

**MARCH 4, 5 & 6, 2025**

DEUTSCHE MESSE,  
HANNOVER, GERMANY

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1G-2 +

ACTIVE

# TIRE TECHNOLOGY EXPO 2025

Europe's most important annual showcase for the advancement and future of tire manufacturing

## EVENT HIGHLIGHTS

1

### Exhibition

See cutting-edge exhibits and multiple new developments in tire design and manufacturing from 240+ specialist suppliers at the free-to-attend exhibition

2

### Conference

Hear case studies and best practices from 140+ speakers from leading tire and car manufacturers

3

### Short courses

Stay abreast of the latest advances in tire design by gaining new skills at the short courses



# tire

## TECHNOLOGY

### EXPO 2025

ACTIVE  
TRACTION

INT\*3 +

TTS SENSOR GROUP 3-TZ

Innovation and collaboration take center stage at Tire Technology Expo 2025 – the premier annual gathering for the tire industry’s leading minds and innovators. This year’s expo is a showcase of cutting-edge developments in materials, manufacturing, regulations and sustainability, alongside opportunities to connect with global experts shaping the future of the industry. Over the following 20 pages, discover what makes this event a critical date in the calendar for those striving to stay ahead in a rapidly evolving industry.

4

#### Mix and match

Mix and match your conference and short course options to make the most of the show

5

#### Networking

Benchmark with your peers and discuss the tire industry’s biggest concerns

6

#### Awards

Celebrate the industry’s achievements at the Tire Technology International Awards for Innovation and Excellence, presented live during the show

7

#### Out and about

Enjoy the evening entertainment on offer in Hannover, named a UNESCO City of Music, and home to many museums, concert halls and restaurants



## ELECTROMAGNETIC TIRE CURING PRESS AND RETROFITS

ARP will have several highlights on its booth: a revolutionary electromagnetic heating shift that is transforming electric curing technology; a nitrogen circulation system with a specialized pump and piping design to enhance efficiency; an advanced stack type of PCI to prevent leakage and ensure top-notch tire quality; the robust SA-S400 platen insulator, which can bear heavier loads while maintaining controlled temperatures; and an AI-powered inspection machine that achieves near-perfect linear defect recall rates with cutting-edge AI technology.

Visitors can also learn how ARP's EMH system seamlessly integrates with existing molds.

ARP is committed to energy conservation and reducing maintenance needs.

**ARP**

**Booth 8058**

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## CURING BLADDERS MANUFACTURED IN EUROPE

Following a successful Tire Technology Expo 2024, MAE Industria Gomma (MIG) will showcase its bladder production expertise in 2025. The Italian company has more than 25 years of experience in the production of curing bladders

and has positioned itself as a partner for new tire companies looking for bladder supplies externally.

MIG specializes in manufacturing curing bladders using compression and injection technology, and is expanding its production range with

a new injection machine featuring the latest technology available on the market. The company is open to different kinds of cooperation: providing bladders already available in its range, manufacturing new bladders according to the specifications and requirements of customers and

manufacturing bladders using customer-supplied molds.

With its internal innovation-oriented department, MIG has developed various specific compounds to provide customers with high-performance curing bladders.

MAE Industria Gomma offers short delivery times, with stock levels based on the needs of customers to guarantee constant supplies.

**MAE Industria Gomma**

**Booth 1010**





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



## NOMINATIONS NOW OPEN FOR THE TIRE TECHNOLOGY INTERNATIONAL AWARDS FOR INNOVATION AND EXCELLENCE 2025

The **Tire Technology International Awards for Innovation and Excellence** are recognized as the industry's top accolades and aim to celebrate the best new technologies and innovations from all over the world. The awards are judged by a fully independent, international panel of journalists and industry experts, and will be presented live at Tire Technology Expo.

### CATEGORIES

- Environmental Achievement of the Year – Tire Design
- Environmental Achievement of the Year – Manufacturing
- Environmental Achievement of the Year – Industry Contribution
- Chemicals and Compounding Innovation of the Year
- Materials Innovation of the Year
- R&D Breakthrough of the Year
- Tire Manufacturing Innovation of the Year
- Tire Industry Supplier of the Year
- Tire Concept of the Year
- Tire of the Year
- Tire Manufacturer of the Year
- Young Scientist Prize
- Lifetime Achievement Award

Visit the website to nominate now!  
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## Course spotlight

UNIVERSITY OF  
AKRON 55<sup>TH</sup> TIRE  
MECHANICS COURSE



**Dr Annette Lechtenböhrer,**  
**editor of *Tire Science and Technology***

Formerly of the Goodyear Innovation Center in Luxembourg and now an associate, Dr Annette Lechtenböhrer will lead Day 1 of the four-day Akron Tire Mechanics short course exploring the fundamentals of tire components, compounds and materials.

Dr Lechtenböhrer says that her goal is to give attendees a comprehensive understanding of the relationships between tire components, the demands placed on their compounds, and the materials used to achieve desired properties. She emphasizes the importance of connecting raw materials and reinforcements to compound characteristics, manufacturing processes and final tire performance.

The course will begin with an introduction to tire components, examining the specific demands they face and how materials are selected to meet these requirements. Dr Lechtenböhrer will dive into key aspects such as:

- Tire compounds and materials: including polymers, fillers, additives, sulfur and curatives
- Tire structures and composites: with an overview of textile cords, wire, carcasses, beads and belts
- Processing techniques: such as mixing, calendaring and extrusion
- Tire building and preparation for curing: understanding how materials and methods influence final tire properties

This session is a unique opportunity to learn from someone with decades of industry experience and a deep understanding of tire science. Attendees can expect a detailed yet accessible breakdown of how these critical elements interact, all within a collaborative and engaging learning environment.

Day 1 | Monday, March 3, 2025 | 9:00am to 4:00pm | Complimentary lunch between 12:00pm and 1:00pm

See page 71 for more information on this course, or visit the conference section of the event website for all the latest updates, speaker list and program schedule



## VERIFICATION AND CALIBRATION IN SIMULATION

DIC-3D technology has been widely used in the aerospace and medical device industries. However, it is a relatively new technology for the tire industry, so the TMSI team is looking forward to sharing more details at the expo. The company has undertaken much research and experimentation at several customer sites with satisfactory results. For the verification and calibration work of tire simulation, DIC-3D technology provides powerful and accurate assistance. This technique allows users to obtain, without contact, several parameters such as the deformation, strain, stress, frequency, etc of the tire during loading and rolling.

**TMSI**

**Booth 2024**



## SMART ELECTRIC TUGS

In tire production, efficiency and ergonomics are essential because employees handle physically demanding tasks such as moving and processing large quantities of tires. Movexx is looking forward to talking to expo visitors about how ergonomic support is crucial to reduce strain and prevent injuries in this intensive industry.

Movexx supports tire production facilities by providing smart electric tugs that lighten the workload and increase productivity. A popular model is the TT1000-M, a versatile tug with a user-friendly drive system and ergonomic design. It is often equipped with a custom-built lift module,



support structure and hook to meet specific production needs. Another widely used model is the TT1500-T, which can move trolleys and carts up to 1,500kg. Its interchangeable hook system enables it to transport various carts, such as roll cages and industrial carts, enhancing flexibility within the production environment.

With Movexx's smart electric tugs, tire production facilities can optimize logistics while also promoting employee well-being.

**Movexx**

**Booth 8068**

## SOLUTIONS FOR TIRE IDENTIFICATION

Austrian company Up-Labels' latest generation of TU markings and microdecals combines unparalleled customization, durability and sustainability to provide revolutionary solutions for tire identification. Live trials on the booth will showcase Up-Labels' newest technologies.

Designed for OEM and aftermarket applications, these innovations use advanced, solvent-free materials and eliminate traditional inks and

adhesives, thereby significantly reducing environmental impact.

Up-Labels' Tire\_Dots (LTA) and heat transfer marking (HTF) products advance sustainable production by reducing energy requirements during application. By operating effectively at lower pressure and temperature, these solutions enhance equipment efficiency and boost production speed. Engineered to withstand extreme conditions, these next-generation markings and microdecals provide attractive, reliable, fade-resistant tire identity. The microdecals offer fully automatic personalization for eye-catching branding directly on the tire sidewall in the final finishing process.

Via strategic partnerships across the global supply chain, Up-Labels pioneers innovative solutions in tire decoration and marking, prioritizing performance and sustainability.

**Up-Labels**

**Booth 2025**

## Speaker interview

**Q&A**  
**DR YASUHIRO SHODA**

### Material expert, Bridgestone



#### What are you going to talk about at Tire Technology Expo 2025 and what are the key things attendees will learn?

My presentation will focus on certain activity at Bridgestone related to tire and road wear particles (TRWP). To better comprehend the generation mechanism and character of TRWP, it is necessary to have an effective process to obtain a sufficient amount of TRWP to study. To accomplish this objective, we first visualized particle diffusion around the tire using a system that combines laser light and a camera, and then established a new method for effective TRWP collection using autonomous driving.

