

# RUBBER Review

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**Dr. Gerard Nijman**

**Expert Sales Manager / Tyre & Rubber**  
**KraussMaffei Extrusion GmbH**

*Edition # 2 | Hybrid Event*

**TechnoBiz**  
**LATEX**  
**WEEK**

**24-26 SEPT 2025 | CHENNAI, INDIA**  
GREEN PARK HOTEL

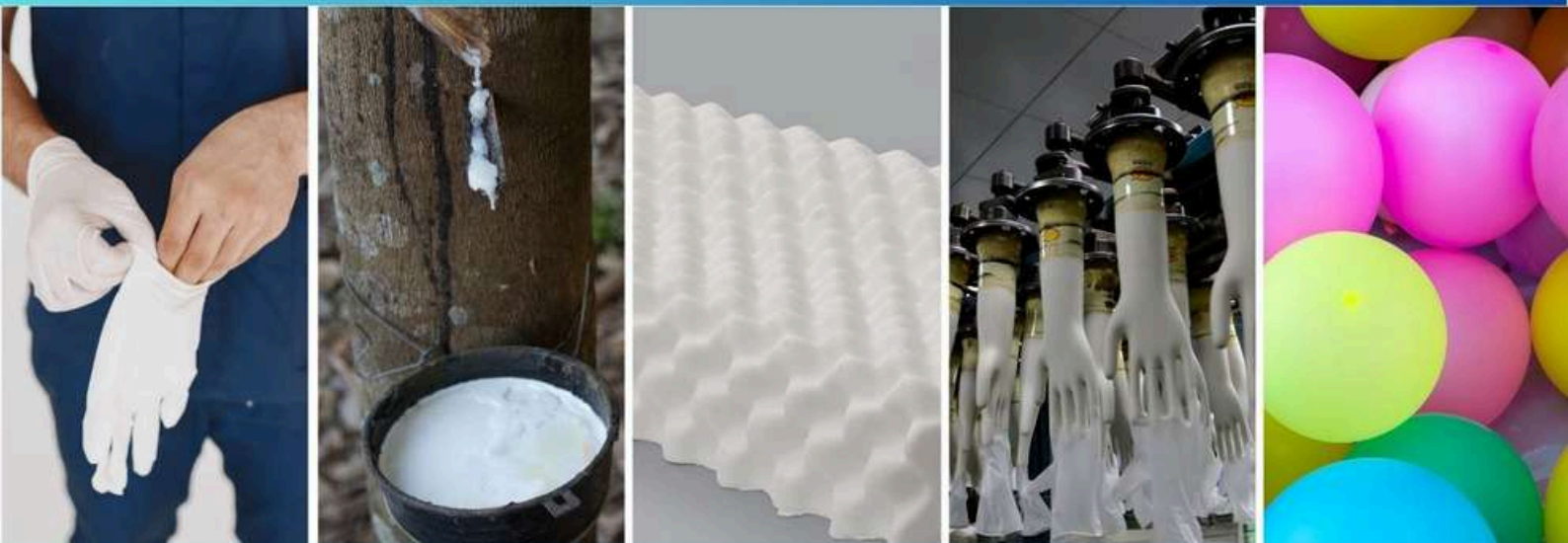
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Training Course | Hybrid Event

TechnoBiz

# EPDM Seals : Process Troubleshooting

23 September 2025, CHENNAI  
GREEN PARK HOTEL | 10am-5pm

This training course on “EPDM Seals: Process Troubleshooting” provides practical knowledge to identify and resolve defects in EPDM seal manufacturing. It covers material basics, compounding, processing methods, and testing, with a strong focus on real-world troubleshooting in extrusion, molding, and assembly. Participants will learn how to improve product quality, reduce defects, and enhance production efficiency.

## Course Content

- Introduction to EPDM Seals
- Material & Compound Issues
- Processing Equipment & Operations
- Extrusion-Related Defects
- Sponge & Solid Profile Issues
- Molding & Assembly Defects
- Final Application Failures
- Troubleshooting Strategy



## Course Instructor

Mr. Dathathri Dharmarao is a well-experienced rubber technologist with extensive expertise in the processing, compounding, and troubleshooting of EPDM seals. With decades of hands-on experience in the automotive sealing industry, he has led technical teams in solving complex manufacturing challenges related to extrusion, molding, and quality control. His deep understanding of EPDM behavior under various conditions, along with a strong focus on practical problem-solving, makes him a highly respected expert and trainer in the field.

## Registration Fee / Person

### In-Person Participation

- Indian Delegates: Rs. 15,000
- Overseas Delegates: US\$ 300

### Online Participation

- Indian Delegates: Rs. 25,000
- Overseas Delegates: US\$ 500

Remarks: GST 18% applies on above fees. Discount is Available for Group Registrations. Delegate Registration Fee subjected to increase one week before schedule. Registration fee includes lunch and refreshments.

**PKR**  
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Delegate  
Registration



## Venue: Hotel Green Park

N.S.K. Salai, Arcot Rd, Vadapalani,  
Chennai, Tamil Nadu 600026, India  
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A **New** Initiative for the Global Rubber Industry

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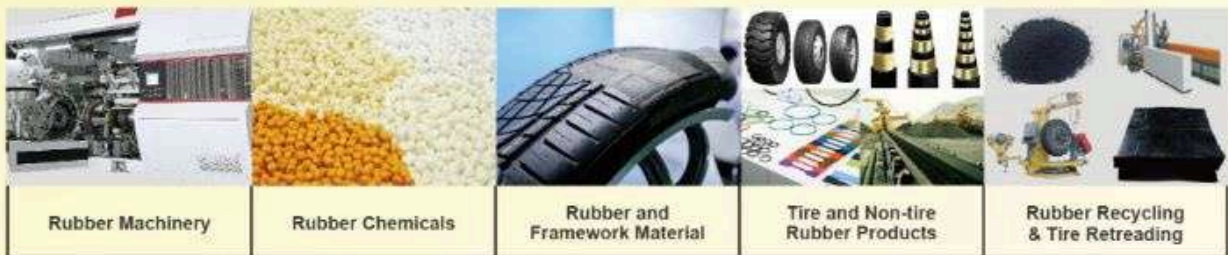


**ufi**  
Approved  
International  
Event

**RubberTech  
China 2025**

September 17-18-19

# The 23<sup>rd</sup> International Exhibition on Rubber Technology



visitor registration

**Sept. 17-19, 2025**

Shanghai New International Expo Centre  
Hall W4,W5 | N1,N2,N3

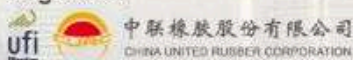
**60000m<sup>2</sup>**  
Exhibition space

**800+**  
Exhibitors

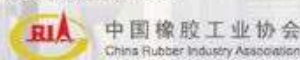
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# WE PRODUCE HIGH QUALITY NATURAL RUBBER LATEX



## Quality Assurance

We operate a management system in accordance with the requirement of ISO 9001 : 2015 while compiling with international standards.



## About Our Company

We are a Thailand-based manufacturer of high quality natural rubber and concentrated latex with more than 30 years of experience by the brand of "NUMATEX". For the past decades, we have supplied our products to **more than 50 countries** from all continents, particularly among Southeast Asia and European factories. We aim and will continue to be fully committed in leveraging natural rubber industry with new advancements for the best solution offered.

## Our Story

Our company was established in 1987. We produce Concentrated Latex and Skim Rubber Block. Since then, our company has been growing significantly both in quantity and quality of our products. In 1987, we started the operation with only 4 centrifuge machines and with storage capacity of only 400 Metric Tons. At present time, we are producing concentrated latex with 33 centrifuge machines with storage capacity of up to 4,000 Metric Tons. Our biggest assets of the company are customer confidence on our product and skilled human resources. With these assets, we have received ISO 9001 : 2000 certification since 2004.



## Concentrated Latex

Our Latex is available in various standardized specifications according to your company's requirement. Our latex is used by wide range of customers such as manufacturers of gloves, condoms, latex threads, rubber foam, adhesives, etc. Since 2021, **Production capacity** was expanded to **3,500 metric tons of concentrated latex per month** with 33 centrifuge machines.

Available Packing Options: Steel Drum, Flexibag, IBC, Tank Container



## Skim Block

We produce high quality rubber skim blocks. Our product is light color in natural yellow-brown and fully dried with no odor. Various rubber parts, car tires, and shoes manufacturers are our major customers for Skim Blocks.

## Corporate Sustainability



Our plant is operated under environmental-cautious mindset at all time. Sustainability has always been one of our top concern ever since the beginning. Our Solar system has been successfully implemented earlier in 2021 for the first phase.

Our own innovation of the Advanced Wastewater Treatment System has successfully been appreciated by our locals and later it has been set a prototype system for all latex factories in Thailand to follow by Official Environmental-concern Authority and Thai Latex Producers and Exporters Association.

## EUDR Latex

Our EUDR-compliant production line has been successfully implemented. Since November 2024, we have begun exporting EUDR latex to global markets, with full reporting in accordance with the EUDR (EU Deforestation Regulation) guidelines. This marks a significant milestone in our ongoing commitment to sustainable and responsible sourcing practices.



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technologies

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Odorless and non-toxic



Superior mechanical properties



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Eliminates health risks to rubber industry workers



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# GARTE

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## Global Rubber Latex & Tyre Expo

**10-12 MARCH 2027**  
**BANGKOK, THAILAND**  
HALL 100, BITEC

**The Gateway**  
to Global Markets & Knowledge-Hub  
for Rubber, Latex & Tyre Industries

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## COVER STORY

*Conversation with* **Dr. Gerard Nijman**  
Expert Sales Manager (Tyre & Rubber)  
KraussMaffei Extrusion GmbH

***Dr. Gerard Nijman stands as one of the most influential technologists in the global rubber and tyre industry. Trained as an applied physicist at the University of Twente, his early fascination with rheology set the stage for a career that would bridge science, engineering, and industrial innovation. At Vredestein, he made his mark by guiding the company's transition into advanced tread extrusion and silica-silane-S-SBR technologies, positioning the brand among the first in the world to adopt these game-changing processes. His ability to translate rheological insights into practical solutions quickly established him as a thought leader in mixing, extrusion, and tyre processing.***

***When Apollo Tyres acquired Vredestein, Dr. Nijman played a pivotal role in aligning process innovation with system development across geographies. He championed projects that modernized manufacturing, improved extrusion quality, and optimized plant design—contributions that not only strengthened Apollo's European footprint but also had ripple effects across the company's global operations. His perspective extended beyond tyres to technical rubber applications, always keeping an eye on how processing science could unlock new performance levels.***

***At KraussMaffei, Dr. Nijman has further expanded his impact, bringing decades of accumulated expertise into his role as product manager and application expert for rubber extrusion. Here, he has worked closely with clients worldwide to tailor extrusion systems that address increasingly complex production challenges. By combining deep technical knowledge with a consultative approach, he has helped customers achieve both performance and sustainability targets—making extrusion not just a production step, but a strategic advantage.***

***Beyond his industrial roles, Dr. Nijman has given back to the community as a lecturer at Leibnitz University of Hannover, the DIK, and the University of Twente, shaping the education of future engineers. His passion for mentoring, coupled with his insistence on asking the right questions, reflects a lifelong belief that progress in rubber technology requires both curiosity and discipline.***

***This exclusive interview offers rare and valuable insight into Dr. Nijman's journey, his perspectives on rheology, extrusion, tyre evolution, and sustainability, as well as his vision for the future of rubber machinery and processing. His story is not only one of personal achievement but also a reminder of how one individual's vision and expertise can ripple across an entire industry.***

***Gerard, you hold both a master's and a doctorate in applied physics from the University of Twente. Can you share how this academic foundation led you into the world of rubber technology? What drew you to this field?***

More or less by coincidence, I got a master's project in the field of rheology and became fascinated. I wanted to understand why paint is easily liquefied when applied on a wall, yet stops flowing once the brush is taken away. Everyday emulsions and suspensions such as ketchup, toothpaste, and butter show similar behavior. These phenomena can be insightfully explained if you consider the fluid to have a structure that breaks down when an external force is applied and builds up again after the force is removed.

My PhD assignment dealt with molecular orientation in injection-moulded products, which is again a rheological phenomenon. I learned a lot from my supervising professor, who taught me how to deeply analyze an engineering problem by asking questions. If you ask the right questions, you will be guided toward solving the problem.

During my PhD work, a local tyre manufacturer consulted my supervisor for rubber processing advice, and my professor strongly recommended that they hire me. I still remember my interview at Vredestein very well—it was a Friday evening, and I came in jeans and a sweatshirt, sitting in front of two directors and a senior technologist. After one hour of saying almost nothing but only listening, they offered me a job, which I have never regretted.

My first assignment was to guide them in investing in a new tread extrusion line. Neither they nor I had much knowledge of cutting-edge tread extrusion, but we managed it—and this became my first real rubber technology experience. We conducted trials on suppliers' laboratory machines, and I began analyzing the results in a rheological way. I received full support from my supervisor, *Albert Dijks*, who was responsible for R&D at that time, and he encouraged me to present the results and conclusions at a rubber symposium in Germany.

In the late eighties, Germany was very technology-minded, and many rubber mixing and processing results were published in peer-reviewed journals (for instance, *Wiedmann & Schmidt* in the field of rubber mixing, *Kopsch* in rubber calendaring, and *Capelle* in rubber extrusion). I was very proud to be part of this world. Without pretending to be a true senior in rubber processing, I nevertheless felt like a kind of “King One-Eye in the land of the blind,” because very few people at that time really understood rubber mixing and processing.



***“If you ask the right questions, you will be guided to solve the problem.”***

*You've worked in diverse technical and leadership roles at companies like Vredestein, Apollo Tyres, and now KraussMaffei. Looking back, what would you consider the key milestones in your career? Which moments shaped your expertise most significantly?*

I am not the kind of person who planned and managed his career path. I took opportunities as they came, especially those which seemed interesting to me. I still do so now. There are a couple of moments in my career that, after all, made a large impact.

At the beginning of my professional career, I was involved in a manufacturing upgrade program where we realized a new mixing line, the new extrusion line, and several other production units. We were able to introduce the silica-silane-S-SBR technology as one of the first tyre brands in the world. We succeeded by recognizing that the rheology of silica compounds is quite different from traditional tyre compounds. Also, the way to design the dies for tread extrusion was different because of the much larger extrudate swell that silica compounds show.

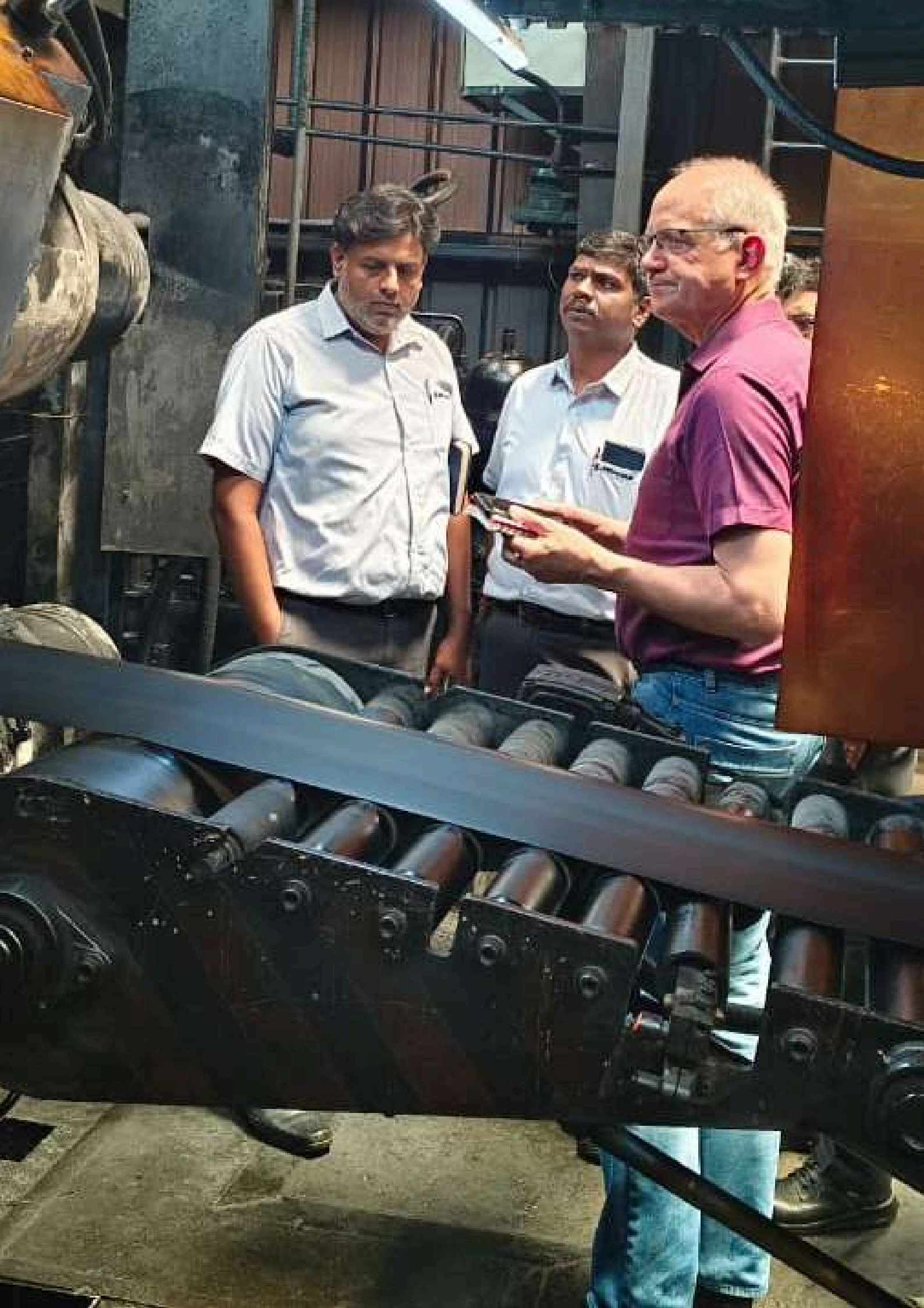
A little bit proud of these kinds of achievements, I started imagining how an ideal tyre manufacturing plant should look. Immediately I got the opportunity to realize it. We became the technology supplier for a new Indonesian tyre manufacturer, which gave us a carte blanche to design his plant. Together with a small team and a Japanese contractor, we were able to build one of the most modern tyre plants of the nineties.

During a networking event at one of the Rubber Fall Colloquia, organized by the *DIK German Rubber Technology Institute* in Hannover, I met a senior gentleman from Brazil. After telling me about his expansion plans, he asked how I would set up his new mixing room. Based on my experience, I told him I would take two-roll mills rather than a sheeting extruder, even if fully automated, and that I would separate black mixing and white mixing completely. I also advised a clear separation between the mixer and its material handling system and the downstream section to control dust pollution. Ten years later, I met the same man again, and he invited me for a tour of his new plant. Guess what—his mixing room had been realized exactly as we had discussed in Hannover with a bottle of beer in our hands.

The next remarkable milestone was a request to consider whether Vredestein, my employer at that time, would be interested in the development of an innovative top cover seal for a cabrio. It turned out to be the active front spoiler for the Porsche 911 Turbo, though we only learned this during a visit to the Porsche Development Center in Weissach (Germany) with our CTO. Somehow, I had to convince a delegation of Vredestein's senior management to visit Porsche, which was not interested in Vredestein as an OEM tyre supplier at all.

Another highlight was the invitation from *KraussMaffei's* General Manager to consider joining their rubber extruder team, when we met at the Tire Technology Expo in Hannover in 2016. I joined KME shortly thereafter. These personal highlights, which came by chance, marked my career to a great extent. And now, just before my retirement, I can admit that I have never had any experience in applying for a job. I simply jumped on another train.

I am especially proud of my work as a senior lecturer at Leibniz University of Hannover, teaching process engineering in their rubber technology course, as well as giving classes on rubber processing at the DIK and at the University of Twente in Enschede, NL.



***Your years at Vredestein and Apollo saw major developments in process innovation and system development. Could you highlight some specific projects - such as the extrusion quality upgrade program or the active front spoiler for Porsche - that you feel had lasting industry impact?***

There was a tendency for tyre component extrusion to become more complex because tyre engineers believed that having more compounds in a tread or sidewall would solve their challenges of meeting tough OEM tyre performance requirements. Moreover, the number of stock-keeping units in passenger car radial tyres or truck/bus radial tyres has increased tremendously and moved towards larger rim sizes in the last 20 years. Considering the impact on the production organization of a tyre manufacturing plant, you can imagine how frequently one has to change a size on an extrusion line, including the increased amount of rework material. It was a complete paradigm change.

Some tyre manufacturing companies were considering one-step tyre manufacturing technologies like Pirelli's MIRS, and all premium tyre manufacturers discovered that research in tyre and rubber technology was really contributing to improved tyre performance. Numerous research projects were defined and executed, and nowadays everybody benefits from them.

I myself had the opportunity to develop and industrialize the active front spoiler in close cooperation with Porsche. It is, in fact, a rubber profile which is kept in its rest position by rubber elasticity, leaving the clearance between car and road large enough, and once the car is on the highway, the spoiler will be deployed by a pneumatic actuator system, creating less clearance between the car and the road pavement and therefore remarkably better performance. It is designed this way to avoid any damage in case the spoiler bounces on the road. The system is mounted on Porsche's 911 Turbo and Turbo S.

***You've been at the forefront of rubber mixing, extrusion, calendaring, and tyre vulcanisation for decades. How have tyre technologies evolved during this time? Has the importance of rheology and processing behavior increased, and in what ways?***

Although passenger car tyres (PCR) and truck/bus radial (TBR) tyres are constantly evolving, two major milestones can be identified: the green tyre technology and tyre labelling. There are three important tyre property categories that influence each other: durability, rolling resistance, and wet skid. Improving wet skid properties of a tyre has traditionally resulted in a compromise in rolling resistance and/or durability. Michelin was the first tyre manufacturer to break through this so-called "magic triangle" by introducing silica-silane solution SBR technology in their tread compounds. The consequence of this technology was a far more complicated mixing process and completely different extrusion behaviour, showing much greater extrudate swell and shrinkage of treads.

Recently, various countries—starting in the EU—developed an obligatory tyre label under which every tyre must be classified with ratings for wet skid, rolling resistance, and noise development. This meant that tyre brands were forced to demonstrate their capabilities and benchmark their new products at the top of the market. As a result, developing a new tyre has become much more than simply conducting trials and hoping for the best performance. On the contrary, one must understand why a tyre performs as it does. Tyre technology has therefore become increasingly scientific, and this is why manufacturers are still able to improve tyre performance.



Last but not least, sustainability and circularity are becoming dominant factors in tyre design. New sustainable materials are being introduced, which also create new dimensions in the rheological behaviour of rubber compounds. The introduction of these new materials makes it even more complex—not only to understand the rheology, but especially to determine the most efficient way of processing rubber compounds, which is a challenge in itself.

