsor 

### Now on our website: Devil in the Details: How to achieve accurate fatigue calculations with Coreform Cubit and Endurica CL



Small features on molded rubber parts, such as small radius fillets, mold injection ports, and tire vents, can significantly affect fatigue performance due to their stress-concentrating effects. However, these critical details are often overlooked because of the challenges they pose in meshing.

Accurate fatigue life prediction hinges on precise stress and strain calculations, which are directly tied to mesh quality. Watch the in-depth discussion on how:

- Small features and mesh quality impact fatigue life.
- Effective mesh development depends on core principles.
- The meshing process can be simplified and optimized with our tools.
- Accurate fatigue predictions can be made with minimal effort.
- Automotive bushing used as example.

[Learn More and Watch the Webinar](#)



★★★★★  
 SHORTLISTED FOR THE 2025  
**R&D BREAKTHROUGH OF THE YEAR!**  
 ★★★★★

**tire TECHNOLOGY INTERNATIONAL** AWARDS FOR INNOVATION AND EXCELLENCE 2025

**Coupled Structural Thermal/Diffusion Simulation for Tire Oxidation & Fatigue**


**Learn Endurica's Software**  
**Dr. Will Mars, Instructor**  
 Workshop begins on Tuesday, March 25, 2025  
 Live online 9 a.m. - noon EDT + Daily Office Hour!



## Application of Rubber Fatigue Analysis with Endurica Software

[Learn More](#)

### Instrument Spotlight Instrumented Chip & Cut Analyser



When there is rolling or sliding contact of a rubber surface over a second hard surface of sufficient roughness, localized cutting and damage of the rubber surface sometimes becomes a problem. It occurs in off-road tires operating on stony surfaces, for example, and it can severely limit the useful life of a tire.

**Utilized in the laboratory for:**

- Measuring chip and cut resistance of rubber compounds under cyclic impact loadings
- Mimicking conditions experienced in demanding applications – the ICCA is highly instrumented to enable control and measurement of forces and displacements during impact
- Friction and wear measurements when operated in full contact mode

**The ICCA test offers direct control and measurement of the following key parameters**

- Wheel revolution speed
- Overall impact force,  $F_p$
- Peak impact force,  $F_D$
- Contact duration of impact,  $t_D$

**It also records the following measurements**

- Normal force
- Normal displacement
- Friction force
- Friction displacement (i.e. wheel rotation)
- Abrasion depth

[Learn More](#)



**Rubbernecking is an interesting thing that makes us look twice. Many thanks to Rubber News for enabling us all access to a great story that includes "rubbernecking"**

### Blown Aircraft tire home for a stressful journey home

CLEVELAND—A few hours after it happened, I found it kind of amusing.

I mean, how coincidental is this: An editor of a tire publication, flying home from a tire company-sponsored event, encounters a scary incident on a plane—caused by tires. [READ MORE](#)