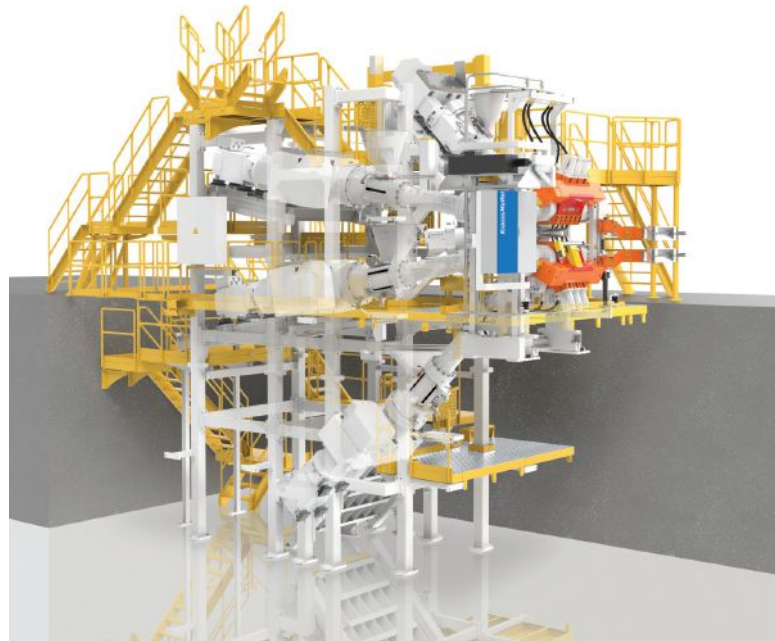
#### Why is this topic so crucial to the industry?

TRWP generation and mitigation are important issues facing the tire industry. TRWP is the result of friction between the tire and the road surface, which is essential for ensuring a safe and comfortable journey. These particles consist of a mixture of tread (tire surface) and road pavement materials. However, TRWP is a complex issue impacted by many factors including road conditions, weather, vehicle and tire characteristics, and driving behavior. Therefore, Bridgestone is working with the Tire Industry Project to investigate the physical and chemical characteristics of TRWP. Furthermore, the company aims to reduce the emission of TRWP through a combination of unique Bridgestone initiatives.

#### How will understanding TRWP benefit the quality and production of tires in the future?

We believe that the work presented here will open new research avenues in the field of TRWP, contribute to a better understanding of the mechanisms of TRWP generation and potentially lead to advances in TRWP mitigation. As a sustainable solutions business, Bridgestone continues to focus on development of long-life products, including wear improvement, and pursuit of other innovations to reduce TRWP through product improvements and links with our solutions business.

Visit the conference section of the event website for all the latest updates, speaker list and program schedule



## SOLVING EXTRUSION PROBLEMS IN TIRE COMPONENT MANUFACTURING

Tire manufacturers are challenged to find the highest-possible 'first time right' production rates on tire component extrusion lines. Tire components with three, four or five main and up to two small rubber portions need to be produced in many different dimensions. Furthermore, complicated innerliner components comprising two crowned main layers and up to two pairs of small layers need to fulfill the narrowest tolerance bandwidths.

KraussMaffei helps to solve tire manufacturers' production and quality problems with its outstanding multiplex extrusion solutions. The innovative multiplex head clamping concept keeps the head absolutely free from bleeding or considerable blur up to 250 bar cavity pressure. Moreover, it allows only one flow

channel to be cleaned while keeping the others tight and clamped. Together with the possibility to integrate two small extruders in the head body part, KraussMaffei's multiplex head concept saves tire manufacturers considerable amounts of rework, resulting in the highest OEE in the market.

The company's Roller-Head concept allows users to prepare the extruder completely before it is put into the calender frame, resulting in very short startup time and drastically reduced startup losses. With KraussMaffei's patented C-Check, the conductivity of treads can be checked touchlessly immediately after extrusion, greatly reducing off-spec losses. Meet the team in Hannover to find out more.

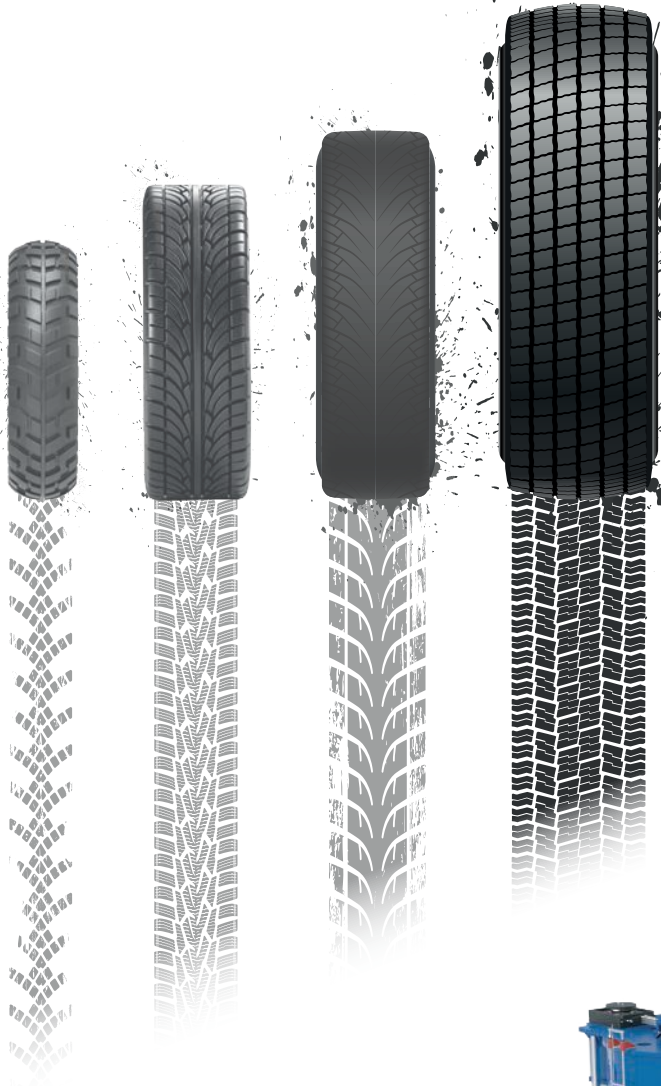
**KraussMaffei**  
**Booth 9016**



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## Course spotlight

### TIRE MODELING AND ITS APPLICATION IN TIRE AND VEHICLE DEVELOPMENT



#### Mohammad Behroozi, vehicle dynamicist, General Motors

Mohammad Behroozi will bring his extensive expertise in tire modeling and simulation to this year's three-day Tire Modeling and its Application in Tire and Vehicle Development short course. During the first two days, he will guide participants through key aspects of tire modeling, simulation tools, finite element (FE) modeling techniques and the integration of these methods into modern vehicle development.

On Day 1, Behroozi will provide an overview of tire modeling, focusing on topics such as:

- Introduction to tire modeling
- Simulation tools used in tire analysis
- Tire forces and moments

Day 2 will delve deeper into FE modeling of tires, offering a detailed exploration of:

- FE modeling philosophy: the principles behind tire modeling
- A fundamental understanding of tire mechanical structure
- Material testing and modeling techniques

Later on Day 2, Behroozi will present an applied session covering the practical development of tire FE models, focusing on:

- Simulating static and dynamic tire performance characteristics
- The virtual tire development process using FE modeling methods

On Day 3, Behroozi will moderate discussions, ensuring continuity and providing insights that tie together the comprehensive material covered throughout the course.

This course offers attendees an exceptional opportunity to learn from the industry's leading experts, and gain practical knowledge and an in-depth understanding of how tire modeling and its applications in tire/vehicle development are transforming industry processes.

Day 1 | Monday, March 3, 2025 | 9:00am to 5:00pm  
 Day 2 | Tuesday, March 4, 2025 | 8:30am to 5:00pm  
 Day 3 | Wednesday, March 5, 2025 | 8:30am to 5:00pm

See page 72 for more information on this course, or visit the conference section of the event website for all the latest updates, speaker list and program schedule



## SIMULATE TIRE WEAR AND MEASURE TRWP

As global awareness of environmental sustainability intensifies, tackling the sources of pollution has become a priority. Among these, tire and road wear particles (TRWP) represent a lesser-known but significant contributor to air and water pollution, necessitating innovative approaches to assessment.

At the expo, Test Industry will be discussing its new two-positions tire tread wear test machine, a groundbreaking solution designed to simulate the generation of TRWP under realistic driving and braking scenarios, comparing the tire to be tested with a reference one. Thanks to its compact design and

integrated enclosures, the machine can replicate actual road conditions within a clean and controlled laboratory environment, allowing researchers to isolate and analyze the complex composition of TRWP without interference from external contaminants.

This controlled simulation enables more precise evaluation of tire abrasion, supporting the development of eco-friendly tire designs and paving the way for new regulations aimed at reducing particulate emissions, ultimately contributing to a healthier world.

**Test Industry**  
**Booth 1016**



## SMART WEIGHING SOLUTIONS

Lawer supports mixing rooms with its Supersincro automatic weighing system, which will be on display at the expo. The system guarantees high productivity, constant quality and complete process traceability, eliminating the human error factor. It's a custom project that feeds different chemicals – stored in silos, hoppers, big bags and interchangeable silos – in variable bag sizes, which are produced automatically.

Supersincro offers many advantages, including automatic bag creation with the choice of size based on the recipe; loading of products by gravity or vacuum with tools that facilitate the procedure (loading pumps/bag transportation trolleys and load control via barcode), all in a healthy environment thanks to suction systems that prevent the escape of volatile dust; a precise and repeatable weighing process, thanks to the

double dosing screw and anticlogging devices that facilitate the release of the product; and automatic sealing and release of the weighed bag on conveyor belts or in boxes, ready for the next process.

Supersincro is ideal for companies that need precision, automation, repeatability, traceability and performance control through data analysis such as CPK for repeatability and OEE for production efficiency. Find out more in Hannover.