***What are some of the most interesting developments you're observing right now—both in the tyre sector and in non-tyre applications like technical rubber goods? Where is the innovation pressure highest?***

There are a couple of very interesting developments today. Traditional vulcanized rubbers in sealing profiles and other technical rubber articles are being replaced by rubbery alternatives like TPVs, which are processed as thermoplastics in electrically driven vehicles. The temperature in the trunk and underneath the hood of an EV is much lower compared with traditional internal combustion engine cars. Moreover, due to the lack of organic solvents, materials underneath the hood do not need to be as specialized. Especially in the manufacturing of engine mounts and coolant hoses, a kind of revolution is taking place. The processing of thermoset rubbers is being replaced by (complex) thermoplastic processing, often combined with several other specialized manufacturing technologies. In the end, these products are considerably cheaper, without losing performance.

Because of the battery pack, EVs are considerably heavier, and the shock absorbers of those vehicles are tending to be changed from classical mechanical shock absorption systems into actively controlled air springs. Air bellows, the main component in such a system, are made of thermoset rubbers. Reinforcement of air spring bellows is done with specially designed, very thin cords embedded in the rubber matrix.

Innovation pressure might be the highest in future tyre technology. Sooner or later, the concept of the classical tyre mounted on a rim, which is basically based on the support of pressurized air, will be replaced by airless tyres. The reason why it has not happened yet is the issue of rolling resistance. Michelin has already presented a concept where the wheel itself provides the same comfort performance as a pneumatic tyre system and, once the tread pattern is worn out, you can drive your car to a workshop where a new tread pattern is 3D-printed onto the wheel. Another huge challenge for tyre manufacturers is the recovery of worn-out particles during the tyre's life cycle. Today, approximately 1 kg of each passenger car tyre vanishes as fine dust or, more precisely, particulate matter into the environment.

***What is current status of Tyre Industry in Europe? What are challenges?***

This is a good question, for which I could give both a “Western Europe” and an “Eastern Europe” answer. Many new and very modern tyre manufacturing plants have been opened or are being built in countries such as Poland, Hungary, the Czech Republic, Serbia, and Romania. The newest generation of tyres is produced with state-of-the-art manufacturing technologies. The local availability of highly skilled operators and engineers makes those factories very successful. Moreover, salaries and the cost of living in Eastern Europe are lower than in Western Europe. The challenge for these new plants is to keep the workforce motivated to stay and to train them to become even better.

In Western Europe, the home of many traditional tyre manufacturers like Continental, Goodyear, Michelin, and smaller brands like Fulda and Vredestein, there used to be many older tyre manufacturing plants which operated very efficiently but without the latest state-of-the-art technologies. Most plants were expanded incrementally, so in the end, especially internal transport was not optimal. And as the plants are located close to residential areas, the focus of those plants was—and still is—on environmental measures.

As I said before, tyre dimensions and SKUs have changed dramatically, and senior management of tyre manufacturers has had to decide on their strategy: invest in new technologies, environmental measures, and equipment in old, well-organized plants, or start greenfield projects in new locations where efficiency could be much higher. Taking into account that salaries and energy costs are the highest in Western Europe, tyre manufacturers tend to decide to close plants in Western Europe and shift production to locations where infrastructure is well developed and customers can be found.

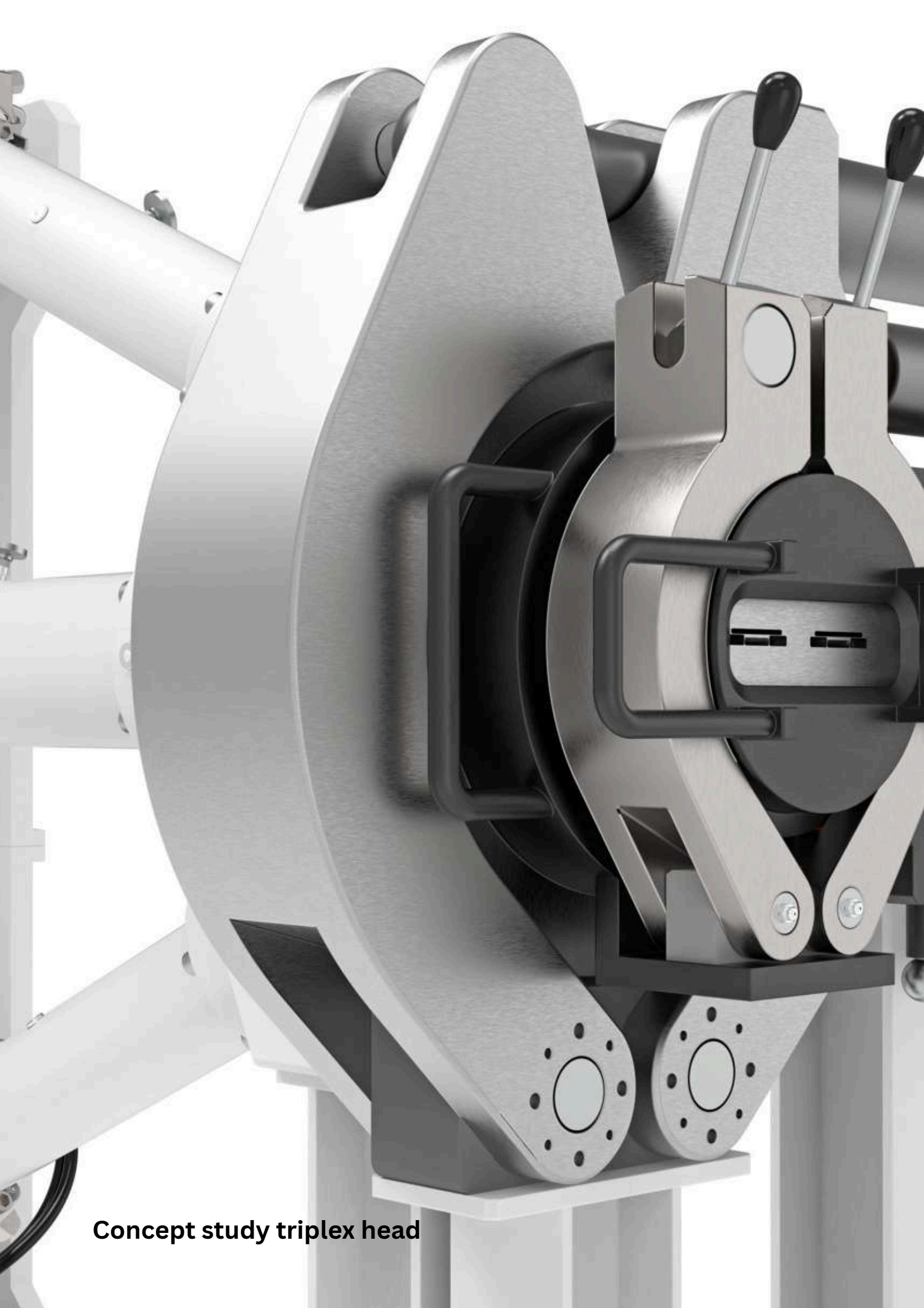
For instance, Apollo Tyres has announced the closure of their plant in Enschede, NL—the plant where I grew up professionally. On the one hand, I feel very sorry for my former colleagues, who now have to find another job. On the other hand, I can understand this decision, knowing that the cost price of tyres produced in that plant would ultimately be substantially higher than in other Apollo plants, also taking into account the fact that newer plants probably face problems which do not exist in the very well-organized and experienced operations of older plants.

Another challenge, which is not only relevant for the tyre industry in Europe but also for all traditional brands, is the rising position of new tyre manufacturers from China, Korea, and India in the European market. I just read an article that Chinese Linglong has been selected as a tyre supplier for the Volkswagen Tiguan. This fact says enough about the future position of traditional manufacturers like Pirelli, Continental, or Michelin, I am afraid.

***Sustainability is now on every boardroom agenda. Do you see real progress in the rubber sector toward circular practices, such as energy-efficient extrusion, bio-based formulations, or recycling? Are customers demanding more sustainable solutions?***

Pneumatic tyres made of rubber have a rather poor reputation with respect to sustainability. Not only does almost the entire tread of a tyre vanish as fine dust into the atmosphere during its lifetime, but the problem of recovering end-of-life tyres also does little to improve the reputation of the tyre as a sustainable product. Moreover, a considerable part of all raw materials used in tyres is based on crude oil. Tyre manufacturers are fully aware of this, and every tyre manufacturer has formulated some strategic goals with respect to sustainability. Many manufacturers proudly mention that they are participating in projects to make tyres more sustainable, such as using organic materials as a basis for rubber fillers or using dandelion rubber.

I personally believe that tyre manufacturing will become CO<sub>2</sub>-neutral sooner or later. However, every strategic goal that mentions “using recycled materials” should be interpreted very carefully. I do not want to use the term “greenwashing,” but for me it is difficult not to think about it when I read that a particular tyre has been partially made of recycled materials.



**Concept study triplex head**

I can give some examples: giving tyres a second life cycle by retreading is fully developed, but very seldom does the performance of a retreaded tyre come close to that of the original tyre. And in developed tyre markets such as Europe, retreaded PCR tyres are only accepted to a limited extent.

A second example is the recovery of end-of-life tyres (ELT). The EU proudly presents that material recovery of ELT is more than 50% of the total volume. However, when reading the reports more carefully, more than 90% of rubber material recovery is granulated and used as feedstock for cement ovens or power plants. Rubber devulcanization technology exists, but it has only been successfully applied with pure feedstock and requires a huge amount of energy input. Pyrolysis of rubber seems to be more successful, but again requires a huge amount of energy. Market acceptance of recovered vulcanized rubber (devulcanized rubber, rCB, or feedstock for polymerization of synthetic rubbers) is limited, also because of the very high cost.

Tyre customers are not really demanding more sustainable solutions, in my view. Governmental authorities do, but they are often not fully aware of the technological difficulties. As long as classical virgin materials remain cheap, I do not foresee a breakthrough in tyre manufacturing within a circular economy context. Probably transportation itself—and the way we move—should be rethought instead. With respect to rolling resistance, rail transport is much more efficient than transport by car with pneumatic tyres. But people do not want to give up their individual freedom.

***You're currently serving as the product manager and application expert for tyre and rubber extrusion lines at KraussMaffei. Can you describe how you work with clients - from first contact to delivering tailored machine solutions? What makes this role exciting for you?***

Well, KraussMaffei Extrusion has already found a very well-qualified successor for me in my role as product manager, as I am going to retire soon. Now I am helping out as a senior expert in sales. In fact, I am interpreting the production challenges of our customers into machine and process concepts. It all starts with listening very carefully to customers and trying to be their sparring partner with respect to rubber processing in general and extrusion in particular. If I can contribute to solving the customer's problem and help bring the extrusion line to full performance, the customer's appreciation is the nicest reward for me.

Very often, I see that the level of fundamental extrusion knowledge and experience is rather low at the customer. In the majority of cases, the extrudate is being used as a component to build the product until it is vulcanized. This means that extrusion problems exist but are not always recognized by the R&D and process staff engineers at the customer. Because of its perfect vulcanized performance, compounders do not want to reformulate the compound recipe to improve its processability. The operator has to deal with extrusion problems, which are often related to compounds, and, in case the mouthpiece is not optimal, the die maker will cut a new die. So, it is a very rewarding job for people like me when we visit a production site and recognize an extrusion challenge.

An extrusion line itself is composed of many building blocks, such as an extruder feeder, the extruder itself, the conveying belts in the line, measuring devices along the line, and, last but not least, placing the final product into a product carrier. The line control ensures that all building blocks are working as they should. This means that every extrusion line is unique—tailor-made out of standard modules and devices but dedicated to the particular production constraints. A machine supplier like KraussMaffei Extrusion is, in fact, a system integrator with its core competence in the extruder, the head, and the line control system. A line is designed in close cooperation with the customer.

This means that a technical sales engineer (my current role) must know the customer's product and how it is currently being produced. The exciting part of my job is being the intermediate between the customer's manufacturing technology and the products or systems that KraussMaffei Extrusion offers, using my experience in rubber processing.

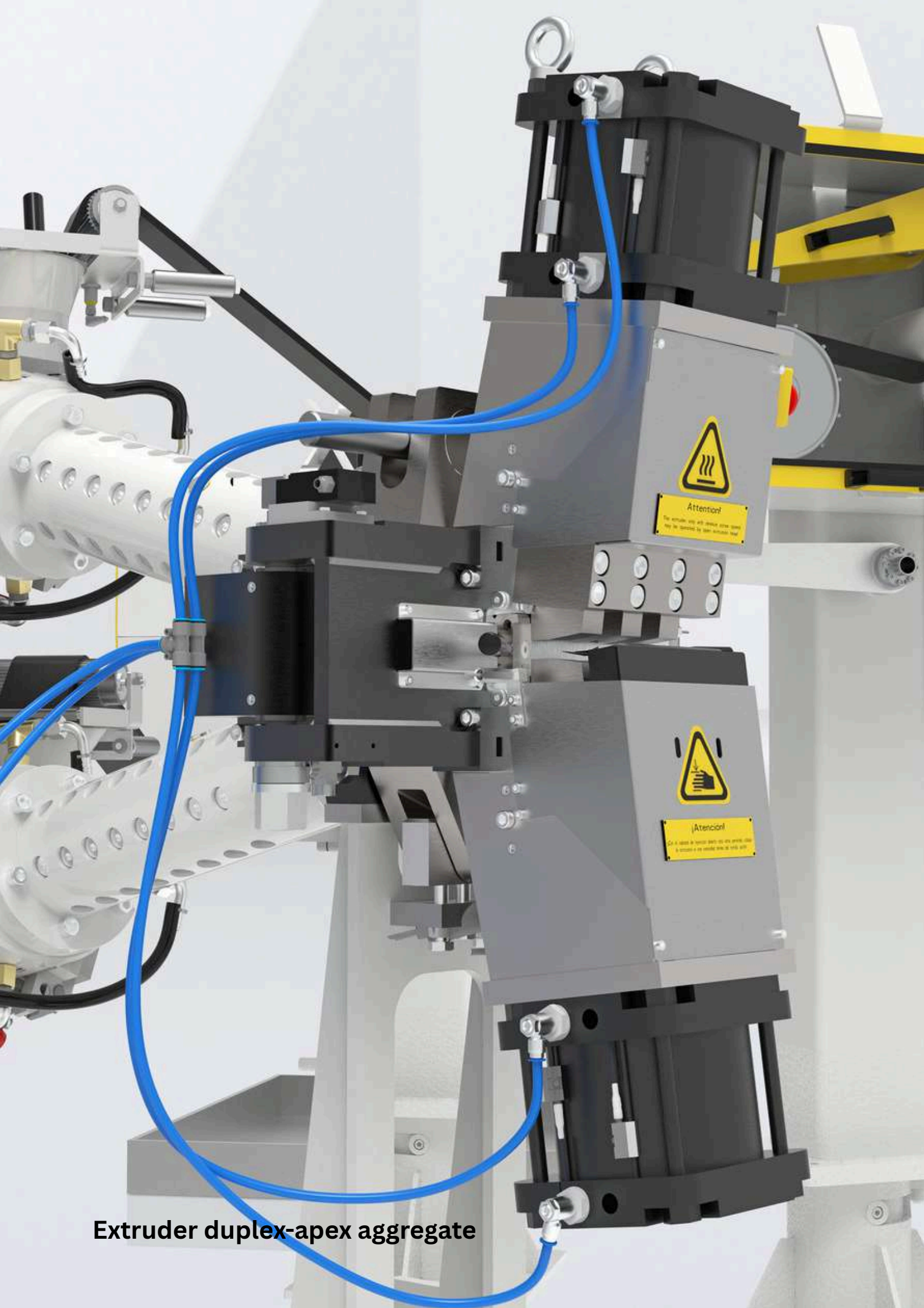
***What are the key innovations being developed at KraussMaffei in extrusion? Are there breakthroughs in line speed, product consistency, or system intelligence that stand out?***

Today, KraussMaffei Extrusion is a technology leader in all kinds of extrusion technologies. Derived from their merger with the Hannover-based Berstorff in the 1990s, KraussMaffei Extrusion provides solutions for a wide range of applications. A couple of examples include multilayer pipes and profile extrusion lines for both polyolefins and pipes, extrusion lines for flat layers and foams, compounding and recycling extrusion lines, and large polymerization extruders. And of course, there are several applications in tyre component extrusion, rubber seals and hoses, as well as roofing systems.

KraussMaffei Extrusion (formerly Berstorff) considers itself one of the inventors of modern rubber extrusion, dating back to 1897. To this day, we conduct research and development in rubber extrusion to offer cutting-edge technology to our customers worldwide. KraussMaffei Extrusion holds a patent for a multiplex extrusion system that allows the production of tyre components as co-extrudates of seven different rubber compounds. Moreover, KraussMaffei Extrusion offers a unique extrusion technology dedicated to difficult-to-process compounds, called the pin convert extruder.

Due to its wide range of expertise in extrusion technologies for both plastics and rubber materials, KraussMaffei Extrusion offers a broader spectrum of applications than any other extruder manufacturer. This also opens opportunities for combining extrusion technologies into new applications such as continuous mixing of rubber compounds or sealant mixing lines. In this case, the single-screw rubber extruder feeds a co-rotating twin extruder, and by means of dosing devices, other components can be added continuously as well.

An extrusion line is much more than just an extruder. KraussMaffei Extrusion offers complete extrusion lines to customers as a turnkey solution. Within an extrusion line, special devices can be integrated to fulfil specific tasks. An example of such an application is the C-Check, a patented device to detect if the conductive strip is present in the tread immediately after extrusion. It is a contactless device, meaning that the conductivity is checked without leaving any traces on the profile. Passenger car tyres must conduct static electricity from the car to the pavement, and today a conductive strip made of a special rubber compound is present in a tyre to fulfil this requirement. The C-Check prevents the tyre manufacturer from producing huge amounts of scrap in case the conductivity is missing.

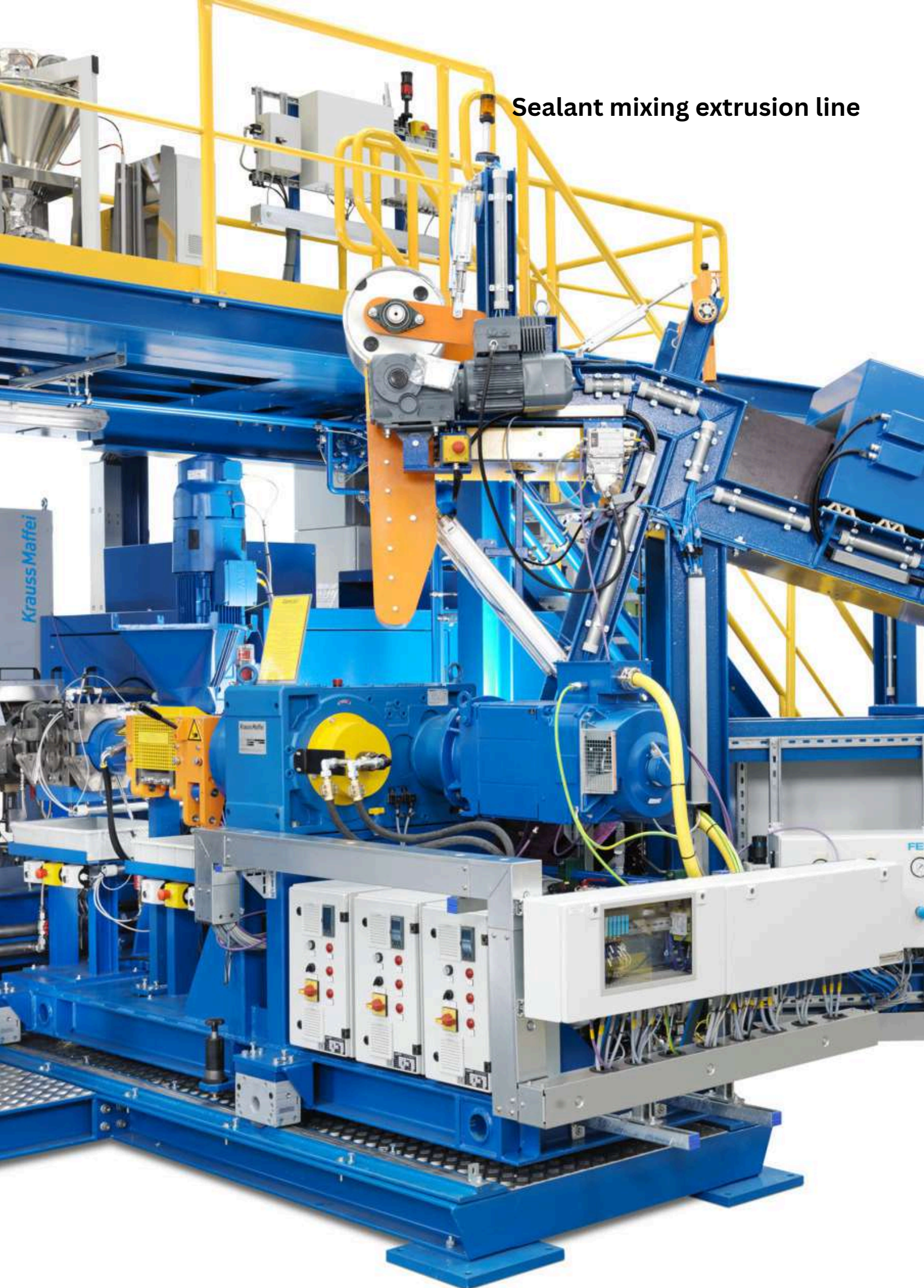


**Extruder duplex-apex aggregate**



**Extruder with beadwire cross head**

# Sealant mixing extrusion line



KraussMaffei Extrusion is continuously developing new applications. Thanks to the good cooling performance of the twin-screw extruder, and because the twin-screw extruder is starve-fed, it allows the application of a high shear rate without the consequence of the stock temperature increasing too fast. This makes the co-rotating twin-screw extruder suitable for the devulcanization of end-of-life tyre (ELT) compounds, for which a very high work input by shear is needed at moderate temperatures.

Apart from KraussMaffei Extrusion's capability to design the optimum screw geometry for virtually any compound, extrusion line control is becoming crucial—especially because it is increasingly difficult to find qualified operators to run a line optimally. For this, KraussMaffei Extrusion has developed a new concept: Pioneer processControl (ppC). Pioneer processControl transforms extrusion from a complex, error-prone process into an intuitive, efficient, and data-rich workflow. It helps any operator maintain high-quality output, integrates seamlessly with broader production systems, and offers tools to reduce energy usage and improve sustainability. This delivers direct benefits in productivity, quality, and costs—while paving the way for smarter, more autonomous production environments.

However, even as a global and leading extrusion line supplier, KraussMaffei Extrusion must still fulfil the requests of the tyre industry. More than 95% of the world's tyre production is handled by only 75 tyre manufacturers, and 50% of all tyres are made by just six manufacturers. This shows that most tyre manufacturers know very well how to organize their tyre production. Hence, close cooperation is essential in cross-fertilization of ideas for mutual benefit. KraussMaffei Extrusion is looking for close connections and partnerships with the global tyre industry.