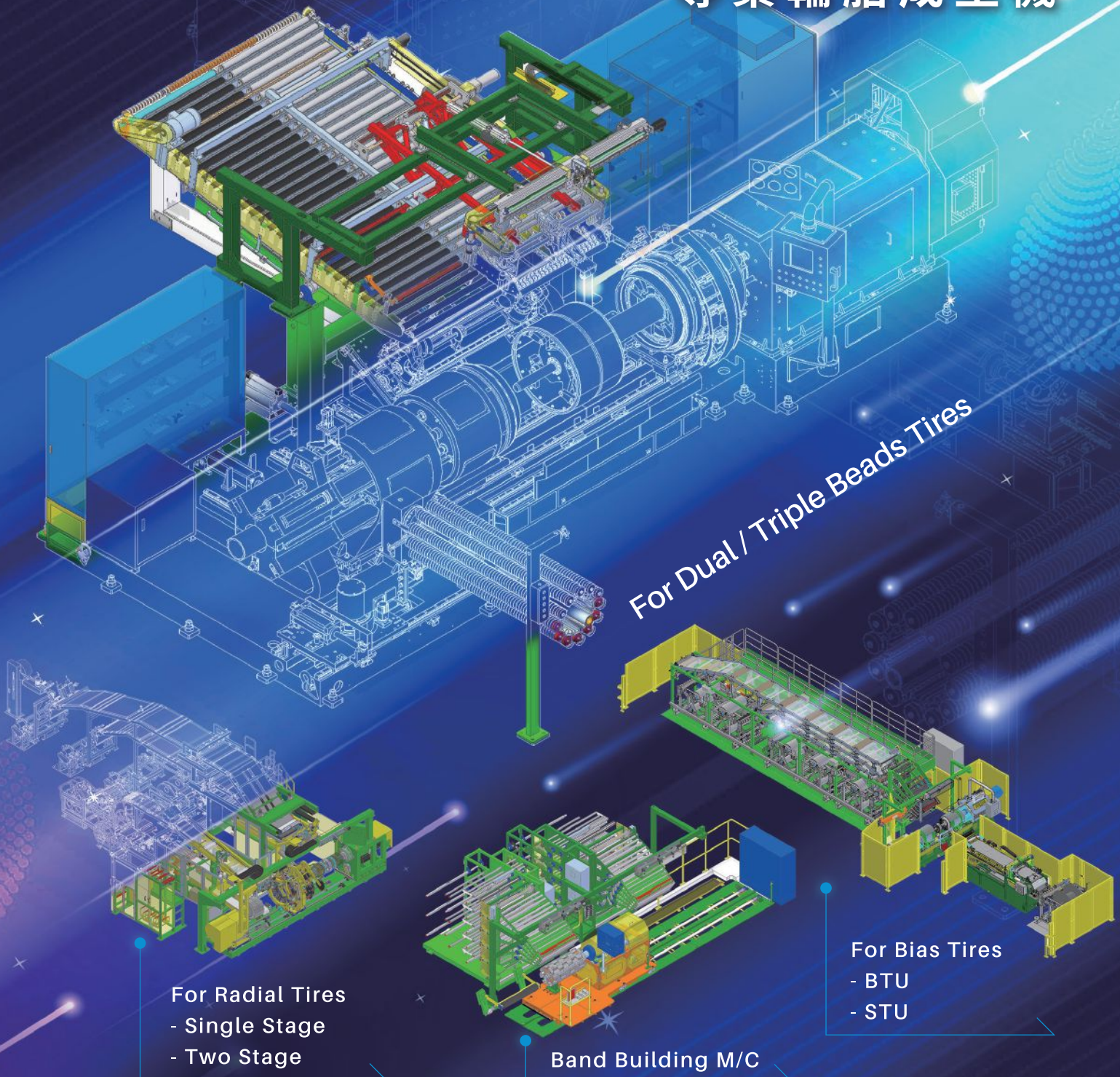
**Lawer**  
**Booth 9008**





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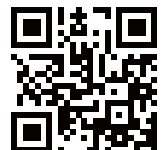
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## OPEN MIXING MILLS, ELECTRIC HEATING SYSTEMS AND SMART MANUFACTURING

Pelmar will showcase its complete range of open mixing mills at the expo, ranging from lab mills up to 100in drop mills and including hydraulic nip adjustment, peripheral drilled rolls and direct drive (variable friction).

The company will also be discussing its patented electric heating system for tire curing presses, which provides internal and external heat by means

of a special electric heating element combined with a smart temperature controller. The external heating is done through a resistor heating platen and mold sleeve, and inner heating is done by warming nitrogen via electromagnets or resistors from the outside. Temperature is independently controlled at different points. Energy consumption and maintenance

are significantly reduced (less than 50%), as is the curing cost. It is also very environmentally friendly, with reduced pollution.

Pelmar will also be showing a new product from Product Systems, a leader in manufacturing execution systems. The product harnesses the power of AI to integrate energy and sustainability data.

**Pelmar Engineering**  
**Booth 8022**

## Course spotlight

11<sup>TH</sup> TIRE REINFORCEMENT MATERIALS, APPLICATIONS AND FATIGUE TESTING COURSE



**Seda Araci, R&D technology manager at Kordsa**

Seda Araci will bring her extensive expertise in tire reinforcement materials to the Tire Reinforcement Materials, Applications and Fatigue Testing short course. She will provide attendees with a comprehensive understanding of textile constructions and basic processes (11:30am to 12:15pm) before delving into the applications of polyamide (PA) and polyester (PET) as reinforcement materials (1:15pm to 2:15pm). With years of experience in leading R&D in reinforcement solutions, Araci will guide participants through the unique properties, manufacturing considerations and performance advantages of these critical materials in tire engineering.

This one-day course is aimed at tire reinforcement engineers from design and material laboratory departments within tire manufacturers and reinforcement suppliers. It offers a deep dive into the materials and constructions used for rubber reinforcement in tires. Attendees will gain insights into the specific requirements for different tire components and an introduction to generic properties and constructions of steel and textile cords, alongside manufacturing techniques.

Industry specialists will expand on in-depth topics including reinforcement materials like steel cord, polyamide, polyester, rayon and aramid. The course also covers static and fatigue test methods, providing a practical framework for validating tire reinforcements in laboratory settings, tailored for their real-world application in tires.

Monday, March 3, 2025 | 9:00am to 6:00pm

See page 72 for more information on this course, or visit the conference section of the event website for all the latest updates



## INTRALOGISTICS FOR FINISHED TIRES

Skilled Gantry is an easy and simple method for dealing with finished tires. The gantries are three-axis robots working as a buffer on the floor before proceeding with palletizing operations. The ability to store stacks of tires on the floor optimizes and drastically reduces labor and the possibility of the operator making mistakes. Having been used as a buffer, the gantry is subsequently

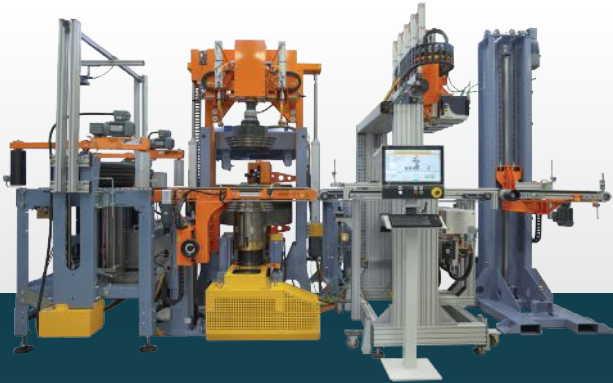
used as a palletizer, allowing automatic empty pallet feeding or any other automatic feature the application requires.

The system is ideal for PLT and T&B tires. Meet the team at the expo in Hannover to find out more details.

**Skilled Group – Euroimpianti**  
**Booth 2036**



Visit us at the Tire Technology Expo: Hall 20 Booth 1000



## THE BENCHMARK IN INSPECTION AND PRODUCTION SYSTEMS



Inspection Systems for  
Width, Color, Weight



Inline & Offline Profilometer  
for Tire Components



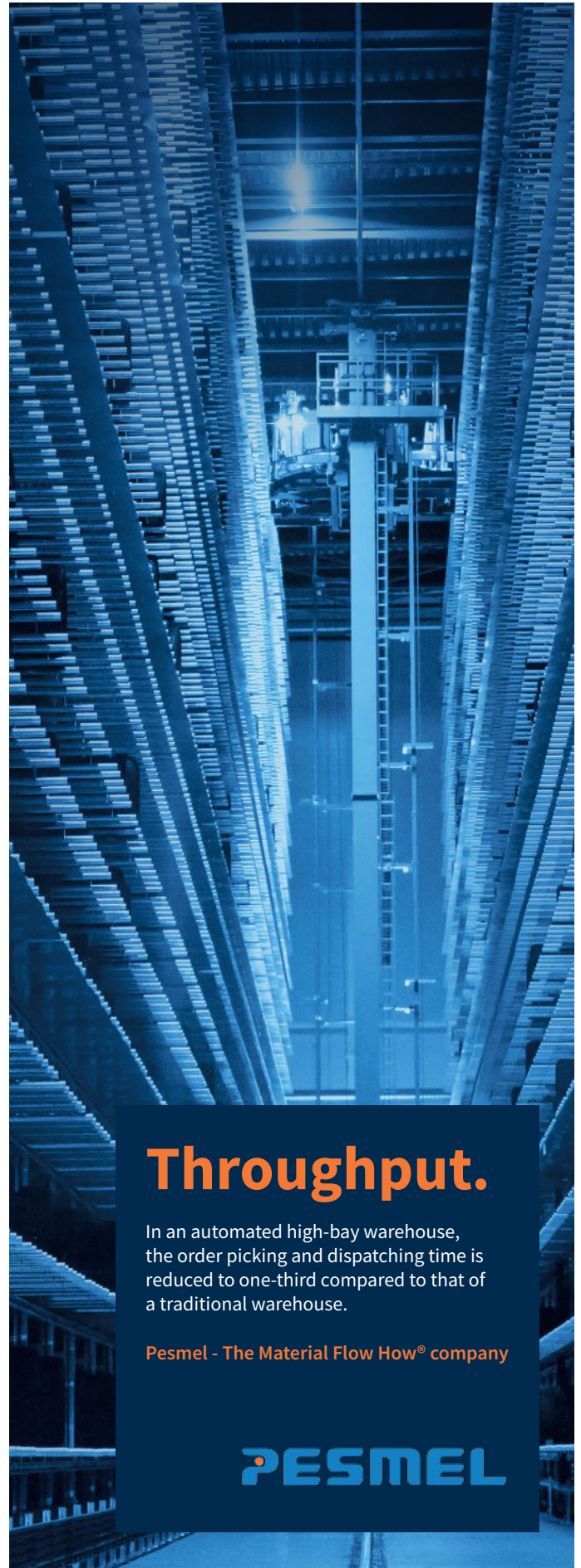
Tire Uniformity and  
Geometry Lines



Surface and Geometry  
Inspection Systems

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Pesmel - The Material Flow How® company