***We hear a lot about smart factories and AI. Do you see artificial intelligence or advanced data analytics being realistically applied in rubber processing—either now or in the near future?***

In a modern extrusion line, hundreds of parameters are recorded by the line control system several times per second. They are needed to keep the line well controlled. Altogether, they give us a detailed picture of the extrusion process, but most customers do not make use of this information—probably because it is not linked to the profile being extruded or to the actual compounds being processed. Because of batch-wise mixing, compounds show a certain variation between batches, and correlations between compound properties such as viscosity and many extrusion parameters can be expected.

By means of neural networks, one can take a deep dive into the data. By training the system with many profiles and compounds, a self-learning line control system can be developed, especially for handling sudden line speed variations. With a well-trained line control system, specially trained operators—who are rare to find nowadays—are no longer needed.

With the addition of sensors, such as vibration sensors, the system can also be trained for preventive maintenance. I see a good chance for AI-aided line control and maintenance in the coming years.



**In-House Training at JK Tyres**

***With your years of experience as a team leader and technology mentor, how do you view the state of rubber industry education? Are we doing enough to prepare the next generation of technologists and engineers?***

There are many options to receive education nowadays and to prepare for the rubber industry. There are online training opportunities on various subjects, such as those offered by TechnoBiz. There are also classroom courses offered by universities, institutes, or professional associations, and even machine suppliers provide training opportunities to their customers. These range from basic technology courses to advanced and more scientific ones.

However, one type of training is often missing but seems to be very effective—namely, troubleshooting. Trainees, line operators, and process engineers should bring their own issues to the course, and the trainer should act as a moderator to collectively discuss the issue, design and conduct trials, and interpret the results.

In-house education is probably more effective because, in an open training environment, participants from competing companies may be present, which makes it more difficult to overcome inhibitions. I once conducted an in-house extrusion training at a customer in India, where we had classroom sessions in the morning, carried out trials in their production facility in the afternoon, and drew conclusions at the end of the day. That company encouraged process engineers from other locations to fly in to the organizing plant. One engineer even organized a trial in his own plant during the night after having learned in the course, and the next morning he reported the results.

It was not only a very nice experience for me, but I strongly believe it was highly beneficial for the participants and for the company. These kinds of trainings, moderated by experienced trainers, should be organized more often, in my opinion.

***For those just entering the industry - or considering a career in rubber - what advice would you offer? Are there specific areas where young professionals can make a real difference?***

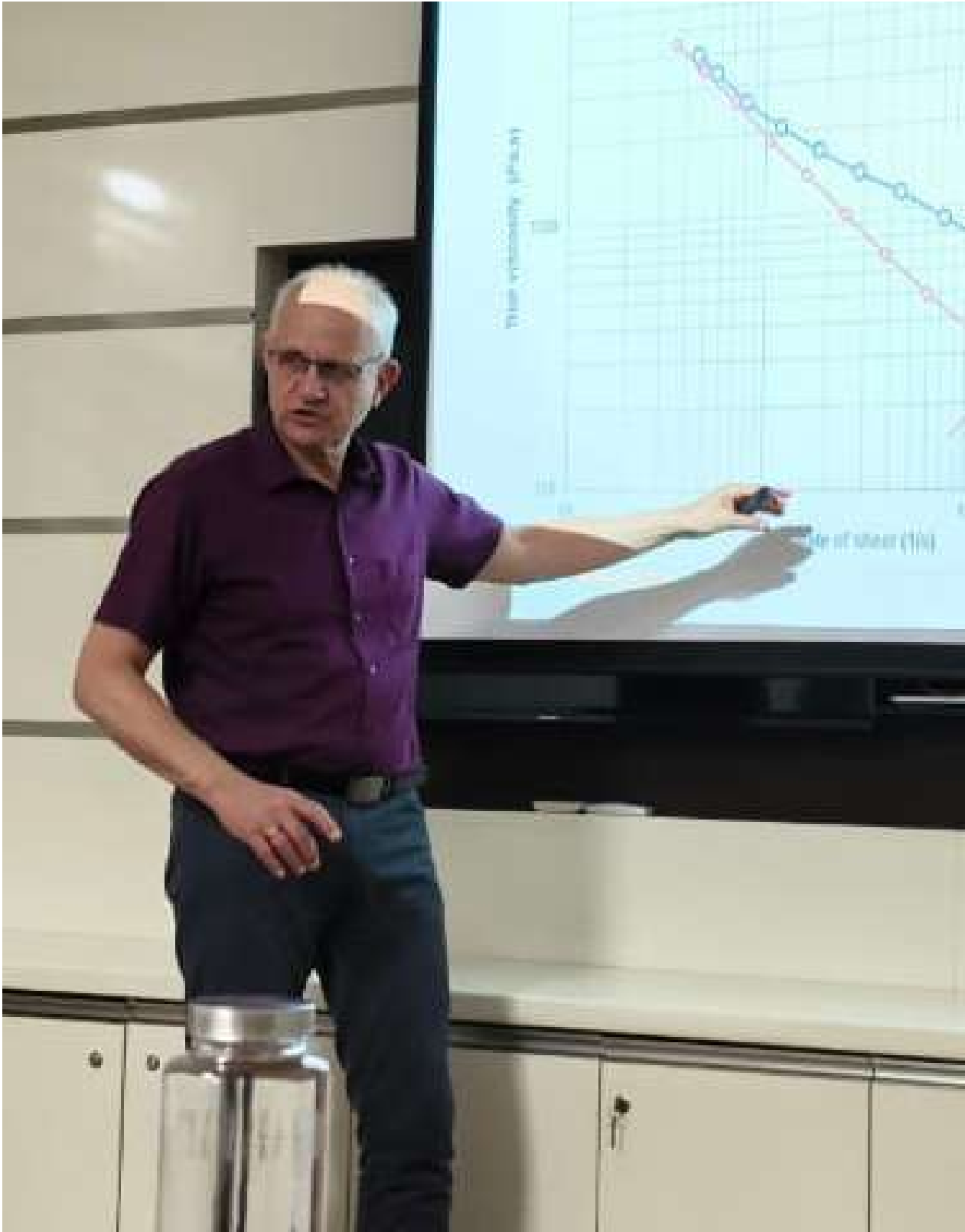
The new generation of young professionals is much more keen and experienced in handling huge amounts of data. They are far better at finding information available on the internet than my generation, and this can make a real difference—especially if young engineers are able to correctly interpret the data and use it to solve issues in processing, production organization, or product development.

However, you cannot learn by sitting at your computer only; instead, you have to be on site—not only to see the process, the product, and the organization, but also to smell, hear, feel, and so on. To observe it completely. It is modern, at least in the developed world, to work remotely, but this is probably not ideal for a career in the rubber industry.

So, if you are motivated to be on the shop floor, in the pilot plant, and also to read a professional textbook once in a while—and especially to learn how to work with the fantastic material called rubber—then you can really make a difference. The industry needs you badly!

*If you had to summarize your vision for the future of rubber machinery and processing in one statement, what would it be?*

Listen very carefully to your customers. They face manufacturing problems. Observe and study the processing on current rubber machinery in great detail, and interpret your observations in terms of the rheological behaviour of the rubber compounds being processed. Relate these observations to the required performance, and you will know how to improve.



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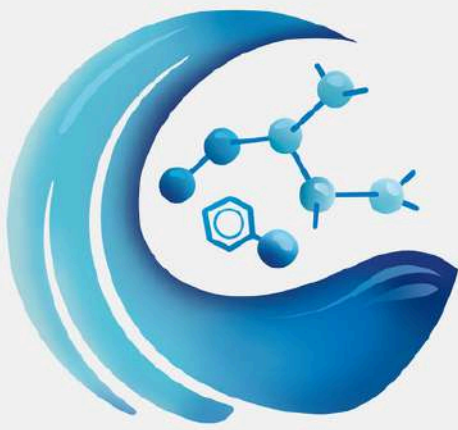
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# IRMIRI *Spotlight*





# INDIAN RUBBER MATERIALS RESEARCH INSTITUTE

Formerly known as Indian Rubber Manufacturers Research Association (IRMRA)

An Autonomous Institute, Under DPIIT, Ministry of Commerce & Industry, Govt. of India

254/1B Road No 16V, Wagle Industrial Estate, Thane West, Maharashtra 400604.

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Indian Rubber Materials Research Institute (IRMRI) formerly known as Indian Rubber Manufacturers Research Association (IRMRA), which was established in 1958 is an internationally well-known Centre of Excellence for providing technological services to both Non-tyre & Tyre sectors.

It is an autonomous institute under the Department for Promotion of Industry and Internal Trade, Ministry of Commerce and Industry, Govt. of India.

## IRMRI Facilities Covers

- 1 Testing of Polymeric Materials and Products
- 2 Research & Development on Rubber & Allied Products
- 3 Reverse Engineering & Failure Investigation
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- 5 ARISE - Incubation Centre
- 6 Training & Skill Development
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- 9 Tyre Testing Facilities - Centre of Excellence

## INDIAN RUBBER MATERIALS RESEARCH INSTITUTE REGIONAL CENTRE'S

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Mob. No.: +91-8655095345

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Plot B-26/2, SIPCOT Industrial  
Growth Centre  
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**Dr. Utpal Basuli**  
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**Dr. Shibulal Sathi**  
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**Dr. Sheik Mohammed**  
Assistant Director



**V. Karthikeyan**  
Business Dev. Manager



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Sr. Scientific Officer (QMS)



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Sr. Scientific Officer



**Dr. Mohammed Saleem**  
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**Dr. Santosh Jagdale**  
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**Ganapathi C**  
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# INDIAN RUBBER MATERIALS RESEARCH INSTITUTE

Formerly as IRMRA (INDIAN RUBBER MANUFACTURERS RESEARCH ASSOCIATION)

An Autonomous Institute Under DPIIT, Ministry of Commerce & Industry, Government of India  
254/1 B, Rd Number 16U, Nehru Nagar, Wagle Industrial Estate, Thane West, Thane, Maharashtra-400604.  
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## IRMRI Announces

Two Days Training on \_\_\_\_\_  
Measurement Uncertainty:  
Chemical & Mechanical Measurements

### Training Schedule:

**Date:** 15th & 16th September, 2025

**Timing:** 10.00-17.00 hrs

**Venue:** 254/1B, Road No. 16 V, Wagle Industrial Estate,  
Thane West, Maharashtra -400604 Landmark: Next to Hawkins Ltd

### Scope of 2-days Training Program

- Fundamentals of Measurements.
- Concept of Measurement Uncertainty.
- Basics of Statistics as applicable to estimate Measurement Uncertainty.
- Explanation on estimation of Type-A & Type-B evaluations.
- Case studies involving Calibration situations.
- Model for estimation of measurement uncertainty in Testing & Calibration.
- Application of Measurement Uncertainty in Testing & Calibration.

**Registration Fee:**  
Rs. 8,000/- + 18% GST  
(For Non-residential Candidates)  
Rs. 10,000/- + 18% GST  
(For Residential candidates)

Payment gateway for online payment:  
<https://eazypay.icicibank.com/homepage>

**Certification:** All Participants will be  
awarded with a Certificate of Participation

● A discount of 10% is applicable for 2 candidates  
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For Registrations:

Mr. Veerappan Karthikeyan (Business Development Manager) +91 7045086164 / 9361324212  
Mr. Amol Tambe Training Coordinator - 9969167262  
Email: [veerappan.karthikeyan@irmra.org](mailto:veerappan.karthikeyan@irmra.org), [info@irmra.org](mailto:info@irmra.org) / [trg@irmra.org](mailto:trg@irmra.org)



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www.Irmri.org, Helpline / Enquiry Number: +91-22-67873200 / +91-22-67873250

## COMPOUNDING AND TESTING OF RUBBER PRODUCTS

**VENUE:** 254/1 B, Rd Number 16U, Nehru Nagar, Wagle Industrial Estate, Thane West, Thane, Maharashtra-400604.

**TIME:** 10 AM - 5 PM



### WHAT TO LEARN?

- Basic Rubber Technology & Introduction to general and special purpose rubbers used in rubber compounds
- Role of compounding ingredients in designing of rubber compounds
- Role of Physical & Chemical Testing in the development of rubber compounds  
Formulation design of rubber compounds

### WHO SHOULD ATTEND?

- Quality Control Managers/ Engineers/ Executives working in the Rubber Industry.
- New Entrepreneurs, Automotive Engineers, Start-up Personnel.
- Process Engineers, Chemists, Students & Facilities.
- Supervisors, Shop-floor operators, Formulation developers.

### REGISTRATION FEE:

- @INR 8,000/- per person+18% GST for Non-Residential & @INR 10,000/-per person+18% GST for Residential candidate.
- Discount: 10% for 2 candidates and 15% for 3 or more candidates from same organization Payment to be made in advance by NEFT/DD/Cheque in favour of IRMRA, Payable at Thane.
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Boost Your Rubber Tech Skills with IRMRI!

## JOIN NOW



**DATE:** 24<sup>th</sup> -25<sup>th</sup> September 2025 **TIME:** 10 AM- 5:00 PM

**VENUE:** Prop. No. 111/9, 3rd Floor, Kishangarh, Vasant Kunj, New Delhi - 110070

### **Key Things to Learn**

- Basic Rubber Technology & Introduction to general a special purpose rubbers used in rubber compounds.
- Role of compounding ingredients in designing of rubber compounds.
- Role of Physical & Chemical Testing in the development of rubber compounds Formulation design of rubber compounds.

### **Who Should attend?**

- Quality Control Managers/ Engineers/ Executives working in the Rubber Industry.
- New Entrepreneurs, Automotive Engineers, Start-up Personnel.
- Process Engineers, Chemists, Student & Facilities.
- Supervisors, Shop-floor operators, Formulation developers.

### **REGISTRATION FEE**

- Per Candidate - Rs. 8,000 + 18% GST (Non – Residential)
- Payment to be made in advance by NEFT/DD/Cheque/ UPI in favour of IRMRI, Payable at Thane

Disclaimer: Please note, that the date and venue for the training program are subject to change. In the event of any changes, we will notify you at least 3 working days prior to the scheduled date



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V. KARTHIKEYAN- [veerappan.karthikeyan@irmra.org](mailto:veerappan.karthikeyan@irmra.org)  
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### **CONTACT US**

**IRMRI at the 11th India International MSME Expo & Summit 2025**

IRMRI was delighted to participate in the 11th India International MSME Expo & Summit 2025, held from 28-30 August at Bharat Mandapam, New Delhi. Organized by the MSME Development Forum, the event served as a vital platform connecting government, industry, SMEs, investors, corporates, and policymakers to foster growth in manufacturing, exports, and innovation. Our presence underscored IRMRI’s commitment to advancing research, innovation, and business development for MSMEs, while contributing to India’s vision of self-reliance and global leadership.





### IRMRI Successfully Completes 6-Day Customized Training for Volvo Group

Indian Rubber Materials Research Institute (IRMRI) successfully completed its 6-Day Customized Online Training Programme (01–08 September 2025) for the Volvo Group Truck Purchasing Team, with participants joining from multiple international locations. The programme was inaugurated by Dr. K. Rajkumar, Director of IRMRI, who emphasized the significance of this collaboration. Covering fundamentals of rubber science, compounding, processing, and quality assurance, the sessions were led by Dr. Bharat Kapgate, Dr. Amrita Roy, and IRMRI’s expert faculty. This milestone highlights IRMRI’s growing role as a trusted global knowledge partner in rubber technology and innovation.





## Weatherometer

**Introduction about Weatherometer :** A Weatherometer is a sophisticated laboratory instrument designed to simulate long-term environmental exposure in a controlled setting. By replicating conditions such as sunlight, moisture, and temperature fluctuations, it accelerates the aging process, enabling manufacturers to assess material durability and performance under harsh weathering conditions. This ensures products meet stringent quality standards and perform reliably in real-world applications across various industries. In IRMRI, the Q-SUN Xe-3 machine is used.

### Standards and Their Purpose

- ASTM D 4587-11: defines UV and condensation testing procedures to assess paint and coating durability under weathering.
- ASTM G 151-10: guides accelerated weathering tests using artificial light for plastics and other materials.
- ISO 4892-2: Outlines xenon-arc exposure methods for plastics and coatings to simulate sunlight and weathering effects.
- ISO 16474-2: Defines xenon-arc testing protocols for paints and varnishes, focusing on UV resistance and color stability.
- ISO 105-B02: Tests color fastness of textiles under artificial light, simulating sunlight exposure.
- ISO 105-B04: Evaluates textile color fastness under artificial weathering, including UV and moisture.
- ASTM 750-12: Standard Practice for Rubber Deterioration using artificial weathering apparatus.

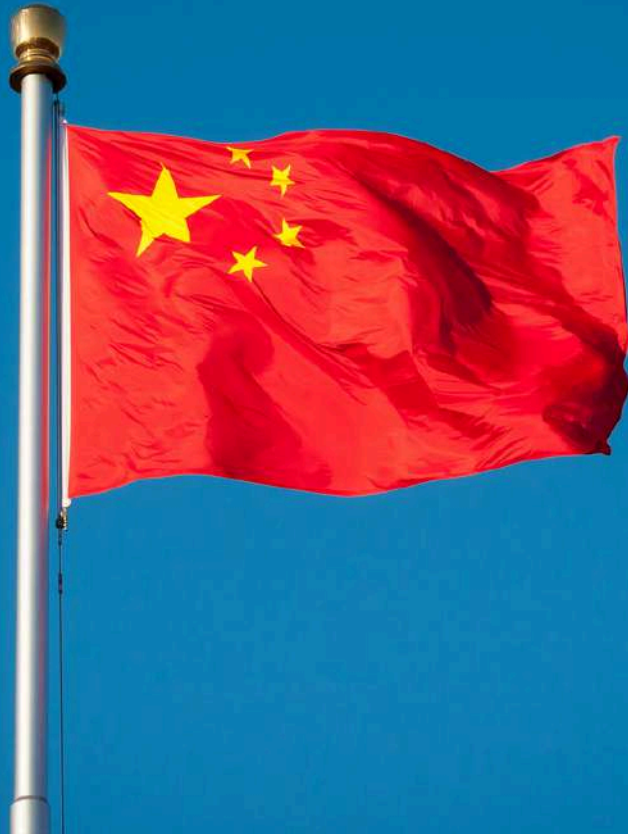
**Uses and Benefits:** The Q-Sun Xenon Test Model Xe-3 measures color fading, gloss retention, surface degradation, mechanical strength, and flexibility in materials such as rubbers, plastics, coatings, paints, leather, and textiles under UV light, moisture, and temperature cycles, by ASTM and ISO standards. It predicts long-term performance, identifying issues such as cracking or discoloration, thereby benefiting industries like automotive, textiles, coatings, plastics, and leather by ensuring durable, high-quality products.

**Sectors Benefits:** Rubber, textiles, paints & coatings, plastics, and leather industries.

**Contact us:** Email: [veerappan.karthikeyan@irmra.org](mailto:veerappan.karthikeyan@irmra.org) / [ab@irmra.org](mailto:ab@irmra.org)

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than  
100 items

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- 3)Strainer and batch off line
- 4)Rubber profile (co-extrusion) microwave curing
- 5)NBR&PVC foam line (pipe/sheet);
- 6)Butyl rubber production line;
- 7)Rubber preformer
- 8)Salt-bath curing line;
- 9)Silicone production line;
- 10)Waste gas treatment system, etc.

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The production line is used to produce rubber sealing strip,hose,profile,water,stop and other products,widely used in automotive doors and windows,aluminum doors and windows,building curtain walls, container doors, ships, high-speed rail,roads and bridges and other fields.



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# 公司介绍 Company introduction

Wuxi Double Elephant Rubber & Plastics Machinery Co., Ltd (DE) affiliated with Jiangsu Double Elephant Group, covering an area of 100, 000 square meters , with over 40 years of history , is a modernized technology enterprise which is engaged in R&D, manufacture and sales and after-sales service in the field of Rubber & Plastics Machinery .

We are specialized in the production of rubber and plastics machinery equipment: calender and auxiliary machine series, open mill series, mixing kneader series, rubber extruder series, rotary curing series, wide rubber sheet extrude calendering line, rubber conveyor belt calendering line, tire inner liner calendering line, PVC artificial leather/ film/rigid sheet calendering line, PVC flooring calendering line etc.

Our Products are very popular in China and have been exported all over the world, such as Europe, the United States , Japan, Southeast Asia, India, Turkey, South America, etc. In rubber machinery field, DE has established a good partnerships with domestic R&D institute , large scale tire enterprise, rubber product manufacturers such as Beijing R & D Institute of Rubber Industry , Guiling rubber industry R&D institute, Bridgestone (Japan), Toyo Tire (Japan), Yokohama(Japan), Continental Tire (Germany),Michelin (France), Trelleborg (Sweden),Camso(Canada),Kumho Tire (Korea), Apollo(India ),MRF (India) ,CST Tire(Taiwan), Kenda Tire(Taiwan),Linglong Tire, Triangle Tire, General Science Technology, Wanli Tire, Boton Technology , etc.