**PESMEL**

## Speaker interview

**Q&A**  
**BANI BAINS**



### Global Platform for Sustainable Natural Rubber

#### What will you talk about at the expo?

I will present GPSNR's risk-based assurance system, which gives the natural rubber supply chain a standardized step-by-step process to commit to strong sustainability principles, implement their commitments, hold a third assessment, work toward closing any identified gaps and make verified claims about their sustainability process.

#### Why is now the right time for GPSNR to integrate sustainability into supply chain operations?

It is crucial for businesses today to act as early as possible on deforestation and climate action, as multiple reports and warnings show that a delay could lead to irreversible damage. The assurance system offers companies a clear path forward on implementing sustainability action and making verifiable claims, which supports the market demand for sustainability as well as a variety of environmental regulation that is on the horizon.

#### What key insights will attendees gain from attending your presentation?

Understanding of GPSNR's assurance process and how members collaboratively built a unique solution that works for their industry.

#### How is sustainability legislation affecting the industry? How will companies ensure successful sustainability assurance?

The EUDR and other sustainability legislation has placed sustainability at the forefront of all affected commodities, including NR and tires. The NR and tire industries in particular have worked relentlessly toward compliance in the last 18 months. To ensure the success of the assurance system, we have had detailed discussions with all stakeholder categories and conducted pilots across the supply chain. Next year we will continue to implement our insights into improving the system.

Visit the conference section of the event website for the latest updates, speaker list and program schedule

## LAB-SCALE TIRE WEAR TESTING SYSTEM

Ace Laboratories, a US-based global rubber and polymer testing and development laboratory, has broadened its dynamic testing capabilities with the addition of the Ueshima FPS wear testing system. This advanced equipment replicates road conditions in a controlled lab environment, allowing precise analysis of tire material characteristics and tread performance, in line with ISO 23337 standards.

The system complements Ace's existing Ueshima rotational traction measuring system (RTM friction tester), which evaluates the friction characteristics of tire materials under various conditions, including dry, wet and icy surfaces. Together, these systems provide

valuable data to support the development of tire compounds with enhanced braking, abrasion resistance and energy efficiency. Find out more at the company's booth.

**Ace Laboratories**

**Booth C312**



## EUROPEAN EXPANSION FOR SIMULATION SOFTWARE PROVIDER

Endurica LLC, a US-based leader in simulation software and services for elastomer durability analysis, has established a sister company in Luxembourg to drive growth, support and innovation in Europe. Known for its CAE workflows for fatigue analysis of tires and other rubber products, Endurica offers tools and workflows that

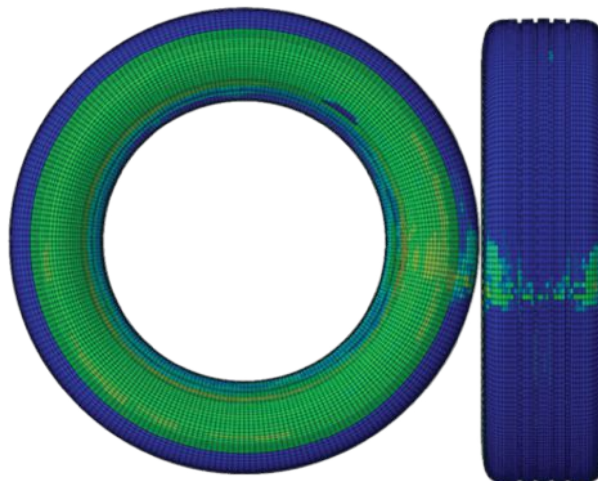
enable manufacturers to predict a tire's lifespan, making it possible to explore a wider range of design and material options with greater efficiency.

This expansion comes as Europe intensifies its focus on sustainability, providing Endurica with opportunities to support tire manufacturers in advancing

compound innovation. The Endurica Europe Sarl team will be at the booth to discuss updates planned for 2025, including an improved aging module to account for oxidation, and additional functionality to simulate wear and tear. These advances will give tire manufacturers even more accurate predictions about how their products will perform over time.

**Endurica**

**Booth C218**





## SUSTAINABLE TIRE MANUFACTURING

Skyhem, a pioneering force in bio-based solutions for the rubber industry, will launch its latest innovation at Tire Technology Expo 2025. Ecosky-3103, a 100% plant-based process oil designed specifically for tire manufacturing, offers unmatched sustainability without compromising on performance.

Launched in response to the growing demand for environmentally responsible manufacturing, Ecosky-3103 improves rolling resistance and wet and ice grip, and enhances rubber compound properties. With its ultra-low glass transition temperature and stable characteristics, it integrates seamlessly into existing manufacturing processes without requiring any adjustments. This breakthrough allows tire manufacturers to adopt sustainable practices while maintaining high performance standards and production efficiency.

Founded in Turkey in 2023, Skyhem is committed to driving the industry's shift toward green chemistry and eco-friendly innovation. With Ecosky-3103, the company aims to help manufacturers reduce their carbon footprint, meet environmental goals and contribute to a greener future.

**Skyhem**

**Booth C638**



## REVOLUTIONIZING TIRE MANUFACTURING WITH TRP TECHNOLOGY

The continuous milling process, driven by Uth's advanced TRP (Two-Roll Plasticizer) technology, gives tire manufacturers a significant competitive edge. By combining cracking, homogenizing and discharging in three zones along the continuous roll, it ensures consistent material homogeneity and reduced viscosity. The innovative roll design enables efficient, automated processing with minimal maintenance.

Key advantages include up to 50% energy savings, reduced floor space and a more sustainable approach to rubber processing. Originally developed for tire production, this technology is versatile and can be adapted for various rubber processing needs and sustainable materials. These benefits enhance operational efficiency and also reduce costs.

Thanks to Uth's modular system, the TRP technology offers the option of an integrated Roll-Ex gear pump for gentle fine mesh straining of the material to remove impurities. It allows tire manufacturers to meet increasingly strict environmental and performance standards. This adaptability ensures that manufacturers can remain competitive while advancing their sustainability goals. Talk to the Uth team at the expo to find out more.

**Uth**

**Booth 2012**



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# Speaker interview

Q&amp;A

PROF. ANKE BLUME



## Professor of elastomer technology and engineering, University of Twente

### Your research covers some interesting shifts in curing methods for modern tire compounds. What inspired you to explore alternative approaches to sulfur curing?

During my 'rubber journey' over the last years, I learned that you should never take something for granted after a detail in the whole system has been changed. This was exactly true for sulfur-cured rubber compounds. Our findings were only possible due to another new insight. When investigating the coupling mechanism in a silica/silane-filled S-SBR compound it was found that mercaptosilanes can couple directly to the vinyl group of the polymer via a sulfur radical. Sulfur radicals are also formed in the general sulfur coupling, created from the opening of the sulfur ring. Therefore, the inspiration for our whole study came from the question: 'Why should the sulfur radical generated from the mercaptosilane follow a different coupling mechanism from that generated by the opening of a sulfur ring?' This starting question triggered many more questions. In the end, we were able to put all the small pieces – each piece answered one question – of the whole puzzle together.

### One of your key points is that long-standing assumptions in curing may not apply as we move forward. Why is it important to question established practices in this field?

I think it is important to step back from time to time and take a look at the whole system. Has something changed? In our case, this change covered the type of polymer in the whole rubber compound. Most of the studies that investigated sulfur curing in depth were carried out with natural rubber, but this polymer does not contain any vinyl groups. By replacing NR with a high-vinyl S-SBR polymer, the whole system has changed. For quite some time, it was not understood that this change also led to a change in the curing mechanism because the curing curves obtained from the addition of sulfur/accelerator/ZnO and stearic acid looked

good. As a consequence of this, it was also not recognized that the role of ZnO and stearic acid had changed from an activator to a retarder. In the past, we had assumed that the curing follows the known mechanism described in literature. But then we took a step back, starting with the question mentioned above. This led to an avalanche of new questions. In the end, all established theories had to be rethought for a rubber compound containing a high-vinyl S-SBR or vinyl BR.

### Your upcoming presentation suggests that certain ingredients might not be essential in newer curing processes. What potential benefits could this bring to tire manufacturing?

One clear goal for many tire producers is to create a 100% sustainable rubber compound by 2050. To reach this goal, all currently used non-sustainable ingredients need to be replaced. ZnO and DPG are two of those. Current tire treads contain zinc species. This means that tire wear particles based on abraded tire treads on the road contain these zinc species as well. If such particles get into rivers or seas, these zinc species can be washed out. Unfortunately, they are toxic for aquatic animals. The other critical substance is DPG. A reaction product from DPG is aniline, which is a highly toxic systemic poison. It should be a clear goal to ban both substances from tires, the sooner the better.