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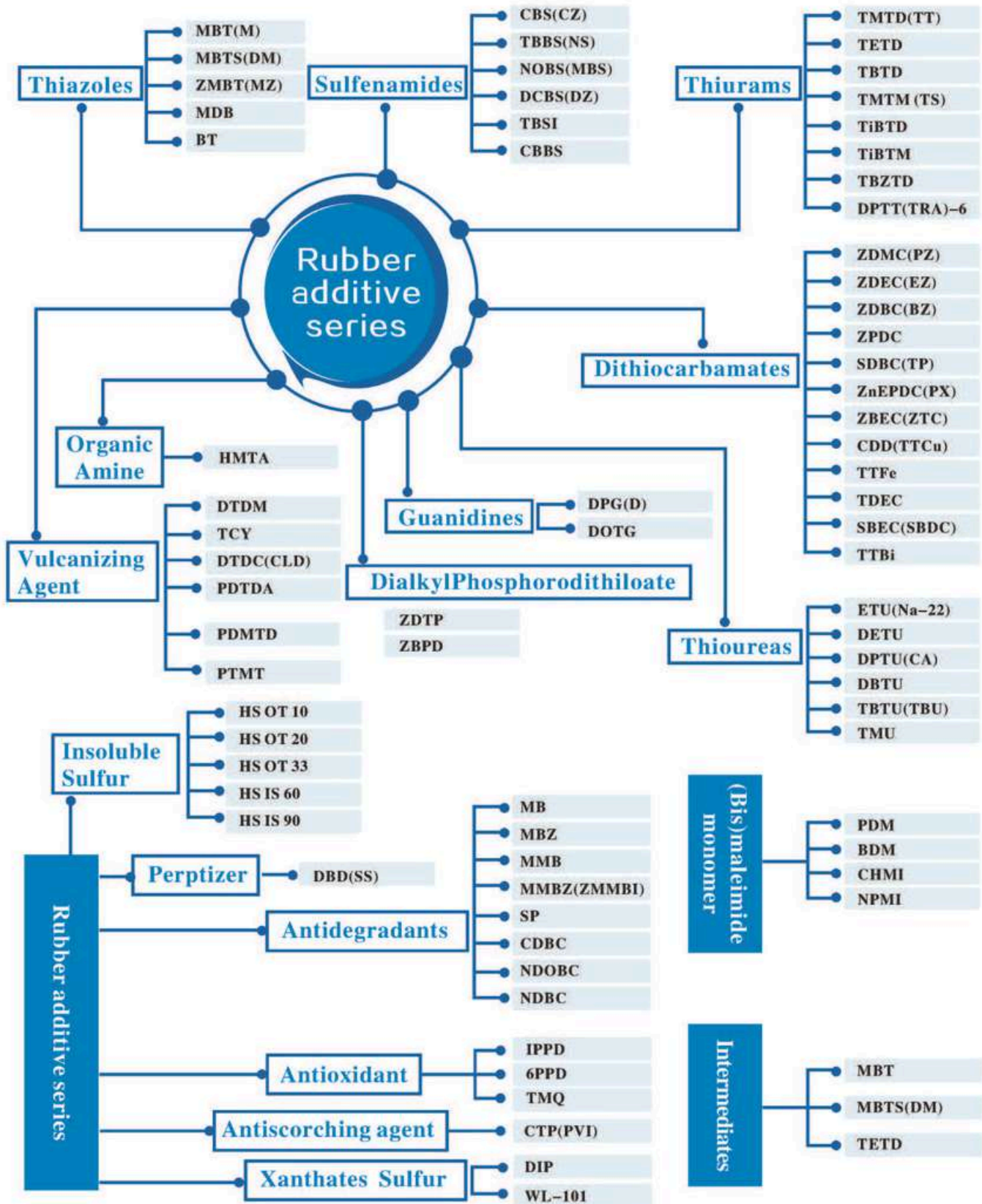
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Contact: Cloud Feng

Phone Number(Whatsapp): +86 13338106611





**XIANG RUN HAO**

### About Us

QingDao Xiang Run Hao Import and Export Co., Ltd (Former name is Qingdao RuiTongFa rubber machinery works, which is founded in 2003) is a professional manufacturer for rubber machinery and rubber moulds such as rubber injection machine, vacuum plate vulcanizing press and automatic plate vulcanizing press, rubber joint machine. We exported rubber machine and rubber moulds to many countries such as India, Chile, Belarus, South America, South Korea, South-East Asia, Japan and Russia etc.

The total export amount is up to more than ten million US dollars.

Through many year's development, constant research and innovation, we became a bigger company with several factories to producing Automatic Vulcanizing Machine, Rubber Injection Molding Machine, Mixing Mill kneader, many kinds of rubber moulds and rubber products. We also supply technology service, rubber compound formula and moulds designing according to customers requirements and production samples. We wish to co-operate with all customers on the basis of equality and mutual benefit.



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We dispatch our technicians were on site to supervise installation and train their worker. The machine are received good remarks from our Chilean customers.



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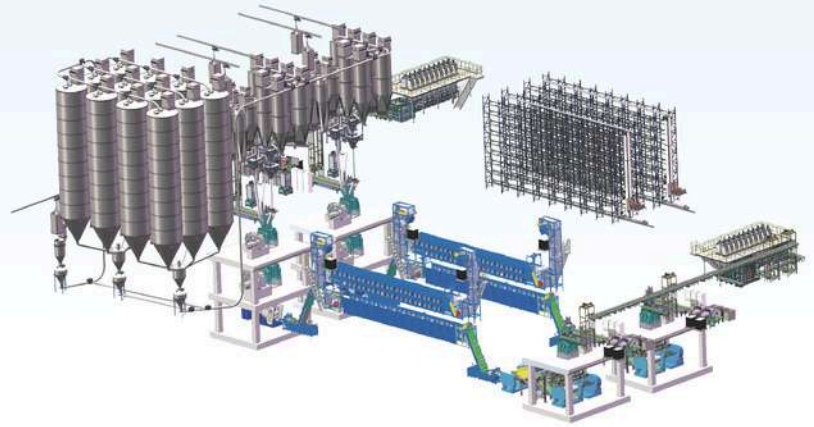
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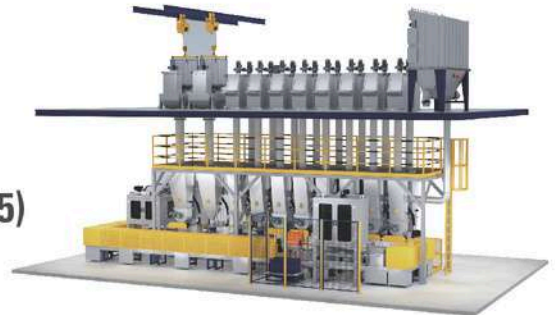
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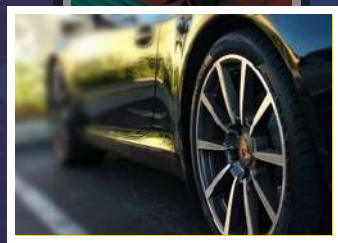
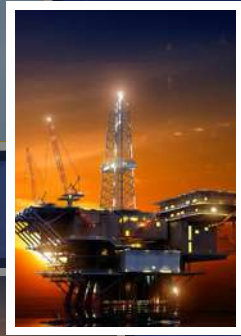
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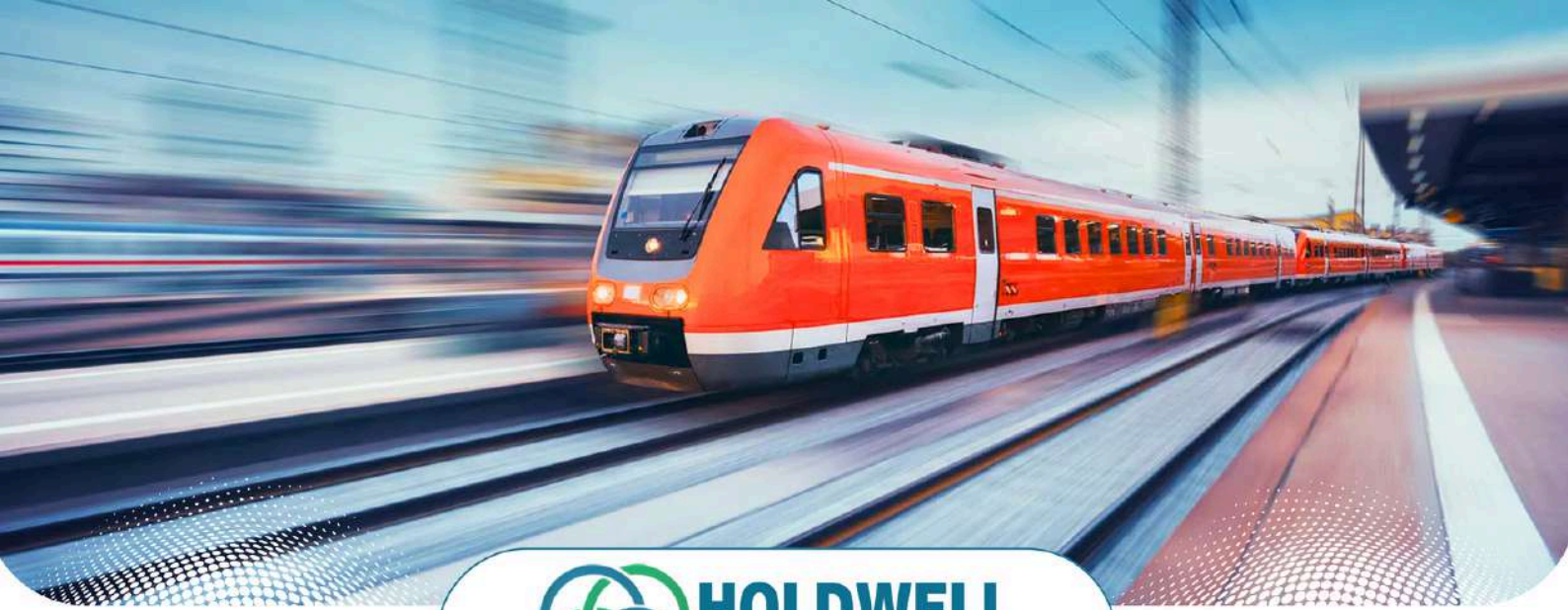
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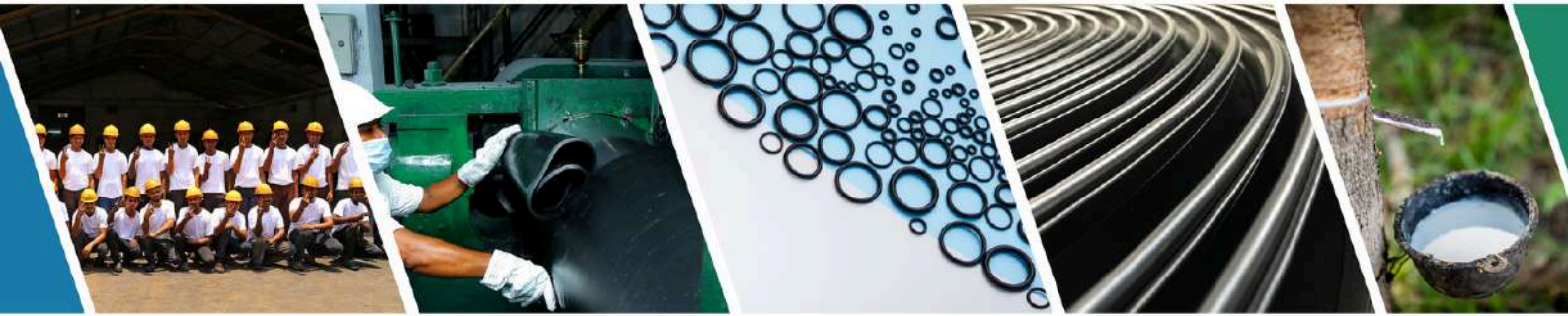


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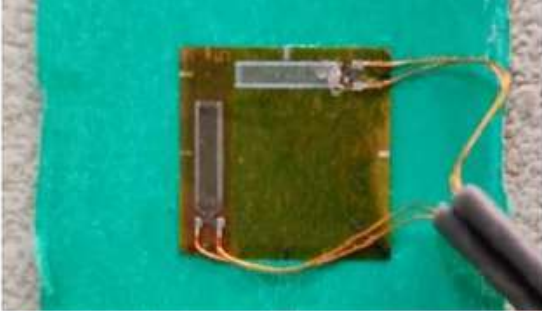
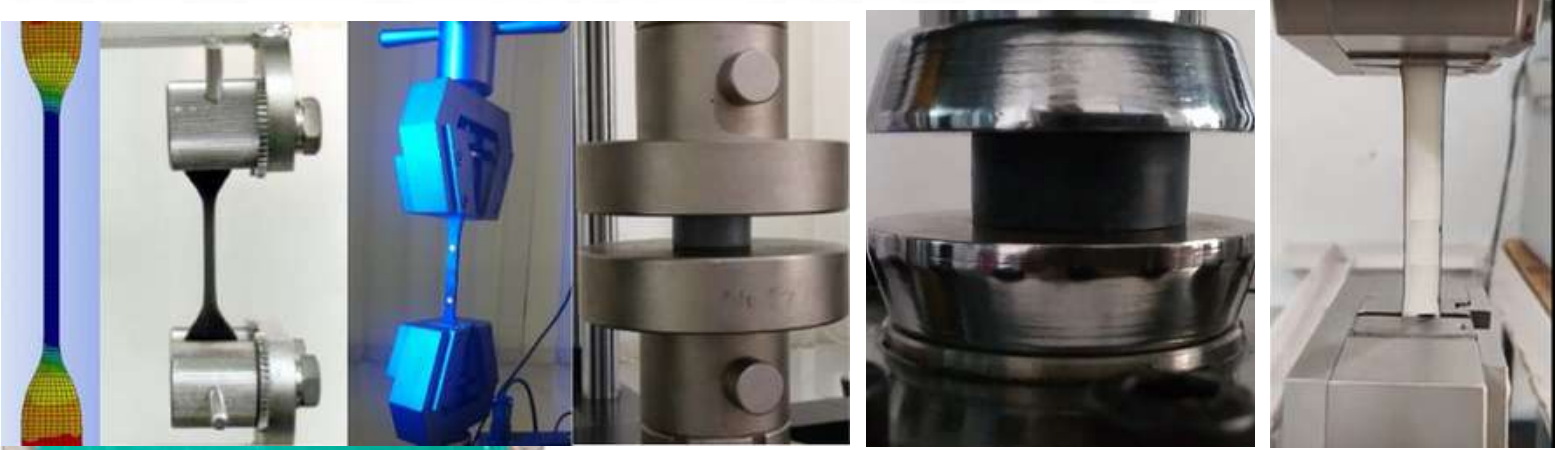
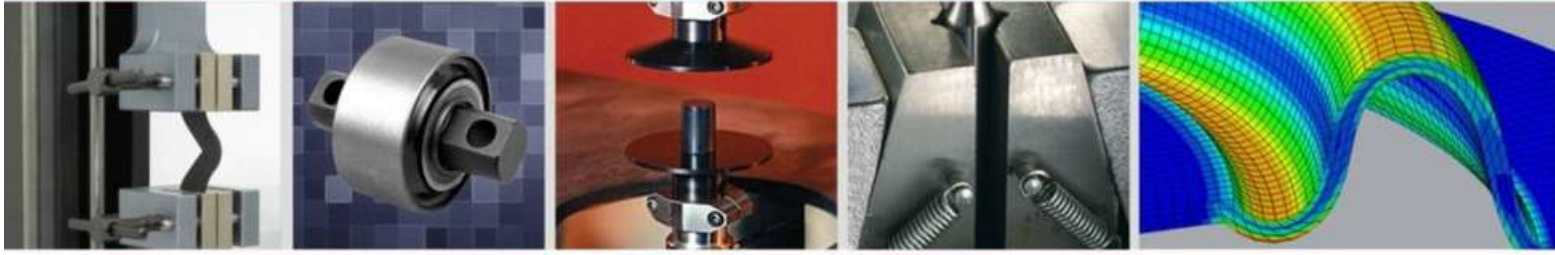
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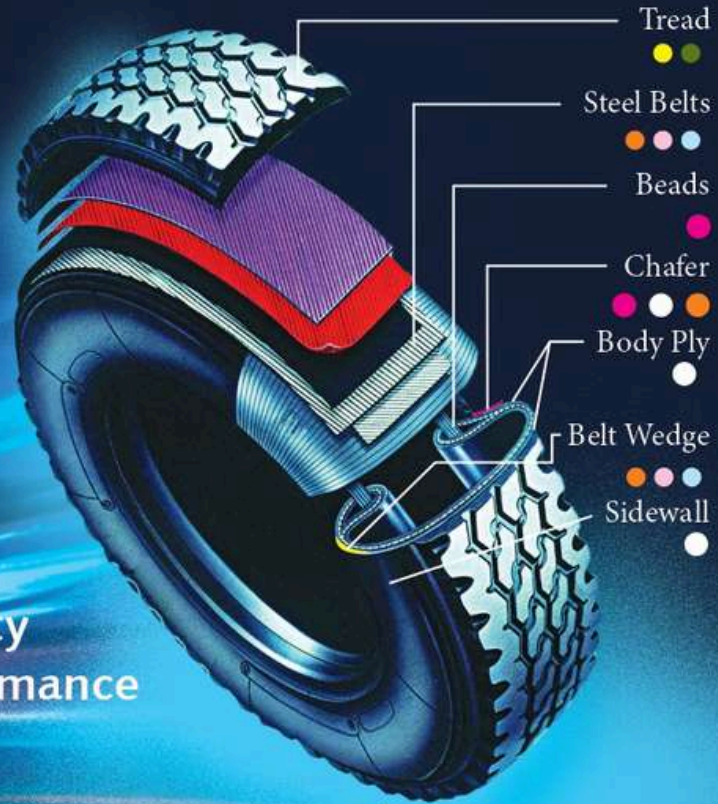
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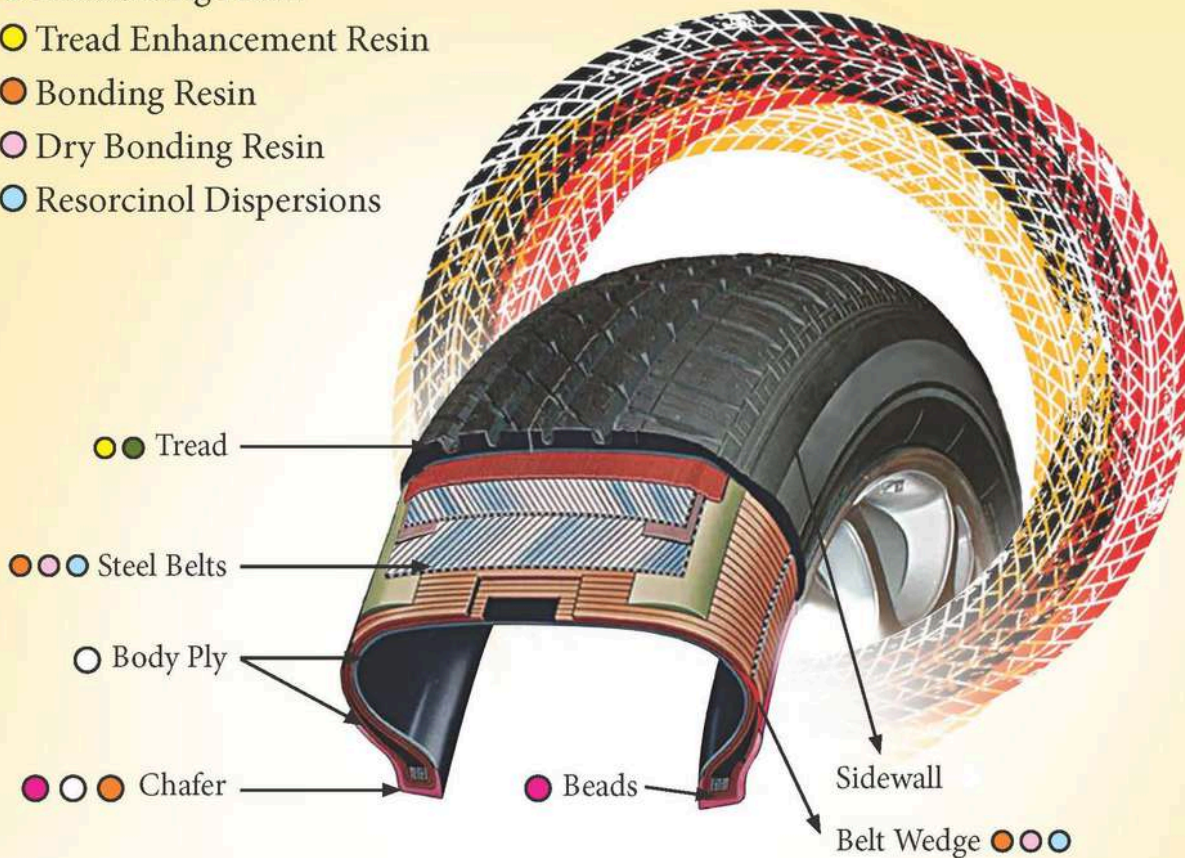
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# **RUBBER BUSINESS NEWS**

***RUBBER Review***

## LANXESS Expanding U.S. Rubber Additives Production



Specialty chemicals company LANXESS is expanding production capabilities with the addition of rubber processing promoters at its Bushy Park facility in Goose Creek, South Carolina. The expansion project, currently underway, aims to meet increasing demand and improve supply reliability, with new production expected to come online in November 2025.

This marks the first time LANXESS will produce processing promoters in the United States. Currently manufactured in Germany and China, these process additives were previously imported for U.S. customers. The expansion supports growing domestic demand and enhances supply security for customers in key sectors such as automotive, pharmaceuticals, and industrial rubber products. When fully complete, LANXESS will be able to domestically produce its most popular processing promoters – Aflux® 37, Aflux® 42, Aktiplast® PP – and also new developments such as Aktiplast® 44, all of which are specially designed for various types of rubber compounds.

*"With this expansion, we're helping our U.S. customers reduce transportation costs, improve delivery time and reliability, as well as enhance operational flexibility,"* said Roy Varghese, Head of the LANXESS Rhein Chemie business unit for the Americas region. "It reflects our commitment to delivering consistent, high-quality solutions tailored to the needs of the U.S. market and is a key part of our strategy to build a resilient, customer-focused supply chain and ensure long-term growth in North America." Processing promoters play a vital role in rubber manufacturing by improving mixing, processing, molding, and vulcanization performance, helping manufacturers achieve higher efficiency, consistency, and product quality.

The Bushy Park facility serves as the U.S. manufacturing hub for the Rhein Chemie Business Unit, producing a variety of rubber additives including accelerators, peptizers, and now the additional processing promoters portfolio.

## Sustainable and Standards-compliant: Seals for the Beverage Industry



From September 15 to 19, 2025, the leading global trade fair for the beverage and liquid food industry offers plenty of space for active networking and a review of trends in the food and beverage industry. At Stand 348 in Hall B5, Freudenberg Sealing Technologies is presenting a high-performance clamp seal in a hygienic design, along with industry-specific sealing materials. For the first time, a simplified process for the rapid replacement of shaft seal rings will also be introduced to professionals attending the fair in Munich. The company is showcasing optimizations of proven seals that are geared to the future. Attendees get the chance to work with seal models in a test setting and install them on their own at the stand.

### **Clamp seal with support ring: sustainable sealing system for flange connections**

Freudenberg Sealing Technologies has developed a reliable, hygienic solution for clamp connections that enables the gap-free sealing of tube systems using local, media-based compression of the elastomer seal. With this development, Freudenberg Sealing Technologies experts were thinking a step ahead. The hygienic clamp seal is provided with a metallic outer ring as a limit on compression – and the support ring can be reused. This makes it possible to conserve valuable resources such as materials and energy while avoiding waste. The clamp seals were developed in accordance with DIN 32676 and can be produced for various tube diameters. They also lend themselves to retrofit solutions for existing tube systems thanks to their backwards compatibility.

## **Hands-on and heads-up: See how high-performance seals work**

When it comes to new technologies, performance matters and hands-on testing is a great help. At the Freudenberg Sealing Technologies stand, attendees can perform a test to see how easily seals can be swapped during the maintenance cycle.

Aside from the haptic testing of new seal solutions, the test stand features an important visual feature as well: A demonstrator shows the functioning of the seals, depicting what happens when non-hygienic or improperly placed seals jut in or out and disrupt the flow of the medium inside the tubes. The result is contamination. The demonstration reveals excellent material performance, but that is just one aspect of the company's presence at drinktec. Another focus is the exceptional functioning of the components that are used.

## **SmartChange system: Saving time and avoiding waste when changing seals**

Freudenberg Sealing Technologies is setting new standards in the food and beverage industry with a newly developed clamping ring for the extremely quick and easy installation and removal of shaft seals in the Radiamatic® HTS II series. Thanks to smart design development, a complete dismantling and mounting cycle can be carried out in just a few minutes. The specially adapted geometry of the clamping ring provides a secure fit for the seal in the installation space while allowing the effortless removal of the high-performance sealing element. Another advantage: The clamping ring stays in the installation space and does not have to be replaced. The installation of a profile ring afterwards is straightforward. The starter kit includes a new clamping ring as well as a profile ring from the Radiamatic® HTS II portfolio. All the single- and double-lip variants of the HTS II series are available with the new SmartChange system – including the hygienic design version with a forward-positioned lip. Cleaning is easy with conventional CIP and SIP processes.

## **High-performance materials: Optimal seal design boosts process efficiency**

Superb material knowhow and maximum manufacturing precision are needed to fulfil national and international guidelines and standards in the food and beverage industry. Freudenberg Sealing Technologies' experts offer both. At drinktec, the company is introducing a newly developed sealing material – the “75 HNBR 641” – that meets FDA and EU 1935/2004 requirements. The long-lasting seals are much more robust than conventional HNBR compounds. In addition to exceptional mechanical performance, they exhibit maximum abrasion resistance even under dynamic stresses. That makes them ideal for hygienic applications. As it develops new production processes, the Weinheim-based company is increasingly seeking optimized resource efficiency, and it passes the benefits on to its customers, such as a longer service life or reduced material use due to recycling. Michael Littig, Senior Sales Director Europe at Freudenberg Sealing Technologies, is eager to see which sealing topics will be in high demand at drinktec this year. “The concentrated expertise of Freudenberg Sealing Technologies is on display at drinktec, and we are looking forward to discussing specific requirements and expanding our existing networks,” he said.

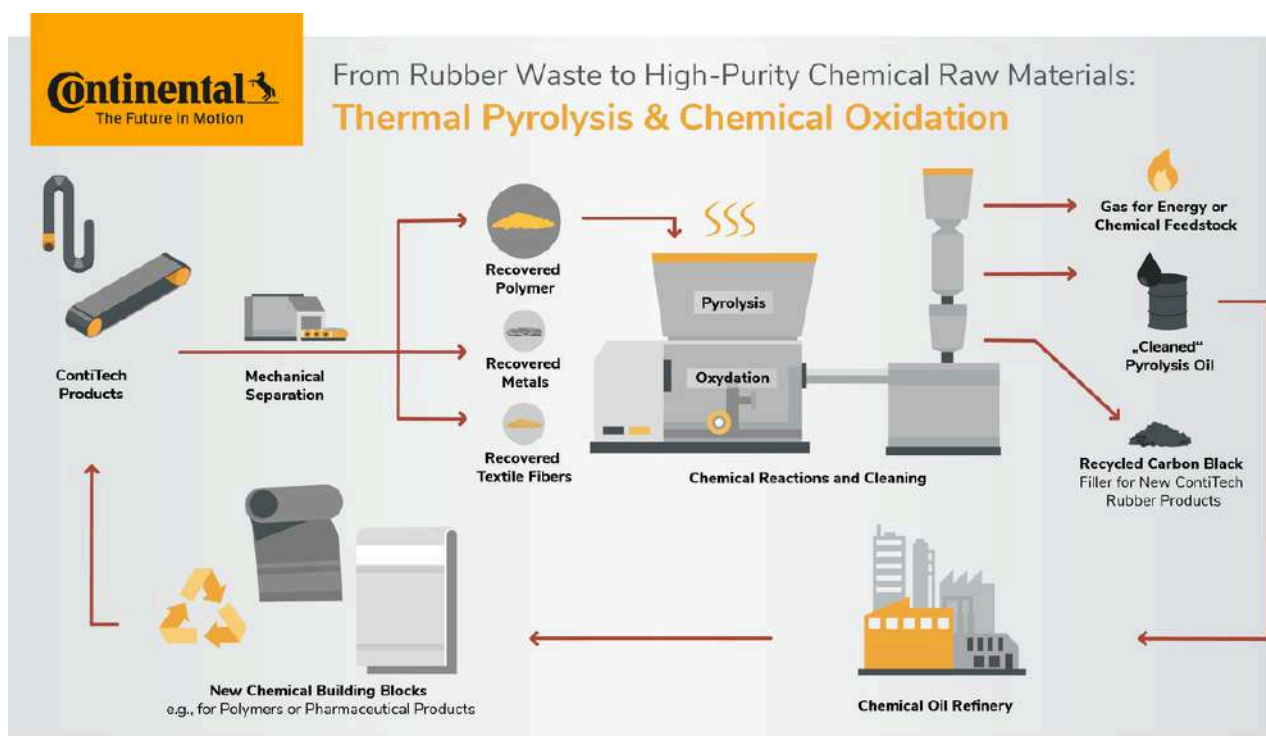
## Continental Invests in New Recycling Technology to Recover Raw Materials from Waste Rubber



With the acquisition of an exclusive patent family and the commissioning of a newly developed pilot facility for the production of purified pyrolysis oil, Continental is harnessing the industrial potential of pyrolysis technology for the first time and laying the foundation for recycling complex rubber compounds on an industrial scale. The technological solution employed by the group sector ContiTech is designed to recover high-quality raw materials from waste rubber and systematically replace fossil resources.

The technology is based on a thermal process in which waste rubber is broken down into its basic chemical components. Among other things, this produces a high-quality oil that is comparable in quality to fossil crude oil and can serve as a basis for new rubber and plastic products in the future. Originally developed by British start-up LowSulphurFuels, the new purification facility uses a special method to process this oil for industrial use.

“With this technology, we’re closing a crucial gap in the circular materials economy: we’re able to recover high-quality raw materials from rubber waste, which we can then feed back into the chemical material cycle to create new products without relying on crude oil,” says Dr. Michael Hofmann, Chief Technology Officer at ContiTech. “We’re thus demonstrating how innovation can become the driving force behind sustainable industrial processes – and how a previously untapped raw material cycle can be made economically viable.



## New possibilities for hard-to-recycle rubber products

The recycling of rubber has always been a major challenge for the industry. Once vulcanized, the chemical structure of the material changes permanently and its original components, such as rubber, carbon black and additives, can no longer be easily separated from one another. Conventional mechanical and chemical methods quickly reach their limits. Pyrolysis offers an alternative approach: through controlled heating in a low-oxygen environment, the material is thermally broken down into its basic components. Among other things, this produces a gaseous energy source, recovered carbon black and a high-quality oil that is similar in composition to fossil crude oil. The latter in particular offers great potential for reuse in rubber and plastic production. The reason why pyrolysis has had limited use in rubber recycling to date is mainly due to the complexity of the process and the high quality requirements placed on the recovered products. Only through technological advances in processing – especially in the purification of pyrolysis oil, as made possible by ContiTech’s new facility – has industrial use become economically and technically feasible.

Complex rubber products in particular, such as food-grade hoses and rubber-metal composites with various additives and complex material structures, have so far posed a major challenge in terms of recycling. The materials experts at ContiTech see purified pyrolysis oil as a promising solution for reintegrating these product groups back into the material cycle in the future.

By acquiring the patent and commissioning the first pilot facility, ContiTech is sending a strong signal for sustainable innovation. With more than 150 patent applications filed and around 250 patents granted last year, it is also underlining its innovative strength and commitment to more sustainable industrial solutions. ContiTech’s consistent pursuit of innovation is also evident in specific projects, such as the recovery of hydrocarbons from used rubber products and the development of recyclable materials for automotive interiors.

## Trelleborg acquires sealing specialist in Singapore

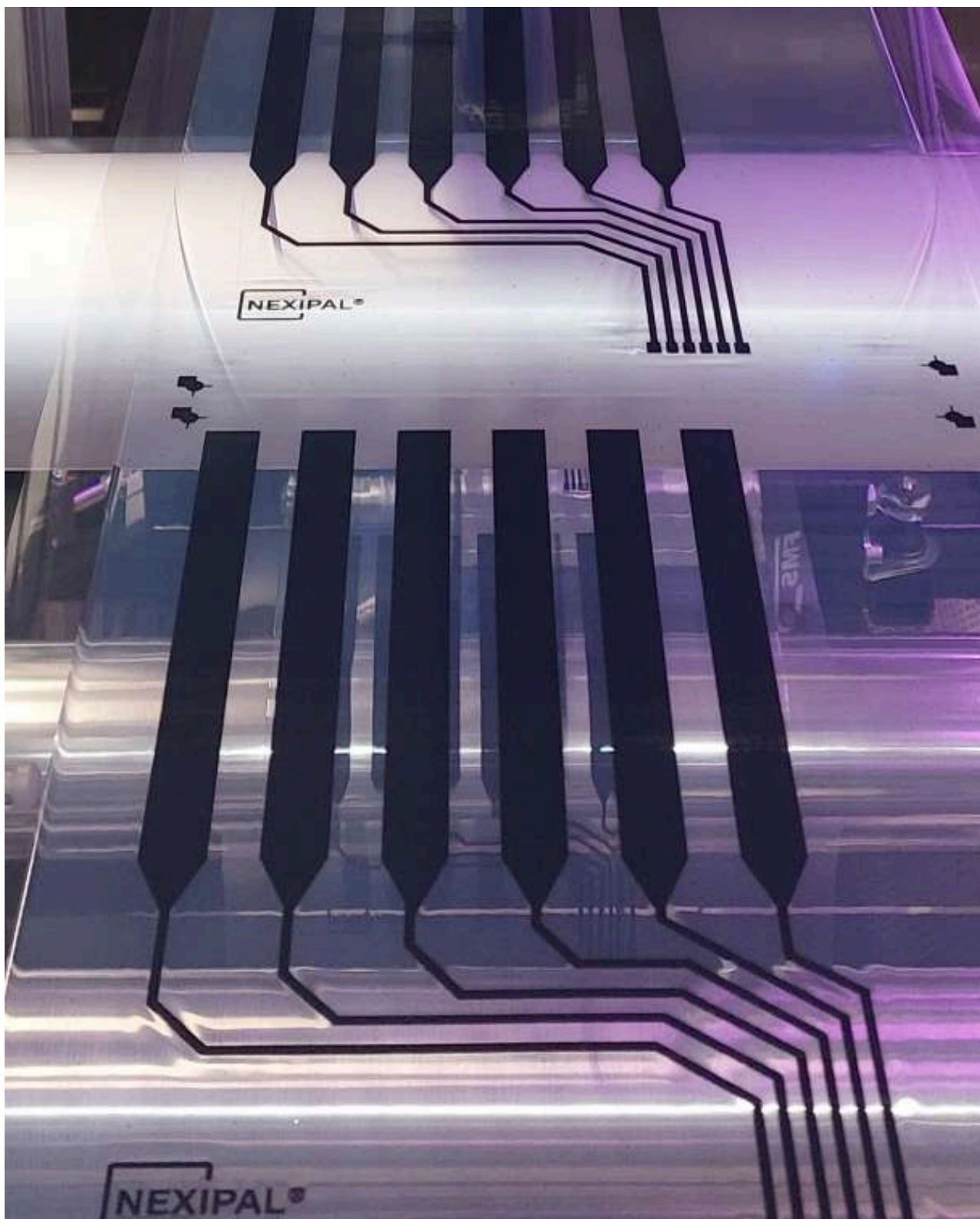


Trelleborg Group has, through its business area, Trelleborg Sealing Solutions, signed an agreement to acquire Masterseals, a Singapore-based company specializing in sealing solutions for the energy sector and industrial applications.

Masterseals is known for its engineered sealing solutions produced in small series for demanding operating environments. In addition to manufacturing, the company also operates as a technical service center focused on aftermarket support and short delivery times. In 2024, the company generated sales of just over SEK 40 million. Its office and manufacturing facility are located in western Singapore, in close proximity to Trelleborg's Customer Solution Center.

“Through the acquisition of Masterseals, we are significantly strengthening our position in Southeast Asia while also creating new opportunities in other parts of Asia and the Middle East, within industries expected to experience solid growth in the coming years. The high degree of customized and engineered solutions offered by Masterseals aligns perfectly with our offering,” says Jürgen Bosch, President of Trelleborg Sealing Solutions.

## WACKER starts serial production of flexible sensor electronics



*WACKER will be showcasing NEXIPAL® Sense at the K 2025 plastics trade show. Pressure or stretching movements of the electroactive silicone laminate generate different voltage states that provide precise sensor signals for applications in medical technology, robotics or sports. (photo WACKER)*

NEXIPAL® Sense consists of highly stretchable insulating and electrically conductive silicone rubber films. The laminate, a stack of film layers, jointly works as a flexible and stretchable capacitor. Pressure or flex movements change the electrical capacitance of the component. Different capacity states thus provide precise sensor signals for applications in medical technology, robotics and sports.

By initiating the serial production of NEXIPAL® Sense laminates, WACKER is setting new standards in the world of flexible electronics. The Group no longer acts a mere material supplier, but is now able to offer prefabricated components – customized and ready for mass production and integration.

WACKER's silicone laminates typically consist of layers – each with a film thickness of between 20 to 200 microns. The thickness of a human hair, by comparison, is roughly 50 microns. The addition-curing silicone rubber laminates are characterized by their exceptional elasticity, dimensional stability and toughness. They are skin-friendly, biocompatible, UV-resistant, and can withstand temperatures from 40 °C to +180 °C. Even after millions of load cycles, they retain their high degree of recovery and elasticity – clearly a major advantage over conventional materials.

The structured layers – consisting of specially developed electrically conductive silicones – are composed using digital laser printing techniques. With a resulting pixel size of just 100 microns, very fine electrode geometries are possible. “The flexibility and scalability we offer today is unique on the market,” explains Senior Business Development Manager Johannes Neuwirth.



*WACKER has recently started serial production of its sensor laminates NEXIPAL® Sense. At the K 2025 plastics trade show, WACKER will be presenting the market-able product laminate for sensor applications for the first time. (Photo: WACKER)*

## NEXEN TIRE Introduces Cutting-Edge High Dynamic Driving Simulator to Accelerate Tire Development



NEXEN TIRE, a leading global tire manufacturer, today announced that it has established a state-of-the-art High Dynamic Driving Simulator at its central research institute, THE NEXEN UniverCity, in Magok, Seoul, and held an opening ceremony to mark its official launch. This is the first time a High Dynamic Driving Simulator has been introduced in the Korean tire industry and represents a key turning point in advancing tire research and development with VR and AI technologies.

The High Dynamic Driving Simulator is an advanced system that simulates real-world conditions in a virtual environment. By applying vehicle specifications and parameters as if operating on actual roads, the system enables testing of acceleration, steering response, braking, and other performance metrics in a variety of driving conditions.

With the adoption of this simulator, NEXEN TIRE expects to minimize unnecessary trial-and-error, reduce prototype production and real vehicle testing, and accelerate innovation while cutting costs. By replacing costly and time-intensive physical road tests with virtual evaluations, engineers can conduct more precise tire development within limited space and in various conditions.

The simulator will also allow NEXEN TIRE to more swiftly and accurately meet original equipment (OE) performance requirements from global automakers. In particular, it is expected to strengthen collaboration in developing tires for new concept and high-performance vehicles. Furthermore, reduced reliance on prototypes and physical testing will contribute to lowering fossil fuel use and support the company's ESG commitments.

Global automakers are rapidly transitioning to virtual development processes to shorten development cycles and improve cost efficiency. Major European premium brands already apply driving simulators in their virtual test and development (VTD) processes, while Korean automakers are also advancing their virtual vehicle development capabilities. Industry experts forecast that most leading automakers will soon institutionalize virtual development processes and significantly reduce the frequency of physical tests.

Building on this milestone, NEXEN TIRE plans to gradually establish a Full Virtual Development Process that integrates finite element method (FEM) analysis and AI technologies, with the long-term goal of replacing all tests with simulation-based validation.

“Ahead of the industry trend toward virtual development of vehicles and tires, the establishment of our High Dynamic Driving Simulator is a strategic investment to lead the future mobility sector,” said John Bosco (Hyeon Suk) Kim, CEO of NEXEN TIRE. “By combining VR and AI technologies, we will enhance both the efficiency and precision of our R&D while contributing to ESG management, thereby strengthening our global competitiveness.”



## Chinese Scientists Create Thermoelectric Rubber to Power Next-Gen Devices

A team of researchers at Peking University has unveiled the world's first elastic thermoelectric rubber, marking a major step toward wearable and medical devices that power themselves using body heat. Unlike traditional thermoelectric materials, which are often brittle and rigid, this newly developed rubber combines flexibility, high conductivity, and mechanical resilience in one material. It is able to harvest the temperature difference between the human body (typically around 37 °C) and the surrounding environment, converting it into usable electricity. This innovation could drastically reduce reliance on bulky batteries, enabling lightweight, comfortable, and sustainable devices that operate continuously.

The breakthrough lies in the material's composition and structure. The research team engineered a nanofiber network by blending semiconducting polymers with elastic rubber, allowing the resulting composite to retain both electrical conduction and stretchability. Unlike conventional conductors that lose efficiency when stretched, this thermoelectric rubber can withstand strains of over 850% of its original length, while still snapping back to its shape with over 90% recovery when stretched by 150%. This level of durability ensures long-term performance in real-world wearable conditions where devices are constantly bent, stretched, or twisted.

Further performance improvements come from the incorporation of special chemical dopants such as N-DMBI, which enhance electron transport and make the material function effectively as an n-type thermoelectric elastomer. This is significant because most stretchable thermoelectric materials developed to date have been p-type only, limiting their efficiency and application. By successfully creating a high-performing n-type version, the Chinese scientists have filled a critical gap in thermoelectric elastomer technology and opened the door to more efficient energy harvesting systems.



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# EPDM CONFERENCE

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<https://conference.technobiz.org>

## PROGRAM AGENDA

09:00-09:30	Registration
09:30-09:45	Welcome Remarks & Program Introduction
09:45-10:15	<b>Processing of EPDM and its Blends</b>   <i>Dr. P Thavamani, Managing Director, UMAC Automotive Components Pvt. Ltd.</i>
10:15-10:45	<b>EPDM Rubber: Recent Global Research Perspectives</b> <i>Prof. Kinsuk Naskar, Chairperson, Rubber Technology Centre, IIT Kharagpur</i>
10:45-11:15	<b>Application of EPDM Rubber</b>   <i>Dr. P Thavamani, Managing Director, UMAC Automotive Components Pvt. Ltd.</i>
11:15-11:45	<b>Coffee/Tea Networking Break</b>
11:45-12:15	<b>Modified EPDM use as Alternative Material for 6PPD in NR and SBR Formulations</b>   <i>Dr. Mohammed Saleem, Senior Scientific Officer, Indian Rubber Materials Research Institute (IRMRI)</i>
12:15-12:45	<b>Developing Sustainable Materials Roadmap for EPDM</b>   Dow
12:45-13:15	<b>Bio-based EPDM: Green Cross-linking Strategy</b>   <i>Barkat Aziz, Research Scholar, Rubber Technology Centre, IIT Kharagpur</i>
13:15-14:00	Lunch Break
14:00-14:30	<b>Vulcanization of EPDM Rubber: Pros and Cons of Various Vulcanizing Agents</b>   <i>Prof. Kinsuk Naskar, Chairperson, Rubber Technology Centre, IIT Kharagpur</i>
14:30-15:00	<b>Curing EPDM with PEROXIDES - a decade of Learnings</b> <i>Karthik Raghupathy, Managing Director, Shree Polymer Products</i>
15:00-15:30	<b>Sustainability Drive in OEMs and the Initiation in EPDM based Compounds</b>   <i>Binu Thankappan</i>

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15:30-16:00	Coffee/Tea Networking Break
16:00-16:30	<b>EPDM Reclaim: An Innovative Sustainable Solution for Automotive Industry</b>   <i>Kalyan Das, Head - Sales &amp; Business Development, GRP Ltd.</i>
16:30-17:00	<b>Fire Resistant EPDM Rubber: Compounding, Testing and Applications</b>   <i>Dr. P Thavamani, Managing Director, UMAC Automotive Components</i>
17:00-17:30	<b>Engineering and Mechanical Properties of PA80/EPDM Blends</b> <i>Dr. Siby Varghese, Joint Director (Retd.), RRII, Rubber Board India</i>
17:30-18:00	EPDM Round Table   Open Discussion - All about EPDM

## INVITED SPEAKERS



**Dr. P. Thavamani**



**Binu Thankappan**



**Prof. Kinsuk Naskar**



**Karthik Raghupathy**



**Kalyan Das**



**Dr. Mohammed Saleem**



**Barkat Aziz**



**Dr. Siby Varghese**

## DELEGATE REGISTRATION

### Registration Fee / Person

#### *In-Person Participation*

Indian Delegates: Rs. 15,000

Overseas Delegates: US\$ 300

#### *Online Participation*

Indian Delegates: Rs. 25,000

Overseas Delegates: US\$ 500

### Delegate Registration Form



#### Remarks:

- GST 18% applies on above fees
- Discount is Available for Group and Early-Bird Registrations
- Delegate Registration Fee subjected to increase one week before schedule

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- Social Media Promotion of Company Advert & Videos

### Sponsor Registration Form



Remarks: GST 18% applies on above fees

Training Course | Hybrid Event

TechnoBiz

# EPDM Seals : Process Troubleshooting

23 September 2025, CHENNAI  
GREEN PARK HOTEL | 10am-5pm

This training course on “EPDM Seals: Process Troubleshooting” provides practical knowledge to identify and resolve defects in EPDM seal manufacturing. It covers material basics, compounding, processing methods, and testing, with a strong focus on real-world troubleshooting in extrusion, molding, and assembly. Participants will learn how to improve product quality, reduce defects, and enhance production efficiency.

## Course Content

- Introduction to EPDM Seals
- Material & Compound Issues
- Processing Equipment & Operations
- Extrusion-Related Defects
- Sponge & Solid Profile Issues
- Molding & Assembly Defects
- Final Application Failures
- Troubleshooting Strategy



## Course Instructor

Mr. Dathathri Dharmarao is a well-experienced rubber technologist with extensive expertise in the processing, compounding, and troubleshooting of EPDM seals. With decades of hands-on experience in the automotive sealing industry, he has led technical teams in solving complex manufacturing challenges related to extrusion, molding, and quality control. His deep understanding of EPDM behavior under various conditions, along with a strong focus on practical problem-solving, makes him a highly respected expert and trainer in the field.

## Registration Fee / Person

### In-Person Participation

- Indian Delegates: Rs. 15,000
- Overseas Delegates: US\$ 300

### Online Participation

- Indian Delegates: Rs. 25,000
- Overseas Delegates: US\$ 500

Remarks: GST 18% applies on above fees. Discount is Available for Group and Early-Bird Registrations. Delegate Registration Fee subjected to increase one week before schedule. Registration fee includes lunch and refreshments.