### Is your concept of 'less is more' a valuable mindset for innovation in rubber technology?

A common practice in the rubber industry is 'don't change a running system'. It happens quite often that the addition of a new substance to a rubber formulation can be accepted even without removing any other substance. This leads to 'historically grown' formulations that work well but where often nobody exactly knows the reason for including each individual substance. For these formulations, the concept of 'less can be more' can be very beneficial. It will support the development

of fully sustainable rubber compounds containing fewer ingredients. To achieve this, the question 'What is the purpose of each individual ingredient?' should be answered. To find all the answers, extra research is required. This research will pay off: I am convinced that in this way, the amount of ingredients can be significantly reduced. In the end, this will result in fewer ingredients that need to be replaced by sustainable alternatives.

### What do you see as the biggest challenge in evolving curing technology for practical applications?

The biggest challenge is to adjust the curing behavior of the rubber compound exactly to the needs of the industry. We know from research that the same or even higher cross-link density can be achieved by leaving ZnO, stearic acid and DPG out of the sulfur-cured high-vinyl S-SBR-based tire tread compound. The fine-tuning of the curing behavior to reach, for example, the desired scorch time, has still to be done.

### What does receiving the Melvin Mooney Award mean to you, as a researcher focused on pushing boundaries in elastomer technology?

I still feel very honored that I got this award, especially as the first female. It is a big compliment that this way of thinking (or should I say 'rethinking?') is considered to be the right way for future developments.

### Finally, if you could give one piece of advice to young scientists in rubber technology, what would it be?

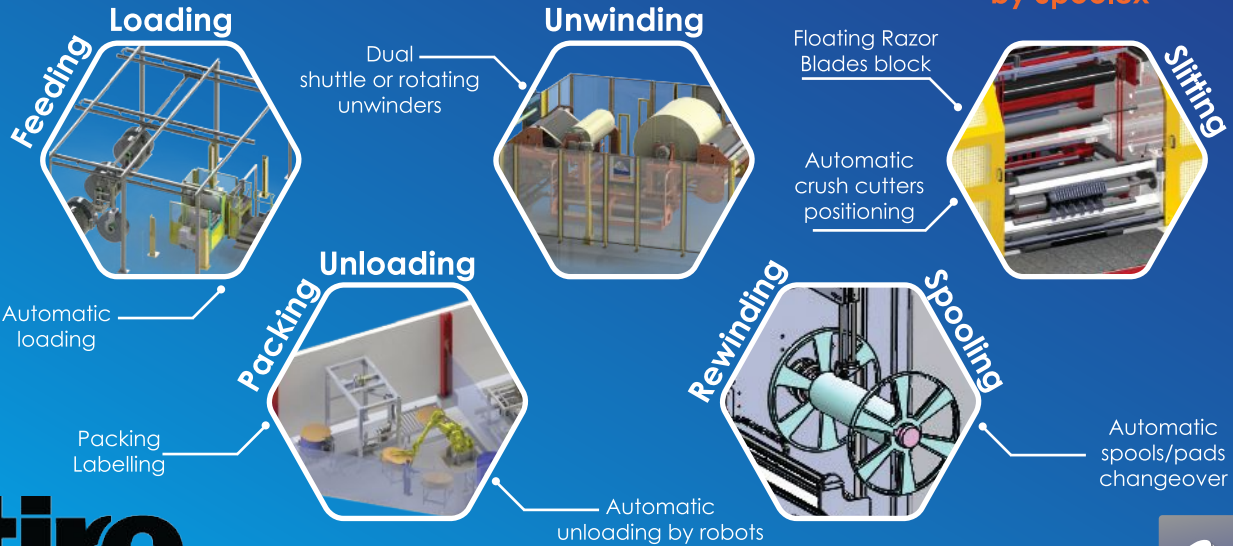
Get inspired by this fascinating rubber material that still has many mysteries to decipher. Listen carefully to the experienced people, learn from their knowledge but feel free to take one step back and start asking questions. With this, the next mystery might be solved.

Visit the conference section of the website for the latest updates, speaker list and program schedule



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- bladder curing presses and tire building machines
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## MASS-PRODUCTION REVOLUTION

Calemard has been working for many years on different applications to help customers achieve significant advances in productivity, quality, operator safety and ergonomics. It offers fully automated cells around its reliable slitter-rewinders and spooling lines, with automated systems and robotics to reduce downtime and accelerate production cycles.

By integrating robots to load, handle and unload, the company reduces hard or repetitive jobs and helps safeguard workers from injuries. Calemard's dual motorized shuttle and rotating unwinders allow optimal tension control and the loading of a second mother roll in parallel to production. It is also equipped with individual guiding systems to pre-position

the web to save time. The company's floating razor blades block allows strip-cutting along the cords for higher quality and offers the advantage of a quick changeover of cutting tools.

Calemard offers turret winders to produce pancakes, and digital in-line spooling, both solutions ensuring a continuous process with consistent, optimal and individual winding tension control as well as optimum use of handling robots. A range of automated unloading, labeling and packing solutions ensure efficient, reliable and safe production operations. Find out more at the company's booth.

**Calemard (Spoolex SAS)**

**Booth 7048**



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## Speaker interview

Q&A  
**JONGCHAN KIM**



**Principal research engineer, vehicle dynamics team, Nexen Tire**

**Please can you tell us about Nexen Tire.**

Nexen Tire is headquartered in Korea and has a history of over 80 years. It is a dynamic tire company that is growing rapidly through technical cooperation with Korean and European car makers.

**What will you be speaking about at Tire Technology Expo 2025?**

From tire design based on physical tires to actual vehicle evaluation, the tire development process is gradually changing to evaluation using virtual tire models and simulators. In the past, virtual tire models were created based on the evaluation results of physical tires, but now virtual tire models are being created based on AI. So I will introduce Nexen Tire's tire model creation process using artificial intelligence and its methods of use.

**In what areas of tire manufacturing does Nexen Tire specialize?**

Recently, we have made considerable investments in the virtual tire development field and are receiving good technical evaluations from European car makers.

**Finally, as someone deeply involved in AI model development, what advances in virtual development are you most excited to explore with the industry?**

I am a tire expert, not an AI expert.

Nevertheless, there are good platforms that enable anyone to easily access AI, so I used them to create an artificial neural network regression model. In the end, I got very satisfactory results.

The level of AI models developed differs depending on the insight of tire experts, so I hope that more tools are developed that allow tire experts in each field to access AI more easily. Then, tire experts can focus more on gaining tire insights.

Visit the conference section of the event website for all the latest updates, speaker list and program schedule



## Speaker interview

**Q&A**  
**RYOTA TAMADA**

**Manager, Sumitomo Rubber Industries**



### What will you be talking about at Tire Technology Expo 2025?

We will be covering Sumitomo Rubber Industries' advanced simulation techniques for predicting tire aerodynamics and road noise. These simulations incorporate not only the tire itself but also vehicle information.

### Why is this such a crucial element for SRI to address and how will it influence the tire industry?

In electric vehicles, the absence of traditional engines increases the importance of tire aerodynamics and noise. Additionally, model-based development (MBD) is becoming more prevalent in the automotive industry. To meet these needs, we have developed simulation-based prediction methods. We believe these technologies are not only crucial for Sumitomo Rubber but also for other tire manufacturers.

### What are some of the unique aerodynamic challenges that arise when designing tires for EVs rather than traditional vehicles?

As the shift to electric vehicles accelerates, the energy loss due to heat, which accounts for a significant portion in internal combustion engine vehicles, is almost eliminated in EVs, increasing the relative impact of air resistance. Therefore, compared with traditional vehicles, reducing air resistance becomes even more critical for extending the range of EVs. This necessitates greater efforts to reduce the air resistance of the tires.

### What key insights do you hope your presentation will provide to those focused on simulation-driven tire design in the EV space?

We believe that these simulation technologies will be essential for future EV tire design and MBD. Attendees will learn about the specific aerodynamic and noise challenges related to EV tires and the simulation technologies that address these issues.

Visit the conference section of the event website for all the latest updates, speaker list and program schedule

## INNOVATIONS IN TIRE MOLD PRODUCTION

As a leader in automation, digitalization and electrification and in close collaboration with partners and customers, Siemens has been driving the digital transformation in the tire industry for many years. Its Digital Enterprise portfolio provides companies of all sizes with an end-to-end set of products, solutions and services to integrate and digitalize the entire value chain.

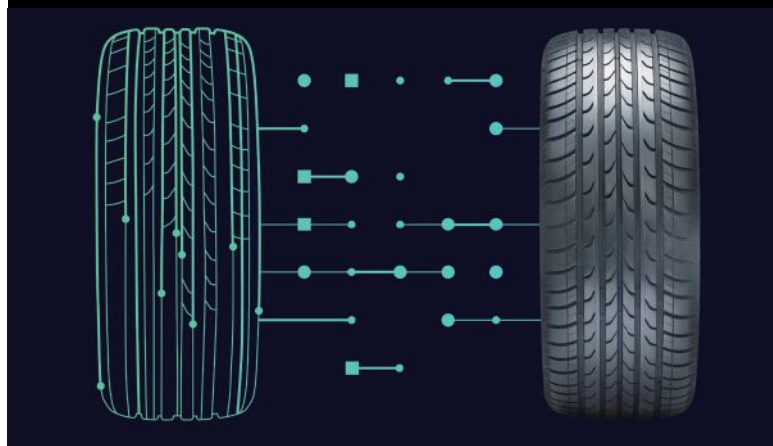
Among other Siemens solutions on display at Tire Technology Expo will be the company's innovative solution for tire mold production, which integrates modern technologies with a central collaboration platform. This allows users to boost efficiency by accessing up-to-date design data across departments to enhance consistency and accuracy in product development and manufacturing; minimize errors by seamlessly tracking and implementing design changes to reduce errors and response times; ensure quality by

creating inspection plans and detecting quality issues early with direct access to design and manufacturing data; optimize production by simulating and optimizing manufacturing processes using design data for more efficient production and less scrap; and enhance collaboration by quickly identifying and resolving issues with a unified environment for communication and collaboration. The system also offers the ability to log all changes and decisions for full traceability and compliance.

Siemens' experts will be on hand to demonstrate how time-saving simulations, reusable programming and visual inspections with augmented reality can elevate companies' efficiency and quality. They will also explain how role-based data access and consistent change management will keep users up to date and responsive to design changes.

**Siemens**

**Booth 9022 / sponsor**



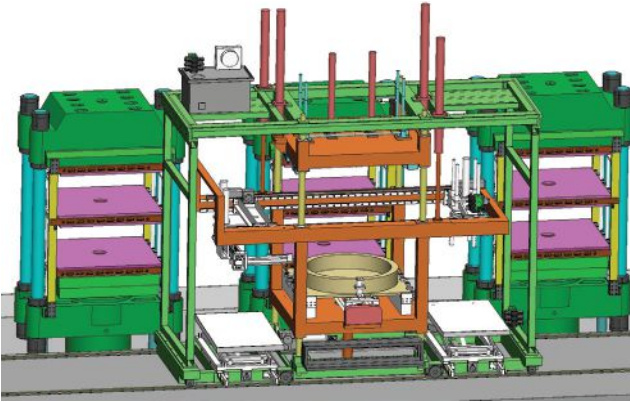
## SUSTAINABLE TIRE TECHNOLOGY

For eight decades, VMI has been at the forefront of tire technology, driving progress and pushing boundaries with an unwavering commitment to innovation and customer satisfaction. The company recognizes the critical role that sustainability plays in shaping the tire industry, and is dedicated to developing solutions that not only give customers full flexibility and the highest-quality end products but also reduce the environmental footprint. Find out more about VMI at its booth in Hannover.

**VMI**

**Booth 8054 / sponsor**





## PRESS MACHINES PORTFOLIO

Qingdao Xiangjie Rubber Machinery is a private enterprise integrating professional design, manufacturing and sales of rubber machinery. The company can produce large-scale steel and fabric core conveyor belt production lines, solid tire presses, bridge bearing presses, tread presses, EVA foam presses, vacuum press machines, plate heat exchanger gasket presses and fully automatic conveyor belt building machines.

The company has a robot that can service eight solid tire press machines. It can load green tires, prepress molds, push in molds to different layers, pull out molds from different layers, open molds, demold tires, move tires to trays, etc. A similar robot services bridge bearing press machines.

Qingdao Xiangjie Rubber Machinery, which will be displaying various innovations at Tire Technology Expo 2025, has a professional mechanical technology research and development institution.

The company holds more than 25 national patents, and has received ISO 9001 quality management system certification, CE certification and French BV certification. It is a national high-tech enterprise and a Qingdao specialized new enterprise.

Furthermore, it is the industry-university research base of Qingdao University of Science and Technology and China University of Petroleum.

It has independent import and export rights and has exported to more than 100 countries around the world.

**Qingdao Xiangjie Rubber Machinery**

**Booth 4040**



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**tire  
TECHNOLOGY  
EXPO 2025**

## Speaker interview

Q&A

**MARZIEH SALEHI**

**R&D manager, VMI Group**



### What areas of tire manufacturing does VMI Group specialize in?

VMI Group is the leading supplier of technology for the manufacture of superior radial passenger vehicle, light truck, all-steel truck and bus tires. We offer a unique product in our portfolio: the LAT100 (Laboratory Abrasion Tester) – the only one of its kind.

### What are you going to present at Tire Technology Expo 2025?

I will present a new, innovative rapid dynamic abrasion test for tire tread compounds.

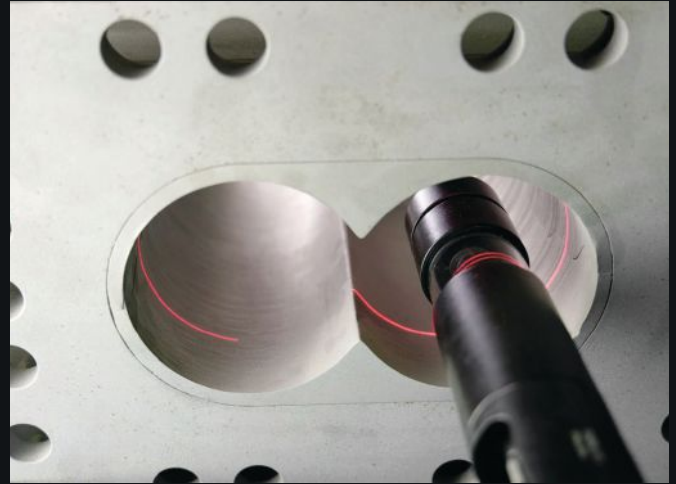
### What do you want attendees to learn?

My goal is to leave attendees with two key takeaways. First, though abrasion is known as a long and highly costly process, the first indication of abrasion prediction in a laboratory environment is achievable within minutes. Second, I aim to spark curiosity and encourage attendees to delve deeper into the research behind our test methodology, fostering a better understanding of the underlying principles.

### Why is this topic so important and how will it benefit the industry as a whole?

The industry is moving toward a holistic approach to environmental monitoring of tire wear particles (TRWP), as a first step toward the goal of implementing a standardized tire wear testing method by 2026. However, current tire wear testing is plagued by several challenges: it's expensive, time-consuming and unsustainable, often taking place at a late stage in the tire development process. This means that there's a pressing need for an early-stage indicator of wear prediction in a laboratory environment that can be a support for detecting real tire wear particles (TWPs) PM<sub>10</sub> and smaller. I think by establishing a standard laboratory abrasion test, we can create a common language for the industry, allowing tire material suppliers, tire manufacturers and even car manufacturers to communicate more effectively.

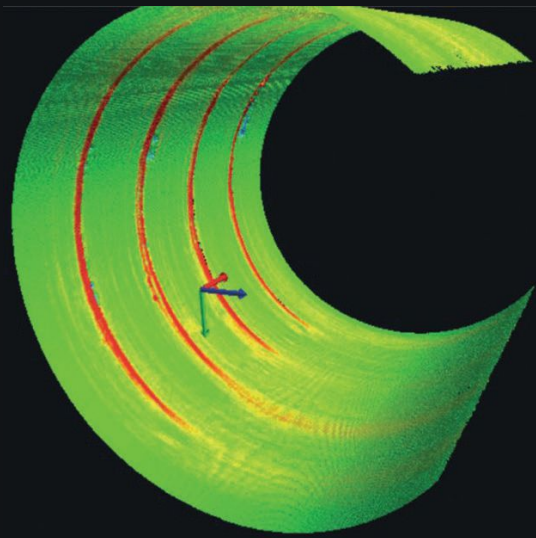
Visit the conference section of the event website for all the latest updates, speaker list and program schedule



## OPTICAL WEAR MEASUREMENT ON EXTRUDER BARRELS

GL Inspect will present its CiTriS sensor at the expo, a 360° optical solution for measuring extruder barrels. The CiTriS is a unique circular laser sensor for measuring the inner diameter of bores. A large diameter range (from 60-160mm) can be scanned with just one CiTriS, making it less sensitive to centering within the barrel and reducing the risk of snagging on bumps. Service personnel benefit from having to carry fewer components, and the measuring unit can be set up quickly. With up to 3,600 tracks, detailed and precise 3D measurement of barrel wear and internal diameters – for example, in twin screw extruders – can be achieved.

**GL Inspect**  
**Booth 6016**



Read the full interview online at [tiretechnologyinternational.com](http://tiretechnologyinternational.com)



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## A CIRCULAR APPROACH TO MATERIAL RECOVERY

Arduro takes an innovative approach to waste rubber recycling and material recovery. Founded on the principle that chemistry makes rubber the versatile and resilient material that it is, the company believes that chemistry is the key to unlocking the value in rubber waste. Its patented and proprietary technology selectively targets the sulfur cross-links that create the rubber matrix. Once devulcanized, the major components of the rubber feedstock are separated and collected; these include carbon black (rCB), polymer and processing oil.

Manufacturers can leverage these recovered materials to take advantage of the sustainability of circularity within the rubber industry. Reintegration of recovered materials specifically targets Scope 3 carbon

### 95% MATERIAL RECOVERY RATE

**ELDARIX r1000 rCB**      **RUBBER**

**Steel**      **Nylon**      **Silica**      **Processing oil**

emissions, which are the most challenging to reduce. As the industry continues its shift toward sustainable manufacturing, circularity through

recovered materials is the key to accelerating the pathway to success. Product samples will be available for testing in industry applications,

including Arduro's flagship product, Eldarix r1000 rCB.  
**Arduro**  
**Booth C607**

## REDUCED ROLLING RESISTANCE FOR ENHANCED FUEL EFFICIENCY

As the demand for fuel-efficient and sustainable vehicles rises, tire performance plays a crucial role in meeting these expectations.

Bekaert's Mega Tensile (MT) technology, on show at the expo, achieves this by significantly reducing tire rolling resistance through the use of

thinner steel cords, which decreases the amount of steel and rubber required in tire manufacturing. This innovation not only enhances fuel efficiency but also aligns with environmental goals by lowering emissions and conserving raw materials.

Additionally, the lightweight nature of MT technology contributes to improved comfort, offering a smoother ride experience for drivers and passengers.