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Delegate  
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## Venue: Hotel Green Park

N.S.K. Salai, Arcot Rd, Vadapalani,  
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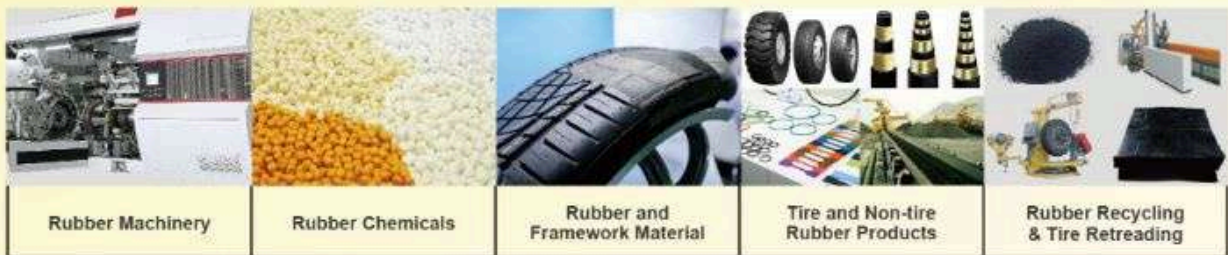


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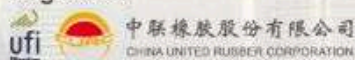
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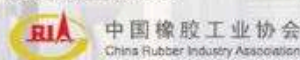
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- Green Rubber Compounding and Processing
- Enhancing Durability and Performance of Rubber Products
- Rubbers and Rubber Composites Innovations for Unexplored and Sustainable Applications
- Advanced Rubber Solutions for Global Warming Challenges
- Smart, Intelligent and Functional Rubber Materials
- Natural Rubber, Bio-based Rubbers and Rubber Chemicals
- Progress in Rubber Analysis, Testing and Standards
- Safety and Environmental Impact of Rubber Products
- Recycling and Circular Economy in the Rubber Industry

### KEY ACTIVITIES

- Technical Conference Program
- Natural Rubber Symposium
- Technology Exhibition
- IRCO Student Award
- Networking Gala Dinner
- NR Factory Visit

### VENUE

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### CHAIRMAN



**Dr. Krisda Suchiva**

### PROGRAM SCHEDULE

Detailed technical program of IRC 2025 will be updated soon. The time schedule for each day for technical presentations is 9am to 5pm.

Please check website [www.irc2025.com](http://www.irc2025.com) for upto date information.

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### Plenary Presentations

- **AI-driven Research and Multi-scale Simulation of Elastomer Materials** | Prof. Liqun Zhang, Xi'an Jiaotong University, China
- **Sustainable Materials for Tyre Engineering** | Prof. Sabu Thomas, Mahatma Gandhi University, India
- **Sustainable Mobility 2030 and beyond – Role of Tyre and Rubber Industry** | Dr. R Mukhopadhyay, JK Tyre & Industries Ltd., India
- **Circular Economy - Limits and Chances in Rubber Recycling** | Prof. Ulrich Giese, German Institute for Rubber Technology, Germany
- **Crack Resistance and Beyond: Fracture Mechanics in Strain Crystallizing and Liquid Crystal Elastomers** | Prof. Kenji Urayama, Kyoto University, Japan

### Keynote Presentations

- **The Crosslinking Dilemma in ENR: Evaluating Sulphur and Di-acid Networks for Future-Ready Rubber Products** | Dr. Amit Das, Leibniz Institute of Polymer Research Dresden, Germany
- **On the path to make a black magic green – how to minimize the CO2 footprint of rubber products** | Prof. Andreas Limper, Institut für Kunststoffverarbeitung RWTH Aachen, Germany
- **Recent Advances in Reducing Hysteresis of Rubber Composites** | Prof. Baochun Guo, South China University of Technology, China
- **Some Considerable Factors in Laboratory Frictional Testing Rubbers** | Prof. Changwoon Nah, Jeonbuk National University, South Korea
- **Enhancing Coagulation Efficiency and Overcoming Uncoagulation Issues in Skim Latex Using Synthetic and Natural Creaming Agents** | Assoc. Prof. Charoen Nakason, Prince of Songkla University, Suratthani Campus, Thailand
- **Bio-based Approach to Dispersion of Silica in NR** | Prof. Dariusz M. Bieliński, Lodz University of Technology, Poland
- **Resolving the Microstructure of Natural Rubber and Its Influence on the Mechanical Properties** | Prof. Jinrong Wu, Sichuan University, China
- **Engineering Allergy-Free Natural Rubber: Sustainable Deproteinization for Enhanced Industrial and Medical Performance** | Prof. Jitladda Sakdapipanich, Mahidol University, Thailand
- **AFM Nanomechanics Connecting Macro- and Nanoscopic World** | Prof. Ken Nakajima, Institute of Science Tokyo, Japan
- **Recent Trends in Adopting Sustainable Solution for Rubber Additives: How Chemistry Plays Significant Role?** | Prof. Kinsuk Naskar, Indian Institute of Technology Kharagpur, India
- **Natural Rubber in the Click Era: Advancing Functionalization and Modification via Click Chemistry** | Prof. Laurent FONTAINE, Le Mans University, France

### Keynote Presentations

- **Elucidating the Role of Nanoscale Interfaces and 3D Dispersion in Elastomer Nanocomposites: Connecting Microstructure to Viscoelastic Behavior** | Prof. Ming Tian, Beijing University of Chemical Technology (BUCT), China
- **Optimized Synthesis of Liquid Fluorosilicone Rubber with Improved Cold Resistance for Semiconductor Application** | Prof. Sang Eun Shim, Inha University, South Korea
- **Development of Fast Rubber Sheet-Forming Method for Natural Rubber and Its Application** | Prof. Seiichi Kawahara, Nagaoka University of Technology, Japan
- **Wide-Angle X-Ray Diffraction Studies on Strain-Induced Crystallization of Vulcanized Natural Rubber by Two-Step Biaxial Stretching** | Prof. Shinichi Sakurai, Kyoto Institute of Technology, Japan
- **New Insights into Vulcanization Reactions for Green Rubber Technology** | Prof. Yuko Ikeda, Kyoto Institute of Technology, Japan
- **Revisiting the Properties of Natural Rubber in Tire Industry and Development of NR-based Sidewall Compounds for EV Passenger Cars** | Assoc. Prof. Kannika Sahakaro, Prince of Songkla University, Pattani Campus, Thailand

### Invited Presentations

- **Greener Tire Tread Compounds by Reducing the Amount of Ingredients** | Prof. Anke Blume, University of Twente, Netherlands
- **Delayed Crystallization Response-Inspired Waterborne Polyurethane with High Performance** | Prof. Fei Chen, Xi'an Jiaotong University, China
- **Soft sensing composites based on rubber and elastomer matrices: Development and characterization methods** | Dr. Frank Jörg Clemens, Smart Ceramic Processing, EMPA, Switzerland
- **Facile recycling strategy for end-of-life rubbers by selective cleavage of cross-linking bonds** | Prof. Ganggang Zhang, South China University of Technology, China
- **Greening the Elastomer Technology : Bio-Based Solid/Liquid Rubbers, Polyurethanes, and TPVs** | Prof. Jeong Seok OH, Gyeongsang National University, South Korea
- **Cellulose Nanocrystal: Scalable Production and Innovative Applications of Bio-based Nanofillers** | Prof. Jianming Zhang, Qingdao University of Science and Technology, China
- **Colour-changing Smart Materials inspired by Nature: Chameleon Effect** | Dr. Karine Mougin, Institut de Science des Matériaux de Mulhouse, France
- **Natural rubber foam containing gamma-synthesized chitosan for the utilization as enhanced heavy-metal sorbents** | Assoc. Prof. Kiadtisak Saenboonruang, Kasetsart University, Thailand

# IRC 2025

## BANGKOK, THAILAND

International Rubber Conference

1-3 DEC 2025 | BITEC - BANGKOK



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International Rubber  
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### Invited Presentations

- **Effect of Molecular Architecture on the Thermal Stability of Poly(epichlorohydrin-co-ethylene oxide-co-allyl glycidyl ether) (GECO) Based Elastomers** | Prof. Murat Sen, Hacettepe University, Turkey
- **Optimizing Silica and Carbon Black Ratios for Enhanced Mechanical Performance of NR/BR/SSBR blends** | Assoc. Prof. Nadras Othman, Universiti Sains Malaysia (USM), Malaysia
- **Self-Healing Rubber: An Advancing Technology for Smart Gloves** | Dr. Patrick Tang Siah Ying, Monash University Malaysia, Malaysia
- **Introduction of Reversible Bonds into Rubber Networks** | Dr. Toshio Tada, Sumitomo Rubber Industries, Ltd., Japan
- **Dual-Functional Natural Rubber Composites with Piezoresistive and Antibacterial Properties for Wearable Motion Detection** | Asst. Prof. Yeampon Nakaramontri, King Mongkut's University of Technology Thonburi, Thailand
- **Strain Softening of Rubber Nanocomposites Vulcanizates** | Prof. Yihu Song, Zhejiang University, China
- **Synthesis of Polyester-based Multiblock Copolymer Elastomers via A Cascade Polymerization Method** | Prof. Yingfeng Tu, Soochow University, China
- **Renewable Elastomeric Networks of Functionalized Ethylene-Propylene Copolymer** | Prof. Yixian WU, Beijing University of Chemical Technology, China

### Natural Rubber Symposium

- **Global Efforts to Ensure Sustainability of NR Supplies** | Stefano Savi, Global Platform for Sustainability of Natural Rubber
- **The Role of Thailand Contributing to Sustainability of NR Supplies** | Dr. Napawan Lekawipat, Rubber Authority of Thailand
- **Quality of NR Novel Green Technologies for Production of User-friendly and Consistent Properties NR** | Dr. Nantina Moonprasith, National Metal and Materials Technology Center, Thailand
- **From Tree to Technological Materials: Turning Natural Rubber into a Game-changer for More Sustainable and Performing Products** | Poonyawat Prateepat, Michelin
- **Perspective on Dipped Rubber Product Biodegradability: MRB Research Highlights and Future Pathways** | Shabinah Filza Binti Mohd Sharib, Malaysian Rubber Board
- **Study of Biodegradation Efficiency of Natural Rubber Products by Various Microorganism** | Dr. Nattawut Boonyuen, (National Center for Genetic Engineering and Biotechnology, Thailand)
- **Clinical Study of Allergic Properties of NR Gloves and Other NRL Products** | Dr. Naesine Chaiear, Khon Khan University, Thailand
- **From Allergen to Assurance: A Comprehensive Review of Natural Rubber Product Safety and MRB's Strategic Role** | Dr. Aziana Binti Abu Hassan, Malaysian Rubber Board
- **Pioneering a Sustainable Biorefinery of Natural Rubber Serum for New Bioactives in Cosmetics, Food, Nutraceuticals, and Pharmaceuticals** | Dr. Thanawat Pitakpornprecha, Prince of Songkhla University, Thailand
- **Modified Natural Rubber: Current Progress, Opportunities, and Challenges.** | Dr. Krishna Veni, Malaysian Rubber Board
- **Challenge for the Future of NR Latex and NRL Products** | Dr. Amir Hashim Yatim, Malaysian Rubber Glove Manufacturers Association
- **Opportunity for Industrial Applications of NR** | Dr. Banja Junhasavasdikul, Innovation Group, Thailand

### Delegate Registration



### Sponsor Registration



### Exhibitor Registration



### Contact Info

IRC2025 Secretariat  
Polymer Society of Thailand  
irc2025@thaipolymersociety.org  
Contact : Dr.Taweechai Amornsakchai

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### Oral Presentations

- **Thermo-chemical devulcanization of sulfur-cured styrene-butadiene rubber (SBR) using diphenyldisulfide (DPDS)** | Jonas Petzke, Paderborn University, Germany
- **Tribological behavior of soft polymers against model substrates** | Prof. Sophie Bistac, Professor, Université de Haute Alsace UHA – LPIM, France
- **Study of standard laboratory for testing medical rubber gloves according to ISO/IEC 17025** | Dr. Hassarutai Yangthong, Researcher, Hub of Talents in Natural Rubber, NRCT, Thailand
- **Polyrotaxane-Based Hybrid Crosslinking for Tunable Elastic and Thermal Response in Epoxidized Natural Rubber** | Assoc. Prof. Anoma Thitithammawong, Prince of Songkla University, Thailand
- **Why Lab Studies Matter for Understanding Tyre Wear Emissions** | Dr. Martin Stěnička, Dr. Tomas Bata University in Zlin / University Institute / Centre of Polymer Systems, Czech Republic
- **Impact of Fused Filament Fabrication and Processing Parameters on the Performance of BaTiO<sub>3</sub>-Piezoelectric Composites for Soft Robots** | Sofiia Butenko, EMPA, Switzerland
- **New non-isocyanate polyurethane films based on natural rubber** | Tharin Sensan, Prince of Songkla University, Thailand
- **A New Antibacterial Hybrid Waterborne Polyurethane/Silica Coating Film Based on Natural rubber** | Assoc. Prof. Dr. Nitinart Saetung, Faculty of Science, Prince of Songkla University, Thailand
- **Method for Analyzing Mechanical Property Degradation of Polymer Materials Using Artificial Intelligence** | Sangin Park, Researcher, Hyundai Motor Company, South Korea
- **Molecular chain structure changes and strain-induced crystallization behaviors during various deformation of segmented polyurethane elastomer** | Asst. Prof. Kakeru Obayashi, Kyoto University, Japan
- **Understanding and Controlling Storage Hardening in Natural Rubber via Phospholipid Network Disruption** | Kittipong Insom, Mahidol University, Thailand
- **The Role of Deformation Mode on Rubber Hysteresis and Its Dependency on Viscoelasticity** | Dr. Shouliang Nie, Researcher, Zhongce Rubber Group Co. Ltd, China
- **Overview of SRI's research initiatives for enhancing the well-being of natural rubber stakeholders in Thailand** | Dr. Lucksanaporn Tarachiwin, Deputy General Manager, Sumitomo Rubber (Thailand) Co., Ltd
- **Degradation Trends in Plasticity and Viscosity of Selected Standard Philippine Rubber Under Prolonged Storage** | Rosemarie Salazar, Assistant Regional Director, Department of Science and Technology Region IX - Philippines

### Oral Presentations

- **Study on the dispersion of silica in SBR using time-resolved ultra small angle X-ray scattering** | Assoc. Prof. Shotaro Nishitsuji, Yamagata University, Japan
- **Sustainable Yield Improvement and Quality Assessment of TSR10 Rubber from Two Hevea brasiliensis Genotypes: Impact of Reduced Tapping Frequency Associated with Ethephon Stimulation** | Hathainat Kum-ourm, Researcher, Sumitomo Rubber (Thailand) Co., Ltd.
- **Preparation and Characterization of Silica Filled Modified Natural Rubber: A Comparative Analysis of Pre-dispersion and Conventional Techniques** | Dalip Abdulraman, Mahidol University, Thailand
- **Mechanical Tailoring of Waterborne Epoxy Coatings on Metal Substrates using Functionalized Natural Rubber Latex** | Dr. Wasan Tessanan, Pathumwan Institute of Technology, Thailand
- **How microcapsule-enhanced rubber can help creating a circular economy** | Katerina Filzer, University of Twente, Netherlands
- **Correlative analysis of morphological and functional properties in high-performance elastomer blends** | Dean Vidakovic, ZFE - Austrian Centre for Electron Microscopy & Nanoanalysis, Austria
- **Advancing sustainability in synthetic rubber: from commitment to climate action** | MARJOLEIN GROENEWEG, Marketing & Sustainability Director, Synthos Schkopau GmbH, Germany
- **Pyrolysis of Polychloroprene Rubber with Scavenger-Based HCl Neutralization** | Parinchaya Srithavorn, Queen Mary University of London, Thailand
- **On the Decoupling of Chemical and Mechanical Surface Contributions in Soft Polymer Network Adhesion** | Prof. Maurice Brogly, UHA – LPIM, France
- **Carbon Black Coupling Agents for Improved Fuel Efficiency of Tyres** | Max Dixey, Queen Mary University of London, United Kingdom
- **The development of bio-inspired composites from epoxidized natural rubber using  $\pi$ - $\pi$  stacking and cation- $\pi$  interactions** | Dr. Kwanchai Buaksuntear, Hub of Talents in Natural Rubber, National Research Council of Thailand
- **Improving Seal Life Prediction: Faster Crack Growth Testing in HNBR and NBR** | Orkid Ramekaj, Queen Mary University, United Kingdom
- **Investigation of the Effect of the amount of zinc borate on cure kinetics, reversion, and mechanical properties of natural rubber in a semi-efficient curing system** | Dr. Davut Aksüt, Hacettepe University, Turkey
- **Study on the Effect of Silane Coupling Agents on Mechanical Behavior of Silica-Filled Styrene-Butadiene Rubber under Elongation using In Situ Nano-Palpation Atomic Force Microscopy** | Maytawee Malineerat, Institute of Science Tokyo, Japan

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### Oral Presentations

- **Implementing Circular Economy Strategies in Power Transmission Belt Manufacturing** | Dr. Aswathy T R, Assistant Manager, JK Fenner India Ltd., India
- **AFM-Based Investigation of Polyisoprene-Inorganic Interface Adhesion at Multiple Scales** | HEXUAN MAO, Institute of Science Tokyo, Japan
- **Aluminum Soaps: A New Prospect for Rubber Application** | Prof. Xiaorong Wang, Center for Frontier Research & Technology, Hangzhou Zhongce Rubber Company, China
- **Sustainable NZEROSILTM Silicas from Renewable Rice Husk** | Danniell Liao, Product Application Development Supervisor, Oriental Silicas Corporation, Taiwan, Province of China
- **Inverse vulcanization forged self-motivated polysulfide silane: An ultra-efficient architect in engineering silica-rubber interface** | Dr. Dong Wang, South China university of technology, China
- **Microstructural Modelling of Carbon Black Aggregates for Sustainable Next-Generation Tyre Design** | Sarah Pedroni, Queen Mary University of London, United Kingdom
- **Rubber Blend Compatibility Analysis Using Large-Amplitude Oscillatory Shear (LAOS) on RPA** | Dr. Zühra Çınar Esin, Hacettepe University, Turkey
- **Chitosan-reinforced epoxidized natural rubber: possible design of energy-efficient tire tread compounds** | Nantinee Choosang, Hub of Talents in Natural Rubber, National Research Council of Thailand
- **Rubbery Soft Polymer Electrolyte Membrane with Nanomatrix Channel Prepared from Natural Rubber** | Dr. Yoshimasa Yamamoto, Associate Professor, National Institute of Technology, Tokyo College, Japan
- **Biomimetic Design and Development of Natural Rubber-based Soft Robotics** | Dr. Manus Sriring, Researcher, Rubber Technology Research Centre, Faculty of Science, Mahidol University, Thailand
- **Experimental Analysis of the Mixing Behavior of Ethylene-Propylene-Diene Rubber (EPDM) in a Rubber Pin Extruder under Variation of Process Parameters and Mixing Elements** | Mr. Leon Schmidt, Paderborn University, Germany
- **Study on Rubber Adhesive Interface Peeling Mechanism of Sealing Materials** | Mr. Hiromu Kawasaki, Researcher, NOK corporation, Japan
- **Influences of Sulfur Vulcanization System and Curative Content on Properties of Tire Tread Compounds Filled with Carbon Black/Silica Hybrid Filler** | Dr. Puchong Thaptong, Researcher, National Science and Technology Development Agency (NSTDA), Thailand
- **Eco-Efficient Vulcanization: Analysis of a Sustainable Rubber Curing Package** | Frances van Elburg, University of Twente, Netherlands

### Oral Presentations

- **Removal of proteins from natural rubber by creaming method** | ANH VIET TA, Nagaoka University of Technology, Japan
- **Critical Concentration of Primary Amines for Preparation of Vulcanized Deproteinized Natural Rubber with Outstanding Mechanical Properties** | Lam Ba Nguyen, Nagaoka University of Technology, Japan
- **Surface-Functionalised Carbon Black as a High-Performance Filler in Elastomeric Compounds: Techniques and Potential** | Rattapong Numard, Queen Mary University of London, United Kingdom
- **Visualizing Nanoscale Interface in Direct Adhesive Rubbers Containing Reversible Coordination Linkages** | Asst. Prof. Kim Hung NGUYEN, Institute of Science Tokyo, Japan
- **Boron-Containing Elastomer** | Assoc. Prof. Qi Wu, Sichuan University, China
- **Enhancing the Piezoresistive Sensing Properties of TPE/CB Composites via Co-Continuous Structure Design through Natural Rubber Blending** | Christopher Bascucci, Empa, Switzerland
- **Friction Behaviour in Relation to Wear Morphology** | Huong Thao Pham, Queen Mary University of London, United Kingdom
- **Elastomeric Ionomer based on Maleated Bromobutyl Rubber** | Assoc. Prof. Subhan Salaeh, Prince of Songkla University, Thailand
- **Green Synthesis of Zinc Oxide from Skim Latex Serum for Application in Rubber Vulcanization** | Asst. Prof. Preeyanuch Junkong, Mahidol University, Thailand
- **Modelling of Elastomers under Dynamical Mechanical Loads** | Prof. Michael Johlitz, Institute of Mechanics, Germany
- **Extrudable Vitrimeric Rubbers Enabled via Heterogeneous Crosslinking** | Dr. Shuangjian Yu, South China University of Technology, China
- **Property and Application of Perfluoropolyether-modified Functional Rubber** | Dr. Zheming Tong, PetroChina (Shanghai) New Materials Research Institute Co., Ltd., China
- **Effect of crystal orientation on mechanical strength of poly-isoprene rubber under bi-axial deformation** | Airi Sato, Researcher, Bridgestone Corporation, Japan
- **Enhancing Ozone Resistance of Tyre Sidewall by Sustainable Replacement of Petroleum Wax with Bio-based Additive** | Tirthankar Bhandary, Researcher, HASETRI, India
- **Performance Evaluation of Silicone-Based Isolators Under Varying Temperatures and Excitation Levels Using a Thermal Chamber Shaker** | Erdem Rahmi SENOZ, Mechanical Engineer, Aselsan, Turkey

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### Oral Presentations

- **New insights into Resins behavior: Influence of Resin Softening Point on the In-Rubber Properties of Carbon Black-Filled SBR Compounds** | Dr. Javier Alejandro Araujo Morera, Assistant Professor, University of Twente / Elastomer Technology and Engineering, Netherlands
- **Latex Serum Boosts Natural Rubber Strength** | Dr. Katsuhiko Tsunoda, Researcher, Bridgestone Corporation, Japan
- **N-Vinylamides: Structural Isomers of Amino acids Grafted onto Deproteinized Natural Rubber** | Prof. Hiroharu Ajiro, Nara Institute of Science and Technology, Japan
- **Low-Hysteresis Rubber Composites** | Prof. Baochun Guo, South China University of Technology, China
- **Study on the Performance of Natural Rubber - Copper Coated Steel Wire with BCDB and BCoPD** | Yuan Jin, Technical Service Manager, Rebo New Material Group, China
- **In situ methods to characterize deformation-induced mechanisms in NR** | Dr. Eric Euchler, Leibniz Institute of Polymer Research Dresden, Germany
- **Innovation Management for Commercial Success in the Rubber Industry Amid Shifting Global Market Forces** | Dr. Matthew Thornton, The Rubber Initiative, United Kingdom
- **Chemical fingerprinting for environmental detection of tyre rubber emissions** | Mr. Nick Molden, CEO, Emissions Analytics Ltd., United Kingdom
- **Formulations of finite hyperelasticity and viscoelasticity using invariants of stretch tensors** | Prof. Alexander Lion, University of the Bundeswehr, Germany