By addressing critical industry challenges such as cost reduction and material efficiency, Bekaert's solution provides a competitive edge for tire manufacturers.

MT technology is not just a step forward in tire performance but also a pathway to more sustainable mobility solutions. By adopting this groundbreaking technology, tire manufacturers can lead the way in reducing the environmental footprint of their products while delivering superior value to consumers and the planet. Find out more at the show in Hannover.

**Bekaert**  
**Booth 4000**

### Current situation: 2x0,30 HT



**ILLUSTRATION**

### MT: 3x0,22 MT



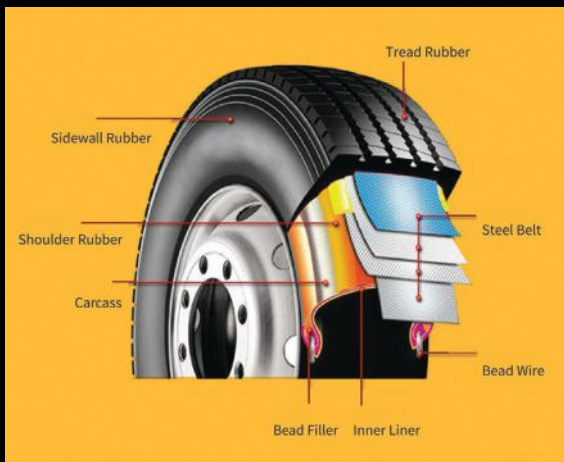
## STEEL CORD FOR SUSTAINABLE TIRE DEVELOPMENT

Shougang Century will be talking to expo visitors about how it reimagined the production process of steel cords using a first-principles approach. Focusing on sustainability, it has developed ultra-high-strength, eco-friendly, energy-efficient Eastern Steel Cord products that enhance tire performance. These innovations enable tire manufacturers to produce lighter, more fuel-efficient and environmentally conscious tires, reducing rolling resistance and overall energy consumption.

The company's commitment to quality and sustainability is not just about meeting industry standards; it's about setting new benchmarks for the future of tire manufacturing. By integrating these principles into its products, it aims to provide a competitive edge to tire companies looking to innovate and lead in a market that values performance and environmental responsibility.

**Shougang Century**

**Booth 4037**



## SOLVENT-BASED LIQUID-PHASE MIXING TECHNOLOGY

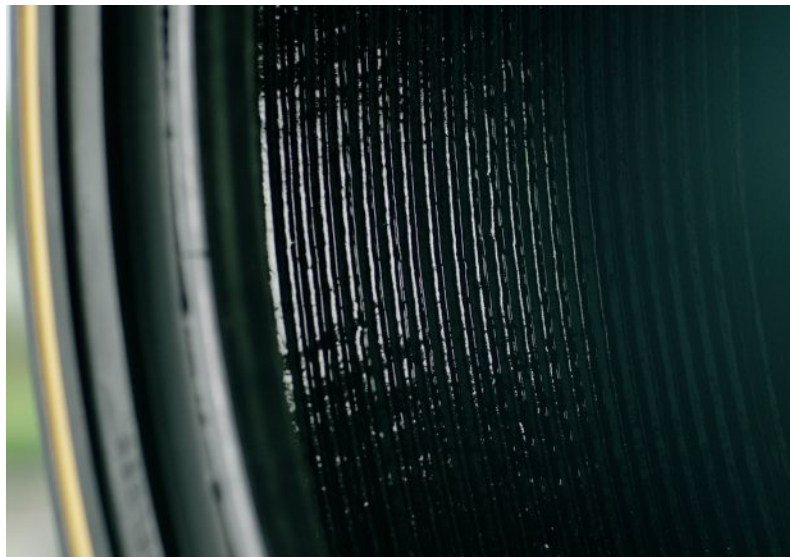
Ecombine's continuous liquid-phase mixing process mixes the tire-applicable rubber solution and filler slurry in the liquid phase. This technology dramatically improves the dispersion of fillers, enhances the filler-polymer interaction and results in better overall product performance.

Liquid-phase mixing technology can meet customers' diverse formula requirements by not limiting the use of polymer types and reinforcement agent types. According to Ecombine's research, the premixed multipolymer solution significantly enhances physical and mechanical properties compared

with dry-mixing technology and dry-mixed masterbatches. Meanwhile, manufacturing tire self-sealing sealant by liquid-phase mixing facilitates the uniformity of polymers and avoids potential phase separation with significant molecular weight variations. The resulting self-sealant can be applied without the post-vulcanization process. With these advantages, Ecombine says its self-sealing sealant has outstanding processability, stability and a high air retention rate. Find out more at the company's booth.

**Ecombine Advanced Materials**

**Booth C330**



## MANUFACTURING WITH NEW FUNCTIONAL ORGANOSILANES

Ecopower (Yongxiu) New Materials specializes in the R&D and manufacture of silane coupling agents for the tire, footwear, rubber goods, adhesive, sealant, paint and coating industries.

The company has the technical expertise and products to solve today's challenges and provide

custom synthesis solutions. Its technical staff are always available to collaborate on projects and deliver value to customers and are looking forward to telling expo visitors more about the company's products.

**Ecopower**

**Booth C509**



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# TIRE TECHNOLOGY EXPO CONFERENCE



**Market breakdown**

	Car / Light truck	Heavy truck & bus	Specialty (Mining, Agri, Moco, Aerial)	
Retrofit	0%	20%	15%	Data is a very approximate estimate and so give a sense of the business.
Replacement	70%	60%	70%	
OE	30%	20%	15%	Total:
By volume:	1700m units	200m units	N/A	2000m units
By value:	USD20bn	USD1bn	USD2bn	USD20bn

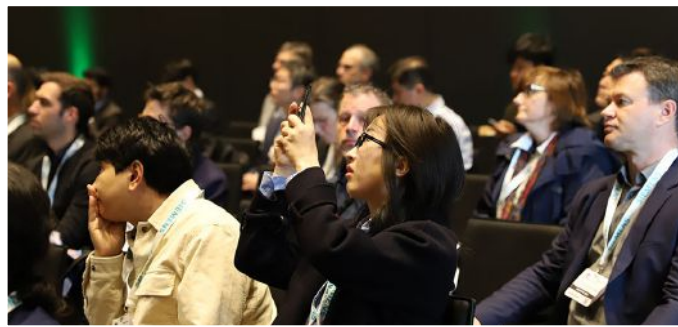
Tire Technology Expo's prestigious conference will be held once again at Deutsche Messe in Hannover, Germany, March 4, 5 & 6, 2025

Tire Technology Expo Conference 2025\* will feature more than 140 expert speakers from leading companies and institutions, such as **Michelin, Continental, Apollo Tyres, GDSO, Sumitomo Rubber Industries, Jaguar Land Rover, Hyundai Motor Company, University of Twente** and many more, including **The European Commission**. Presentations will highlight the issues and trends set to dominate the tire business in the future, with plenty of opportunity for audience participation, as well as dedicated panel discussions to ensure a lively debate and exchange of ideas.

Leading speakers will include: **Ryota Tamada**, manager, Sumitomo Rubber

Industries; **Dr Yasuhiro Shoda**, material expert, Bridgestone Europe; **Haejin Lim**, research engineer, Hyundai Motor Company; **Prof Burkhard Wies**, VP R&D tires innovation & applied research, and **Jorge Almeida**, VP of sustainability, Continental Tires; **Claire Fioretti**, director of standards and regulations for connected mobility, Michelin; and **Corrado Rocca**, R&D head, cyber unit, Pirelli.

Tire Technology Expo Conference is one of the year's best networking and learning opportunities. For the latest updates on the program and speakers, please visit the website: [www.tiretechnology-expo.com](http://www.tiretechnology-expo.com).



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\*Rates apply



## 20 MUST-SEE PRESENTATIONS!

### Cokoon: an open-source, resorcinol-formaldehyde-free bonding system for textile reinforcements

Dr Cornelia Schmaunz-Hirsch, senior reinforcement developer, Continental Reifen Deutschland, Germany  
Dr Mustafa Yasin Sen, expert researcher, Kordsa Teknik Tekstil, Turkey



### F&M prediction using AI technology and virtual tire development

Jongchan Kim, vehicle dynamics, Nexen Tire, Korea



### Sumitomo Rubber's advanced simulation technologies for tire aerodynamics and noise

Ryota Tamada, manager, Sumitomo Rubber Industries, Japan



### Wet braking of worn tires: real-world assessment of regulatory requirements

Dalia Broggi, project manager – scientific research, European Commission, Italy  
Dr Andrea Genovese, assistant professor, Università degli Studi di Napoli Federico II, Italy



### Road perception technology for ADAS and autonomous vehicle applications

Kanwar Bharat Singh, program manager, algorithms and software engineering, The Goodyear Tire & Rubber Company, USA



### Bridgestone's efforts for TRWP

Dr Yasuhiro Shoda, material expert, Bridgestone Europe, Italy



### Integrating sustainability into NR supply chain operations

Bani Bains, communications manager, Global Platform for Sustainable Natural Rubber, Singapore



### Development of new materials for extreme low-rolling-resistance tires

Haejin Lim, research engineer, Hyundai Motor Company, Korea



### Cradle to grave use cases supported by data sharing

Riccardo Giovannotti, secretary general, GDSO, Belgium



### Sustainable tire footprint – strategies and how to realize them

Prof. Burkhard Wies, VP R&D tires innovation and applied research, Continental Tires, Germany  
Jorge Almeida, vice president of sustainability, Continental Tires, Germany