### Poster Presentations

- **Simulation of Rubber Acoustic Coatings under Deep-Sea Pressure Based on Strain-Dependent Viscoelastic Properties** | Dr. LIU Yue, Beijing University of Chemical Technology, China
- **Spatiotemporal Internal-Damage Distribution During Nonuniform Deformations in Filled Elastomers** | Yuki Tokudome, Kyoto University, Japan
- **Accelerated Prediction of Glass Transition Temperature in SSBR via Integrated Molecular Dynamics Simulation and Machine Learning Framework** | SIQI ZHAN, Beijing University of Chemical Technology, China
- **Development of an Integrated Design, Analysis, and Evaluation System for Rubber Components** | Dr. Changsu Woo, Researcher, Korea

### Poster Presentations

- **Enhancing Mechanical and Antibacterial Properties of Natural Rubber/Tire Waste Blends through Dual-Phase Processing Techniques** | Napasorn Kingkohyao, King Mongkut's University of Technology Thonburi, Thailand
- **Development of Phosphorylated Cellulose Nanofibers/Natural Rubber Composites** | Ryotaro TAKAYAMA, Researcher, Oji Holdings Corporation, Japan
- **Establishment of a library database of some compounding ingredients using a Py-GC/MS technique** | Prin Tumwised, Mahidol University, Thailand
- **Development of Tire Tread Formulations for Military Light-Truck Tires** | Dr. PAIROTE JITTHAM, Researcher, National Metal and Materials Technology Center, Thailand
- **Identification and Reduction of residual allergenic rubber proteins in Natural Rubber latex gloves via Alkaline and Surfactant Treatments** | Pimnaraporn Porncharukit, Mahidol university, Thailand
- **Mixed-Mode Crack Propagation Criterion in Elastomers** | Tomoki Mishima, Kyoto University, Japan
- **Effect of Carbon Black and Barium Titanate Hybrid Filler on the Change of Electrical Signal in Epoxidized Natural Rubber Composites** | LYHAV BOEURN, King Mongkut's University of Technology Thonburi, Thailand
- **Feasibility Study of Tamarind Shell Powder as a Bio-Based Secondary Accelerator for Rubber Flooring** | Weenusarin Intiya, Researcher, National Science and Technology Development Agency (NSTDA), Thailand
- **Study on the Effect of Compatibilizer Content on the Mechanical Properties of NR/BR/NBR Blends** | Kanokporn Sarikanonm, Kasetsart University, Thailand
- **Fatigue Properties of Rubber Composites with Different Glass Transition Temperatures** | Dr. Jiaye Li, Beijing University of Chemical Technology, China
- **Strain-induced crystallization behaviors of natural rubber with additional lipids** | Mr. Tomoaki Nakatsuka, Kyoto University, Japan
- **Bio-Based Polyurethane/Tannic Acid Composites with Adjustable Damping Property Enabled by Constructing Multiple Sacrificial Networks** | Dr. Dexian Yin, Beijing University of Chemical Technology, China
- **Strain-Induced Crystallization of Carbon Black-Reinforced Vulcanized Natural Rubber by Biaxial Elongation** | Hiroto Okumura, Kyoto Institute of Technology, Japan
- **Influence of Balanced Ratios between Mica and Carbon Black on Rheological and Mechanical Behaviors of Elastomeric Materials** | Assoc. Prof. Keon-Soo Jang, University of Suwon, South Korea
- **Natural-Rubber-Based Adhesives for Housefly (*Musca domestica*) Control** | KANNIKA HATTHAPANIT, Researcher, National metal and materials technology center, Thailand

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### Poster Presentations

- **Evaluation of a Non-Traditional Preservative System for Enhancing Natural Rubber Latex Stability** | Maneephan Sukkho, Mahidol University, Thailand
- **Study on the Impact of Purified Natural Rubber Latex and Accelerators on Rubber Allergens in Natural Rubber Gloves** | Pitchaya Theedee, Researcher, Faculty of Science, Mahidol University, Thailand
- **Optimized UVA-Irradiation Silane-Grafting onto Saponified Skim Rubber for Enhanced Silica-Natural Rubber Compatibility** | Areeya Anuwatprakit, Mahidol University, Thailand
- **Cure Characteristics of NR Compounds with Sulfur Sludge from Biogas -Wastewater Treatment in Palm Oil Industry** | Asst. Prof. Prachid Saramolee, Walailak University, Thailand
- **Effect of chitosan bio-based filler on the mechanical reinforcement of ENR composites** | Ploypailin Juntosree, Kasetsart University, Thailand
- **Development of Natural Rubber Insulating Gloves: Influence of Latex Centrifugation and Leaching on Mechanical and Electrical Properties** | Dr. Promsak Sanguanthammarong, Researcher, National Metal and Materials Technology Center (MTEC), Thailand
- **Predicting the glass transition temperature of polymer based on generative adversarial networks and automated machine learning** | Zhanjie Liu, State Key Laboratory of Organic-Inorganic Composites, College of Materials Science and Engineering, Beijing University of Chemical Technology, China
- **Influence of Bio-Based Epoxidized Natural Rubber as a Compatibilizer on Thermoplastic Polyurethane/Natural Rubber Blends for 3D Printing Applications** | Torfan Srisuwanno, King Mongkut's University of Technology Thonburi, Thailand
- **Changes in nanostructural changes during tearing of elastomeric poly(butylene succinate)/poly(butylene succinate adipate) blend films** | Kazuki Imai, Kyoto Institute of Technology, Japan
- **A Melt Crystallization and Dewetting Kinetics of Marine-Degradable Polyesters in Thin Films** | Ryu Miyajima, Kyoto Institute of Technology, Japan
- **Influence of vacancy defect on stretching behavior of liquid crystal elastomer membrane** | Takumi Kato, Kyoto University, Japan
- **Texture Evolution and Mechanical Response of Cholesteric Liquid Crystal Elastomers with a Lying Helix Structure** | Koudai Tanino, Department of Material Chemistry, Graduate School of Engineering, Kyoto University, Japan
- **Characterization of polyisoprene blended with urethane compounds** | Dr. Takashi Kakubo, Senior Engineer, The Yokohama Rubber Co., Ltd., Japan

### Poster Presentations

- **Facile and efficient preparation of functionalized diene-elastomers via dynamic covalent polymerization** | Xinglong An, Institute of Emergent Elastomers, School of Materials Science and Engineering, South China University of Technology, China
- **Application of Ozone Treatment to Reduce Foul Odor in Cup Lump Rubber Production** | Chaveewan Kongkaew, Researcher, National Metal and Materials Technology Center, Thailand
- **Preparation of DES-containing Polyurethane Elastomer and Its Moisture-dependent Electrical Conductivity** | Shogo Taketa, Nagasaki University, Japan
- **Changes in Nano Structure upon Uniaxial Stretching of Polyurethane Liquid-Crystalline Elastomers as Analyzed by Small-Angle X-ray Scattering** | Yume SUGINO, Kyoto Institute of Technology, Japan
- **Effective degradation of waste tyre rubber using a specific treatment process: A Chemi-biological Method** | Pritish Raj Shukla, Birla Institute of Technology and Science- Pilani, K.K. Birla Goa Campus, India
- **Mediating Carbon Black-Natural Rubber Interface by Thioamide-Functionalized Polysulfide for Energy-Saving Composites** | Ruoyan Huang, Institute of Emergent Elastomers, School of Materials Science and Engineering, South China University of Technology, China
- **Design and molecular dynamics simulation of Biomass Ion-conductive elastomer** | Dr. Jiajun Qu, Beijing University of Chemical Technology, China
- **AFM Nanomechanics of Vulcanized Rubber Containing Silica and Petroleum Resin** | Makiko Ito, Researcher, Institute of Science Tokyo, Japan
- **Highly conductive Ag/pCF/MVQ composite rubber for efficient electromagnetic interference shielding** | Yang Chen, Beijing University of Chemical Technology, China
- **A Facile Method in Fabricating Flexible Composite elastomer with Large-Size Segregated Structures for Electromagnetic Interference Shielding** | Liang He, Beijing University of Chemical Technology, China
- **Deproteinization Process of Natural Rubber Latex by Membrane Filtration** | Prof. Yoko Aoyama, KOSEN-King Mongkut's Institute of Technology Ladkrabang, Thailand
- **Thermal Analysis of the Mullins Effect in Filler Reinforced Elastomers** | Koshi Shimazaki, Department of Material Chemistry, Kyoto University, Japan
- **Study on Melting Behavior of Crystallites in Carbon Black-Filled Vulcanized Natural Rubber Upon High-Speed Shrinkage from Its Highly Elongated State** | Maho Nakada, Kyoto Institute of Technology, Japan
- **Wide-angle X-ray diffraction studies on thermal melting behavior of crystallites formed by planar elongation of vulcanized natural rubber** | Shohei Okamoto, Kyoto Institute of Technology, Japan

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4 SQM ShellScheme  
Booth: 1500 US\$

### Exhibitor Profile

Global Manufacturers & Suppliers of

- Natural & Synthetic Rubbers
- Rubber Chemicals
- Recycled Rubbers and Rubber Chemicals
- Rubber Analysis & Testing Equipment
- Rubber & Latex Products
- Rubber Technical Services
- Books and Periodicals

### Participating Exhibitors

- MTEC (Polymer Research Organization)
- Struktol (Rubber Chemical)
- Sumitomo Rubber (Products)
- LAWER S.p.A (Chemical feeding automation)
- CG Engineering (Testing Instruments)
- Nippon Soda Co., Ltd. (Chemicals)
- Test Industry SRL (Testing Instruments)
- Emissions Analytics (Testing Instruments)
- Rubber Technology Research Centre (Testing)
- Rubber World / Rubber Review (Publication)
- TechnoBiz
- Rubber Industry Club, FTI
- Prince of Songkla University
- Hub of Talents in Natural Rubber, National Research Council of Thailand (NRCT)

### Booth Booking Form

*Limited space is available.  
First come first serve*



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Contact : Dr. Taweechai Amornsakchai



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***Rubber Revolution : Balancing Nature  
and Innovation for a Sustainable Future***

IRC2025 Secretariat : Polymer Society of Thailand  
Email: [irc2025@thaipolymersociety.org](mailto:irc2025@thaipolymersociety.org)  
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## Rubber Revolution : Balancing Nature and Innovation for a Sustainable Future

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## *Rubber Revolution : Balancing Nature and Innovation for a Sustainable Future*

### CONFERENCE FOCUS

- Green Rubber Compounding and Processing
- Enhancing Durability and Performance of Rubber Products
- Rubbers and Rubber Composites Innovations for Unexplored and Sustainable Applications
- Advanced Rubber Solutions for Global Warming Challenges
- Smart, Intelligent and Functional Rubber Materials
- Natural Rubber, Bio-based Rubbers and Rubber Chemicals
- Progress in Rubber Analysis, Testing and Standards
- Safety and Environmental Impact of Rubber Products
- Recycling and Circular Economy in the Rubber Industry

### KEY ACTIVITIES

- Technical Conference Program
- Natural Rubber Symposium
- Technology Exhibition
- IRCO Student Award
- Networking Gala Dinner
- NR Factory Visit

### VENUE

Bangkok International Trade & Exhibition  
Center (BITEC)  
88 Debaratna Road (km. 1) Bangna Tai.  
Bangna, Bangkok 10260, Thailand  
Website: [www.bitec.co.th](http://www.bitec.co.th)  
Nearest Train Station: Bangna – BTS Station

### CHAIRMAN



**Dr. Krisda Suchiva**

### PROGRAM SCHEDULE

Detailed technical program of IRC 2025 will be updated soon. The time schedule for each day for technical presentations is 9am to 5pm.

Please check website [www.irc2025.com](http://www.irc2025.com) for upto date information.

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### Plenary Presentations

- **AI-driven Research and Multi-scale Simulation of Elastomer Materials** | Prof. Liqun Zhang, Xi'an Jiaotong University, China
- **Sustainable Materials for Tyre Engineering** | Prof. Sabu Thomas, Mahatma Gandhi University, India
- **Sustainable Mobility 2030 and beyond – Role of Tyre and Rubber Industry** | Dr. R Mukhopadhyay, JK Tyre & Industries Ltd., India
- **Circular Economy - Limits and Chances in Rubber Recycling** | Prof. Ulrich Giese, German Institute for Rubber Technology, Germany
- **Crack Resistance and Beyond: Fracture Mechanics in Strain Crystallizing and Liquid Crystal Elastomers** | Prof. Kenji Urayama, Kyoto University, Japan

### Keynote Presentations

- **The Crosslinking Dilemma in ENR: Evaluating Sulphur and Di-acid Networks for Future-Ready Rubber Products** | Dr. Amit Das, Leibniz Institute of Polymer Research Dresden, Germany
- **On the path to make a black magic green – how to minimize the CO2 footprint of rubber products** | Prof. Andreas Limper, Institut für Kunststoffverarbeitung RWTH Aachen, Germany
- **Recent Advances in Reducing Hysteresis of Rubber Composites** | Prof. Baochun Guo, South China University of Technology, China
- **Some Considerable Factors in Laboratory Frictional Testing Rubbers** | Prof. Changwoon Nah, Jeonbuk National University, South Korea
- **Enhancing Coagulation Efficiency and Overcoming Uncoagulation Issues in Skim Latex Using Synthetic and Natural Creaming Agents** | Assoc. Prof. Charoen Nakason, Prince of Songkla University, Suratthani Campus, Thailand
- **Bio-based Approach to Dispersion of Silica in NR** | Prof. Dariusz M. Bieliński, Lodz University of Technology, Poland
- **Resolving the Microstructure of Natural Rubber and Its Influence on the Mechanical Properties** | Prof. Jinrong Wu, Sichuan University, China
- **Engineering Allergy-Free Natural Rubber: Sustainable Deproteinization for Enhanced Industrial and Medical Performance** | Prof. Jitladda Sakdapipanich, Mahidol University, Thailand
- **AFM Nanomechanics Connecting Macro- and Nanoscopic World** | Prof. Ken Nakajima, Institute of Science Tokyo, Japan
- **Recent Trends in Adopting Sustainable Solution for Rubber Additives: How Chemistry Plays Significant Role?** | Prof. Kinsuk Naskar, Indian Institute of Technology Kharagpur, India
- **Natural Rubber in the Click Era: Advancing Functionalization and Modification via Click Chemistry** | Prof. Laurent FONTAINE, Le Mans University, France

### Keynote Presentations

- **Elucidating the Role of Nanoscale Interfaces and 3D Dispersion in Elastomer Nanocomposites: Connecting Microstructure to Viscoelastic Behavior** | Prof. Ming Tian, Beijing University of Chemical Technology (BUCT), China
- **Optimized Synthesis of Liquid Fluorosilicone Rubber with Improved Cold Resistance for Semiconductor Application** | Prof. Sang Eun Shim, Inha University, South Korea
- **Development of Fast Rubber Sheet-Forming Method for Natural Rubber and Its Application** | Prof. Seiichi Kawahara, Nagaoka University of Technology, Japan
- **Wide-Angle X-Ray Diffraction Studies on Strain-Induced Crystallization of Vulcanized Natural Rubber by Two-Step Biaxial Stretching** | Prof. Shinichi Sakurai, Kyoto Institute of Technology, Japan
- **New Insights into Vulcanization Reactions for Green Rubber Technology** | Prof. Yuko Ikeda, Kyoto Institute of Technology, Japan
- **Revisiting the Properties of Natural Rubber in Tire Industry and Development of NR-based Sidewall Compounds for EV Passenger Cars** | Assoc. Prof. Kannika Sahakaro, Prince of Songkla University, Pattani Campus, Thailand

### Invited Presentations

- **Greener Tire Tread Compounds by Reducing the Amount of Ingredients** | Prof. Anke Blume, University of Twente, Netherlands
- **Delayed Crystallization Response-Inspired Waterborne Polyurethane with High Performance** | Prof. Fei Chen, Xi'an Jiaotong University, China
- **Soft sensing composites based on rubber and elastomer matrices: Development and characterization methods** | Dr. Frank Jörg Clemens, Smart Ceramic Processing, EMPA, Switzerland
- **Facile recycling strategy for end-of-life rubbers by selective cleavage of cross-linking bonds** | Prof. Ganggang Zhang, South China University of Technology, China
- **Greening the Elastomer Technology : Bio-Based Solid/Liquid Rubbers, Polyurethanes, and TPVs** | Prof. Jeong Seok OH, Gyeongsang National University, South Korea
- **Cellulose Nanocrystal: Scalable Production and Innovative Applications of Bio-based Nanofillers** | Prof. Jianming Zhang, Qingdao University of Science and Technology, China
- **Colour-changing Smart Materials inspired by Nature: Chameleon Effect** | Dr. Karine Mougin, Institut de Science des Matériaux de Mulhouse, France
- **Natural rubber foam containing gamma-synthesized chitosan for the utilization as enhanced heavy-metal sorbents** | Assoc. Prof. Kiadtisak Saenboonruang, Kasetsart University, Thailand

# IRC 2025

## BANGKOK, THAILAND

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### Invited Presentations

- **Effect of Molecular Architecture on the Thermal Stability of Poly(epichlorohydrin-co-ethylene oxide-co-allyl glycidyl ether) (GECO) Based Elastomers** | Prof. Murat Sen, Hacettepe University, Turkey
- **Optimizing Silica and Carbon Black Ratios for Enhanced Mechanical Performance of NR/BR/SSBR blends** | Assoc. Prof. Nadras Othman, Universiti Sains Malaysia (USM), Malaysia
- **Self-Healing Rubber: An Advancing Technology for Smart Gloves** | Dr. Patrick Tang Siah Ying, Monash University Malaysia, Malaysia
- **Introduction of Reversible Bonds into Rubber Networks** | Dr. Toshio Tada, Sumitomo Rubber Industries, Ltd., Japan
- **Dual-Functional Natural Rubber Composites with Piezoresistive and Antibacterial Properties for Wearable Motion Detection** | Asst. Prof. Yeampon Nakaramontri, King Mongkut's University of Technology Thonburi, Thailand
- **Strain Softening of Rubber Nanocomposites Vulcanizates** | Prof. Yihu Song, Zhejiang University, China
- **Synthesis of Polyester-based Multiblock Copolymer Elastomers via A Cascade Polymerization Method** | Prof. Yingfeng Tu, Soochow University, China
- **Renewable Elastomeric Networks of Functionalized Ethylene-Propylene Copolymer** | Prof. Yixian WU, Beijing University of Chemical Technology, China

### Natural Rubber Symposium

- **Global Efforts to Ensure Sustainability of NR Supplies** | Stefano Savi, Global Platform for Sustainability of Natural Rubber
- **The Role of Thailand Contributing to Sustainability of NR Supplies** | Dr. Napawan Lekawipat, Rubber Authority of Thailand
- **Quality of NR Novel Green Technologies for Production of User-friendly and Consistent Properties NR** | Dr. Nantina Moonprasith, National Metal and Materials Technology Center, Thailand
- **From Tree to Technological Materials: Turning Natural Rubber into a Game-changer for More Sustainable and Performing Products** | Poonyawat Prateepat, Michelin
- **Perspective on Dipped Rubber Product Biodegradability: MRB Research Highlights and Future Pathways** | Shabinah Filza Binti Mohd Sharib, Malaysian Rubber Board
- **Study of Biodegradation Efficiency of Natural Rubber Products by Various Microorganism** | Dr. Nattawut Boonyuen, (National Center for Genetic Engineering and Biotechnology, Thailand)
- **Clinical Study of Allergic Properties of NR Gloves and Other NRL Products** | Dr. Naesinee Chaiear, Khon Khan University, Thailand
- **From Allergen to Assurance: A Comprehensive Review of Natural Rubber Product Safety and MRB's Strategic Role** | Dr. Aziana Binti Abu Hassan, Malaysian Rubber Board
- **Pioneering a Sustainable Biorefinery of Natural Rubber Serum for New Bioactives in Cosmetics, Food, Nutraceuticals, and Pharmaceuticals** | Dr. Thanawat Pitakpornprecha, Prince of Songkhla University, Thailand
- **Modified Natural Rubber: Current Progress, Opportunities, and Challenges.** | Dr. Krishna Veni, Malaysian Rubber Board
- **Challenge for the Future of NR Latex and NRL Products** | Dr. Amir Hashim Yatim, Malaysian Rubber Glove Manufacturers Association
- **Opportunity for Industrial Applications of NR** | Dr. Banja Junhasavasdikul, Innovation Group, Thailand

### Delegate Registration



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### Contact Info

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### Oral Presentations

- **Thermo-chemical devulcanization of sulfur-cured styrene-butadiene rubber (SBR) using diphenyldisulfide (DPDS)** | Jonas Petzke, Paderborn University, Germany
- **Tribological behavior of soft polymers against model substrates** | Prof. Sophie Bistac, Professor, Université de Haute Alsace UHA – LPIM, France
- **Study of standard laboratory for testing medical rubber gloves according to ISO/IEC 17025** | Dr. Hassarutai Yangthong, Researcher, Hub of Talents in Natural Rubber, NRCT, Thailand
- **Polyrotaxane-Based Hybrid Crosslinking for Tunable Elastic and Thermal Response in Epoxidized Natural Rubber** | Assoc. Prof. Anoma Thitithammawong, Prince of Songkla University, Thailand
- **Why Lab Studies Matter for Understanding Tyre Wear Emissions** | Dr. Martin Stěnička, Dr. Tomas Bata University in Zlin / University Institute / Centre of Polymer Systems, Czech Republic
- **Impact of Fused Filament Fabrication and Processing Parameters on the Performance of BaTiO<sub>3</sub>-Piezoelectric Composites for Soft Robots** | Sofiia Butenko, EMPA, Switzerland
- **New non-isocyanate polyurethane films based on natural rubber** | Tharin Sensan, Prince of Songkla University, Thailand
- **A New Antibacterial Hybrid Waterborne Polyurethane/Silica Coating Film Based on Natural rubber** | Assoc. Prof. Dr. Nitinart Saetung, Faculty of Science, Prince of Songkla University, Thailand
- **Method for Analyzing Mechanical Property Degradation of Polymer Materials Using Artificial Intelligence** | Sangin Park, Researcher, Hyundai Motor Company, South Korea
- **Molecular chain structure changes and strain-induced crystallization behaviors during various deformation of segmented polyurethane elastomer** | Asst. Prof. Kakeru Obayashi, Kyoto University, Japan
- **Understanding and Controlling Storage Hardening in Natural Rubber via Phospholipid Network Disruption** | Kittipong Insom, Mahidol University, Thailand
- **The Role of Deformation Mode on Rubber Hysteresis and Its Dependency on Viscoelasticity** | Dr. Shouliang Nie, Researcher, Zhongce Rubber Group Co. Ltd, China
- **Overview of SRI's research initiatives for enhancing the well-being of natural rubber stakeholders in Thailand** | Dr. Lucksanaporn Tarachiwin, Deputy General Manager, Sumitomo Rubber (Thailand) Co., Ltd
- **Degradation Trends in Plasticity and Viscosity of Selected Standard Philippine Rubber Under Prolonged Storage** | Rosemarie Salazar, Assistant Regional Director, Department of Science and Technology Region IX - Philippines