### What lies ahead for tire recycling in Europe – challenges and opportunities

Gabriel Gomez, technical advisor, EuRIC, Belgium



### Tire Digital Product Passport (DPP)/Cirpass2 pilot update

Claire Fioretti, director of standards and regulations for connected mobility, Michelin, France



### Shaping the tire digital soul

Corrado Rocca, R&D head, cyber unit, Pirelli, Italy



### Optimizing vehicle dynamics and tire design/testing for electric vehicle development: key insights

Dr Mohammad Behroozi, vehicle dynamicist, General Motors, USA



### EV tire compounding challenges and approaches

Jyoti Prakash Rath, head of compounding global R&D, Apollo Tyres, India



### Effect of multifunction process aids on NR-based silica compounds

Dr Rohit Ameta, head of R&D, Balkrishna Industries Ltd (BKT), India



### High-performance sustainable bicycle tire tread compounds

Dr Nese Kaynak Akkanat, R&D chemist tire compounds, Specialized International, Germany



### Tire wear and TRWP experimental techniques

Dr Diego Sabato, head of testing engineering, Pirelli Tyre, Italy



### Truck tire thermal analysis for performance optimization and predictive modeling

Francesco Zito, mathematical model engineer, Prometeon Tyre Group, Italy



### Chain of custody challenges for renewable and recycled materials

Brigitte Chauvin, R&D manager, Michelin, France  
Christophe Durand, VP sustainable material solutions and partnerships, Michelin, France



Visit the website for the full program details and to view the latest speakers: [www.tiretechnology-expo.com](http://www.tiretechnology-expo.com)

## SHORT COURSES

In addition to the three-day conference, three short courses\* will be held to enhance technical expertise and practical knowledge in tire technology. **The University of Akron 55<sup>th</sup> Tire Mechanics** short course will deliver an in-depth exploration of tire mechanics fundamentals and advanced principles. The **Tire Modeling and its Application in Tire and Vehicle Development** short course will focus on integrating modeling techniques into development processes. Finally, the **11<sup>th</sup> Tire Reinforcement Materials, Applications and Fatigue Testing** short course will provide critical insights into the latest reinforcement technologies and validation methods essential for modern tire engineering. \*Rates apply

### The University of Akron 55<sup>th</sup> Tire Mechanics Short Course

The four-day course (March 3, 4, 5 & 6, 2025) will be held concurrently with Tire Technology Expo 2024 in Hannover, Germany – starting the day before the exhibition opens



#### THE COURSE

This four-day educational and developmental course will provide engineers and scientists with an in-depth, intense study of the latest developments surrounding tire engineering. The course is designed for practicing engineers, chemists and scientists who are concerned with tires and vehicles and who have an engineering or science background at the Bachelor of Science level.

The basic and practical aspects of the mechanics of pneumatic tires will be introduced by internationally renowned experts in tire mechanics. Extensive, detailed course notes prepared by each instructor will be provided for all participants, along with a 700-page e-book, *The Pneumatic Tire*, edited by Professors Gent and Walter. Those who complete this course will receive a certificate from the University of Akron.

Welcome and introduction:

**Dr Xiaosheng Gao**, Department of Mechanical Engineering, College of Engineering and Polymer Science, The University of Akron

Tire components, tire compounds and tire materials:

**Dr Annette Lechtenböhrer**, Goodyear Innovation Center, Luxembourg (retired); associate editor, *Tire Science and Technology* journal

The tire as a vehicle component:

**Dr Gerald Potts**, GRP Consulting  
**Dr James Cuttino**, Yokohama Corporation of North America

Impact of rubber and reinforcement properties on tire footprint mechanics:

**Dr Mahmoud Assaad**, global tire performance prediction, computational mechanics, the Goodyear Tire & Rubber Co. (retired)

Virtual tire modeling for improved performance:

**Dr Ronald Kennedy**, Center for Tire Research, The University of Akron and Virginia Tech (retired); associate editor, *Tire Science and Technology* journal

For course information, please contact:

Dr Xiaosheng Gao, Department of Mechanical Engineering, College of Engineering and Polymer Science, The University of Akron, Akron, OH 44325-3903, USA  
Tel: +1 330 972 2415 | xgao@uakron.edu

For registration information, please email:

Tim Sandford, conference director, UKi Media & Events | tim.sandford@ukimediaevents.com

**COURSE FEE: €1,950 plus German VAT**

### A word from the moderator

**“From my interactions with the attendees in 2024, I think they enjoyed the course and benefited from it a lot. Tire is a very complex engineering component and the tire industry is highly specialized. This course provides students with an opportunity to learn the knowledge that they could not get from any textbook or college course. It also enables them to network with instructors and other students who work in the tire industry all over the world.”**

**Xiaosheng Gao, professor and associate chair for graduate programs, Department of Mechanical Engineering, University of Akron**

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#### AWARDS PRESENTATION

Access to the Tire Technology International Awards for Innovation and Excellence, which will be presented live in the expo hall at a drinks and canapés party



#### CONTINUED LEARNING

A secure download of the presentations shortly after the event



#### TECHNOLOGY AND NETWORKING

A visit to the adjoining Tire Technology Expo, where 240+ exhibitors will be covering every facet of tire design and tire manufacturing technology



## Tire Modeling and its Application in Tire and Vehicle Development Short Course



This three-day course (March 3, 4 & 5, 2025) will be held concurrently with Tire Technology Expo 2025 in Hannover, Germany – starting the day before the exhibition opens

Expand your expertise in tire technology and engage with professionals at the forefront of tire modeling and simulation!

### THE COURSE

The course will cover tire computer modeling in a full vehicle system. It is aimed at engineers and researchers working in industry or academia.

The subject matter will be of primary interest to vehicle dynamics engineers, for whom the tire is the primary force and moment generation element on the vehicle. The course will also be useful for engineering managers who wish to understand existing tire modeling activity and its challenges, or successfully implement new tire simulation processes in the workplace.

The course will start with an overview of tire force and moment characteristics and will relate these to the physics of the tire-road interaction. Fundamental modeling approaches will be discussed in such a way that participants can

understand the concepts behind commercially available tire simulation packages or even attempt their own custom solutions. Empirical, data-based tire models and the associated laboratory and field testing of tires for model fitting have a special place in tire force simulation and will also be addressed in detail. Finally, several state-of-the-art commercially available tire simulation models will be presented, covering families of empirical and physical models.

### PRESENTERS

- Mohammad Behrooz**, General Motors
- Flavio Farroni**, MegaRide
- Axel Gallrein**, Fraunhofer ITWM
- Mathieu Grob**, JEDAi
- Carlo Lugaro**, Siemens
- George Mavros**, Loughborough University
- Henning Olsson**, Calspan Corporation
- Jan Prins**, Jaguar Land Rover
- Joachim Stallmann**, cosin scientific software

By participating in this course, delegates will:

- Gain a comprehensive overview of tire modeling and simulation, covering essential building blocks and methodologies.
- Learn about tire testing, finite element modeling and the fundamentals of tire design.
- Benefit from real-world insights from industry experts at OEMs and other leading organizations.
- Explore the role of driving simulators in tire design and their impact on real-time simulation.
- Enhance their knowledge of terramechanics tire modeling.
- Understand the use of CD Tire/MF-Tire/FTire in practical applications.

For registration information, please email: Tim Sandford, conference director, UKi Media & Events | [tim.sandford@ukimediaevents.com](mailto:tim.sandford@ukimediaevents.com)

**COURSE FEE: €1,575 plus German VAT**

**3**  
days  
of tuition

**9**  
expert tutors from  
OEMs and leading  
organizations

**17**  
hours of  
intensive learning

**Price**  
held for  
2025!

## 11<sup>th</sup> Tire Reinforcement Materials, Applications and Fatigue Testing Short Course



A one-day course held Monday, March 3, 2025, the day before the exhibition opens

Don't miss this opportunity to stay up to date with the latest advances in rubber reinforcement!

### THE COURSE

This one-day course will provide an understanding of the use of materials and constructions for rubber reinforcement in the tire. The course is intended for tire reinforcement engineers from design and material laboratory departments of tire manufacturers and their reinforcement suppliers.

The specific requirements of reinforcement will be explained for the different tire components. The generic steel and textile cord material properties, constructions and manufacturing will be introduced. Industry specialists from leading reinforcement manufacturers will give further in-depth presentations specifically for steel cord, polyamide, polyester, rayon

and aramid reinforcement. The course will also include static and fatigue test methods to validate the tire reinforcement in material laboratories for relevant application in the tire.

### TOPICS

Expert speakers will cover the following areas and more:

- Overview: tire reinforcement
- Applications of steel cord
- Overview: textile constructions and basic processes
- Applications of PA and PET
- Applications of rayon
- Applications of aramid
- Material fatigue test technology

### PRESENTERS

- Patrick De Keyser**, DeKeP
- Rob Lionetti**, Goodyear
- Danil Vaganov**, Yunfang Tang, Bekaert
- Seda Araci**, Kordsa
- Sonia Sánchez Schreiner**, Cordenka
- Michel van den Tweel**, Teijin
- Philippe van Bogaert**, Bogimac

For registration information, please email: Tim Sandford, conference director, UKi Media & Events | [tim.sandford@ukimediaevents.com](mailto:tim.sandford@ukimediaevents.com)

**COURSE FEE: €825 plus German VAT**

**1**  
tuition  
day

**8**  
expert  
tutors

**7**  
hours of  
intensive  
learning

**Special offer**  
Book now and receive a 20% discount on your delegate pass for the Tire Technology Expo Conference, which includes a reinforcement session on Tuesday, March 4 ●



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- ▶ **SILQUEST™ Silanes:** improved supply security for traditional sulfur silanes.
- ▶ **NRX™ Silane** for natural rubber applications.