### Oral Presentations

- **Study on the dispersion of silica in SBR using time-resolved ultra small angle X-ray scattering** | Assoc. Prof. Shotaro Nishitsuji, Yamagata University, Japan
- **Sustainable Yield Improvement and Quality Assessment of TSR10 Rubber from Two Hevea brasiliensis Genotypes: Impact of Reduced Tapping Frequency Associated with Ethephon Stimulation** | Hathainat Kum-ourm, Researcher, Sumitomo Rubber (Thailand) Co., Ltd.
- **Preparation and Characterization of Silica Filled Modified Natural Rubber: A Comparative Analysis of Pre-dispersion and Conventional Techniques** | Dalip Abdulraman, Mahidol University, Thailand
- **Mechanical Tailoring of Waterborne Epoxy Coatings on Metal Substrates using Functionalized Natural Rubber Latex** | Dr. Wasan Tessanan, Pathumwan Institute of Technology, Thailand
- **How microcapsule-enhanced rubber can help creating a circular economy** | Katerina Filzer, University of Twente, Netherlands
- **Correlative analysis of morphological and functional properties in high-performance elastomer blends** | Dean Vidakovic, ZFE - Austrian Centre for Electron Microscopy & Nanoanalysis, Austria
- **Advancing sustainability in synthetic rubber: from commitment to climate action** | MARJOLEIN GROENEWEG, Marketing & Sustainability Director, Synthos Schkopau GmbH, Germany
- **Pyrolysis of Polychloroprene Rubber with Scavenger-Based HCl Neutralization** | Parinchaya Srithavorn, Queen Mary University of London, Thailand
- **On the Decoupling of Chemical and Mechanical Surface Contributions in Soft Polymer Network Adhesion** | Prof. Maurice Brogly, UHA – LPIM, France
- **Carbon Black Coupling Agents for Improved Fuel Efficiency of Tyres** | Max Dixey, Queen Mary University of London, United Kingdom
- **The development of bio-inspired composites from epoxidized natural rubber using  $\pi$ - $\pi$  stacking and cation- $\pi$  interactions** | Dr. Kwanchai Buaksuntear, Hub of Talents in Natural Rubber, National Research Council of Thailand
- **Improving Seal Life Prediction: Faster Crack Growth Testing in HNBR and NBR** | Orkid Ramekaj, Queen Mary University, United Kingdom
- **Investigation of the Effect of the amount of zinc borate on cure kinetics, reversion, and mechanical properties of natural rubber in a semi-efficient curing system** | Dr. Davut Aksüt, Hacettepe University, Turkey
- **Study on the Effect of Silane Coupling Agents on Mechanical Behavior of Silica-Filled Styrene-Butadiene Rubber under Elongation using In Situ Nano-Palpation Atomic Force Microscopy** | Maytawee Malineerat, Institute of Science Tokyo, Japan

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### Oral Presentations

- **Implementing Circular Economy Strategies in Power Transmission Belt Manufacturing** | Dr. Aswathy T R, Assistant Manager, JK Fenner India Ltd., India
- **AFM-Based Investigation of Polyisoprene-Inorganic Interface Adhesion at Multiple Scales** | HEXUAN MAO, Institute of Science Tokyo, Japan
- **Aluminum Soaps: A New Prospect for Rubber Application** | Prof. Xiaorong Wang, Center for Frontier Research & Technology, Hangzhou Zhongce Rubber Company, China
- **Sustainable NZEROSILTM Silicas from Renewable Rice Husk** | Danniell Liao, Product Application Development Supervisor, Oriental Silicas Corporation, Taiwan, Province of China
- **Inverse vulcanization forged self-motivated polysulfide silane: An ultra-efficient architect in engineering silica-rubber interface** | Dr. Dong Wang, South China university of technology, China
- **Microstructural Modelling of Carbon Black Aggregates for Sustainable Next-Generation Tyre Design** | Sarah Pedroni, Queen Mary University of London, United Kingdom
- **Rubber Blend Compatibility Analysis Using Large-Amplitude Oscillatory Shear (LAOS) on RPA** | Dr. Zühra Çınar Esin, Hacettepe University, Turkey
- **Chitosan-reinforced epoxidized natural rubber: possible design of energy-efficient tire tread compounds** | Nantinee Choosang, Hub of Talents in Natural Rubber, National Research Council of Thailand
- **Rubbery Soft Polymer Electrolyte Membrane with Nanomatrix Channel Prepared from Natural Rubber** | Dr. Yoshimasa Yamamoto, Associate Professor, National Institute of Technology, Tokyo College, Japan
- **Biomimetic Design and Development of Natural Rubber-based Soft Robotics** | Dr. Manus Sriring, Researcher, Rubber Technology Research Centre, Faculty of Science, Mahidol University, Thailand
- **Experimental Analysis of the Mixing Behavior of Ethylene-Propylene-Diene Rubber (EPDM) in a Rubber Pin Extruder under Variation of Process Parameters and Mixing Elements** | Mr. Leon Schmidt, Paderborn University, Germany
- **Study on Rubber Adhesive Interface Peeling Mechanism of Sealing Materials** | Mr. Hiromu Kawasaki, Researcher, NOK corporation, Japan
- **Influences of Sulfur Vulcanization System and Curative Content on Properties of Tire Tread Compounds Filled with Carbon Black/Silica Hybrid Filler** | Dr. Puchong Thaptong, Researcher, National Science and Technology Development Agency (NSTDA), Thailand
- **Eco-Efficient Vulcanization: Analysis of a Sustainable Rubber Curing Package** | Frances van Elburg, University of Twente, Netherlands

### Oral Presentations

- **Removal of proteins from natural rubber by creaming method** | ANH VIET TA, Nagaoka University of Technology, Japan
- **Critical Concentration of Primary Amines for Preparation of Vulcanized Deproteinized Natural Rubber with Outstanding Mechanical Properties** | Lam Ba Nguyen, Nagaoka University of Technology, Japan
- **Surface-Functionalised Carbon Black as a High-Performance Filler in Elastomeric Compounds: Techniques and Potential** | Rattapong Numard, Queen Mary University of London, United Kingdom
- **Visualizing Nanoscale Interface in Direct Adhesive Rubbers Containing Reversible Coordination Linkages** | Asst. Prof. Kim Hung NGUYEN, Institute of Science Tokyo, Japan
- **Boron-Containing Elastomer** | Assoc. Prof. Qi Wu, Sichuan University, China
- **Enhancing the Piezoresistive Sensing Properties of TPE/CB Composites via Co-Continuous Structure Design through Natural Rubber Blending** | Christopher Bascucci, Empa, Switzerland
- **Friction Behaviour in Relation to Wear Morphology** | Huong Thao Pham, Queen Mary University of London, United Kingdom
- **Elastomeric Ionomer based on Maleated Bromobutyl Rubber** | Assoc. Prof. Subhan Salaeh, Prince of Songkla University, Thailand
- **Green Synthesis of Zinc Oxide from Skim Latex Serum for Application in Rubber Vulcanization** | Asst. Prof. Preeyanuch Junkong, Mahidol University, Thailand
- **Modelling of Elastomers under Dynamical Mechanical Loads** | Prof. Michael Johlitz, Institute of Mechanics, Germany
- **Extrudable Vitrimeric Rubbers Enabled via Heterogeneous Crosslinking** | Dr. Shuangjian Yu, South China University of Technology, China
- **Property and Application of Perfluoropolyether-modified Functional Rubber** | Dr. Zheming Tong, PetroChina (Shanghai) New Materials Research Institute Co., Ltd., China
- **Effect of crystal orientation on mechanical strength of poly-isoprene rubber under bi-axial deformation** | Airi Sato, Researcher, Bridgestone Corporation, Japan
- **Enhancing Ozone Resistance of Tyre Sidewall by Sustainable Replacement of Petroleum Wax with Bio-based Additive** | Tirthankar Bhandary, Researcher, HASETRI, India
- **Performance Evaluation of Silicone-Based Isolators Under Varying Temperatures and Excitation Levels Using a Thermal Chamber Shaker** | Erdem Rahmi SENOZ, Mechanical Engineer, Aselsan, Turkey

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### Oral Presentations

- **New insights into Resins behavior: Influence of Resin Softening Point on the In-Rubber Properties of Carbon Black-Filled SBR Compounds** | Dr. Javier Alejandro Araujo Morera, Assistant Professor, University of Twente / Elastomer Technology and Engineering, Netherlands
- **Latex Serum Boosts Natural Rubber Strength** | Dr. Katsuhiko Tsunoda, Researcher, Bridgestone Corporation, Japan
- **N-Vinylamides: Structural Isomers of Amino acids Grafted onto Deproteinized Natural Rubber** | Prof. Hiroharu Ajiro, Nara Institute of Science and Technology, Japan
- **Low-Hysteresis Rubber Composites** | Prof. Baochun Guo, South China University of Technology, China
- **Study on the Performance of Natural Rubber - Copper Coated Steel Wire with BCDB and BCoPD** | Yuan Jin, Technical Service Manager, Rebo New Material Group, China
- **In situ methods to characterize deformation-induced mechanisms in NR** | Dr. Eric Euchler, Leibniz Institute of Polymer Research Dresden, Germany
- **Innovation Management for Commercial Success in the Rubber Industry Amid Shifting Global Market Forces** | Dr. Matthew Thornton, The Rubber Initiative, United Kingdom
- **Chemical fingerprinting for environmental detection of tyre rubber emissions** | Mr. Nick Molden, CEO, Emissions Analytics Ltd., United Kingdom
- **Formulations of finite hyperelasticity and viscoelasticity using invariants of stretch tensors** | Prof. Alexander Lion, University of the Bundeswehr, Germany

### Poster Presentations

- **Simulation of Rubber Acoustic Coatings under Deep-Sea Pressure Based on Strain-Dependent Viscoelastic Properties** | Dr. LIU Yue, Beijing University of Chemical Technology, China
- **Spatiotemporal Internal-Damage Distribution During Nonuniform Deformations in Filled Elastomers** | Yuki Tokudome, Kyoto University, Japan
- **Accelerated Prediction of Glass Transition Temperature in SSBR via Integrated Molecular Dynamics Simulation and Machine Learning Framework** | SIQI ZHAN, Beijing University of Chemical Technology, China
- **Development of an Integrated Design, Analysis, and Evaluation System for Rubber Components** | Dr. Changsu Woo, Researcher, Korea

### Poster Presentations

- **Enhancing Mechanical and Antibacterial Properties of Natural Rubber/Tire Waste Blends through Dual-Phase Processing Techniques** | Napasorn Kingkohyao, King Mongkut's University of Technology Thonburi, Thailand
- **Development of Phosphorylated Cellulose Nanofibers/Natural Rubber Composites** | Ryotaro TAKAYAMA, Researcher, Oji Holdings Corporation, Japan
- **Establishment of a library database of some compounding ingredients using a Py-GC/MS technique** | Prin Tumwised, Mahidol University, Thailand
- **Development of Tire Tread Formulations for Military Light-Truck Tires** | Dr. PAIROTE JITTHAM, Researcher, National Metal and Materials Technology Center, Thailand
- **Identification and Reduction of residual allergenic rubber proteins in Natural Rubber latex gloves via Alkaline and Surfactant Treatments** | Pimnaraporn Porncharukit, Mahidol university, Thailand
- **Mixed-Mode Crack Propagation Criterion in Elastomers** | Tomoki Mishima, Kyoto University, Japan
- **Effect of Carbon Black and Barium Titanate Hybrid Filler on the Change of Electrical Signal in Epoxidized Natural Rubber Composites** | LYHAV BOEURN, King Mongkut's University of Technology Thonburi, Thailand
- **Feasibility Study of Tamarind Shell Powder as a Bio-Based Secondary Accelerator for Rubber Flooring** | Weenusarin Intiya, Researcher, National Science and Technology Development Agency (NSTDA), Thailand
- **Study on the Effect of Compatibilizer Content on the Mechanical Properties of NR/BR/NBR Blends** | Kanokporn Sarikanonm, Kasetsart University, Thailand
- **Fatigue Properties of Rubber Composites with Different Glass Transition Temperatures** | Dr. Jiaye Li, Beijing University of Chemical Technology, China
- **Strain-induced crystallization behaviors of natural rubber with additional lipids** | Mr. Tomoaki Nakatsuka, Kyoto University, Japan
- **Bio-Based Polyurethane/Tannic Acid Composites with Adjustable Damping Property Enabled by Constructing Multiple Sacrificial Networks** | Dr. Dexian Yin, Beijing University of Chemical Technology, China
- **Strain-Induced Crystallization of Carbon Black-Reinforced Vulcanized Natural Rubber by Biaxial Elongation** | Hiroto Okumura, Kyoto Institute of Technology, Japan
- **Influence of Balanced Ratios between Mica and Carbon Black on Rheological and Mechanical Behaviors of Elastomeric Materials** | Assoc. Prof. Keon-Soo Jang, University of Suwon, South Korea
- **Natural-Rubber-Based Adhesives for Housefly (*Musca domestica*) Control** | KANNIKA HATTHAPANIT, Researcher, National metal and materials technology center, Thailand



### Poster Presentations

- **Evaluation of a Non-Traditional Preservative System for Enhancing Natural Rubber Latex Stability** | Maneephan Sukkho, Mahidol University, Thailand
- **Study on the Impact of Purified Natural Rubber Latex and Accelerators on Rubber Allergens in Natural Rubber Gloves** | Pitchaya Theedee, Researcher, Faculty of Science, Mahidol University, Thailand
- **Optimized UVA-Irradiation Silane-Grafting onto Saponified Skim Rubber for Enhanced Silica-Natural Rubber Compatibility** | Areeya Anuwatprakit, Mahidol University, Thailand
- **Cure Characteristics of NR Compounds with Sulfur Sludge from Biogas -Wastewater Treatment in Palm Oil Industry** | Asst. Prof. Prachid Saramolee, Walailak University, Thailand
- **Effect of chitosan bio-based filler on the mechanical reinforcement of ENR composites** | Ploypailin Juntosree, Kasetsart University, Thailand
- **Development of Natural Rubber Insulating Gloves: Influence of Latex Centrifugation and Leaching on Mechanical and Electrical Properties** | Dr. Promsak Sanguanthamarong, Researcher, National Metal and Materials Technology Center (MTEC), Thailand
- **Predicting the glass transition temperature of polymer based on generative adversarial networks and automated machine learning** | Zhanjie Liu, State Key Laboratory of Organic-Inorganic Composites, College of Materials Science and Engineering, Beijing University of Chemical Technology, China
- **Influence of Bio-Based Epoxidized Natural Rubber as a Compatibilizer on Thermoplastic Polyurethane/Natural Rubber Blends for 3D Printing Applications** | Torfan Srisuwanno, King Mongkut's University of Technology Thonburi, Thailand
- **Changes in nanostructural changes during tearing of elastomeric poly(butylene succinate)/poly(butylene succinate adipate) blend films** | Kazuki Imai, Kyoto Institute of Technology, Japan
- **A Melt Crystallization and Dewetting Kinetics of Marine-Degradable Polyesters in Thin Films** | Ryu Miyajima, Kyoto Institute of Technology, Japan
- **Influence of vacancy defect on stretching behavior of liquid crystal elastomer membrane** | Takumi Kato, Kyoto University, Japan
- **Texture Evolution and Mechanical Response of Cholesteric Liquid Crystal Elastomers with a Lying Helix Structure** | Koudai Tanino, Department of Material Chemistry, Graduate School of Engineering, Kyoto University, Japan
- **Characterization of polyisoprene blended with urethane compounds** | Dr. Takashi Kakubo, Senior Engineer, The Yokohama Rubber Co., Ltd., Japan

### Poster Presentations

- **Facile and efficient preparation of functionalized diene-elastomers via dynamic covalent polymerization** | Xinglong An, Institute of Emergent Elastomers, School of Materials Science and Engineering, South China University of Technology, China
- **Application of Ozone Treatment to Reduce Foul Odor in Cup Lump Rubber Production** | Chaveewan Kongkaew, Researcher, National Metal and Materials Technology Center, Thailand
- **Preparation of DES-containing Polyurethane Elastomer and Its Moisture-dependent Electrical Conductivity** | Shogo Taketa, Nagasaki University, Japan
- **Changes in Nano Structure upon Uniaxial Stretching of Polyurethane Liquid-Crystalline Elastomers as Analyzed by Small-Angle X-ray Scattering** | Yume SUGINO, Kyoto Institute of Technology, Japan
- **Effective degradation of waste tyre rubber using a specific treatment process: A Chemi-biological Method** | Pritish Raj Shukla, Birla Institute of Technology and Science- Pilani, K.K. Birla Goa Campus, India
- **Mediating Carbon Black-Natural Rubber Interface by Thioamide-Functionalized Polysulfide for Energy-Saving Composites** | Ruoyan Huang, Institute of Emergent Elastomers, School of Materials Science and Engineering, South China University of Technology, China
- **Design and molecular dynamics simulation of Biomass Ion-conductive elastomer** | Dr. Jiajun Qu, Beijing University of Chemical Technology, China
- **AFM Nanomechanics of Vulcanized Rubber Containing Silica and Petroleum Resin** | Makiko Ito, Researcher, Institute of Science Tokyo, Japan
- **Highly conductive Ag/pCF/MVQ composite rubber for efficient electromagnetic interference shielding** | Yang Chen, Beijing University of Chemical Technology, China
- **A Facile Method in Fabricating Flexible Composite elastomer with Large-Size Segregated Structures for Electromagnetic Interference Shielding** | Liang He, Beijing University of Chemical Technology, China
- **Deproteinization Process of Natural Rubber Latex by Membrane Filtration** | Prof. Yoko Aoyama, KOSEN-King Mongkut's Institute of Technology Ladkrabang, Thailand
- **Thermal Analysis of the Mullins Effect in Filler Reinforced Elastomers** | Koshi Shimazaki, Department of Material Chemistry, Kyoto University, Japan
- **Study on Melting Behavior of Crystallites in Carbon Black-Filled Vulcanized Natural Rubber Upon High-Speed Shrinkage from Its Highly Elongated State** | Maho Nakada, Kyoto Institute of Technology, Japan
- **Wide-angle X-ray diffraction studies on thermal melting behavior of crystallites formed by planar elongation of vulcanized natural rubber** | Shoei Okamoto, Kyoto Institute of Technology, Japan

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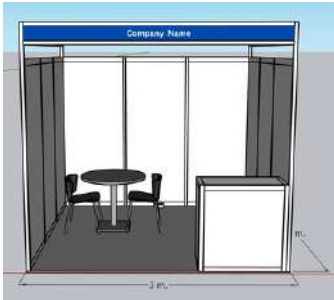
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Global Manufacturers & Suppliers of

- Natural & Synthetic Rubbers
- Rubber Chemicals
- Recycled Rubbers and Rubber Chemicals
- Rubber Analysis & Testing Equipment
- Rubber & Latex Products
- Rubber Technical Services
- Books and Periodicals

### Participating Exhibitors

- MTEC (Polymer Research Organization)
- Struktol (Rubber Chemical)
- Sumitomo Rubber (Products)
- LAWER S.p.A (Chemical feeding automation)
- CG Engineering (Testing Instruments)
- Nippon Soda Co., Ltd. (Chemicals)
- Test Industry SRL (Testing Instruments)
- Emissions Analytics (Testing Instruments)
- Rubber Technology Research Centre (Testing)
- Rubber World / Rubber Review (Publication)
- TechnoBiz
- Rubber Industry Club, FTI
- Prince of Songkla University
- Hub of Talents in Natural Rubber, National Research Council of Thailand (NRCT)

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# SUPERCHARGING THE RUBBER INDUSTRY

**12TH NATIONAL  
RUBBER CONFERENCE**

**SUPERCHARGING  
THE RUBBER INDUSTRY**

**AUGUST 7 & 8, 2025**

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# TechnoBiz RUBBER WEEK

A TechnoBiz Executive Forum  
on Rubber Industry and Technology

Edition #3 | Hybrid Event

1-4 SEPTEMBER 2025  
BOGOR, INDONESIA  
SWISS-BELHOTEL

In Partnership with



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## Speaker Spotlight



Agus Sarsito



Dr. Tri Utomo Wiganarto



Dr. Kannika Sahakaro



Dr. Nadras Othman



Dr. Dody Andi Winarto



Dr. Lydia Anggraini



Dr. Laksmi Dewi  
Kasmiarno



Ismail Saleh



Dr. Ahmad Basshofi  
Habieb



Ahmad Hidayat



Mardani Nugraha



Dr. Mochamad Chalid



Dr. Mili Purbaya



Baharuddin Salim

**Contact Information:** Dr. Irfan Fathurrohman (Email: [irfanirri@gmail.com](mailto:irfanirri@gmail.com) | Tel: +62-812 1702 527)  
Peram Prasada Rao (Email: [peram.technobiz@gmail.com](mailto:peram.technobiz@gmail.com) | Tel: +66-89 489 0525)

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## Training Course

# Rubber Reinforcement with Silica



**Schedule:** 1 Sept 2025 (9am-5pm)

**Venue:** Swiss-BelHotel, Bogor, Indonesia

**Trainer:** Dr. Kannika Sahakaro, Associate Professor, Prince of Songkla University, Thailand

### Program Content

- Introduction to Rubber Reinforcement
- Mixing of Silica and Silane Coupling Agent into Rubber
- Compound Formulation Design for Silica-Reinforced Rubber
- Advancements in Silica-Silane Technology for Rubber Applications

### Who Should Attend?

Rubber & Tyre Technologists, Chemists, Compounding Team, Technical Management Team



## To Register, Please Contact

Dr. Irfan Fathurrohman (Email: [irfanirri@gmail.com](mailto:irfanirri@gmail.com) | Tel: +62-812 1702 527)

Peram Prasada Rao (Email: [peram.technobiz@gmail.com](mailto:peram.technobiz@gmail.com) | Tel: +66-89 489 0525)

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#### **Rubber Industry - Technology & Management**

Time Length: 3 Months to 12 Months

#### **Rubber Compound - Technology & Management**

Time Length: 2 Months to 12 Months

#### **Who can Apply?**

Professionals with a minimum of 3 years experience in the rubber industry | Candidate must be currently working in the rubber company and must complete the TechnoBiz Pre-Assessment Test with a score of min. 60% | Candidate must be sponsored by the company | Company can nominate only one person per year

#### **Registration Fee Discounts**

Candidates who score over 85% in the TechnoBiz Pre-Assessment Test will receive 50% off on the registration fee.

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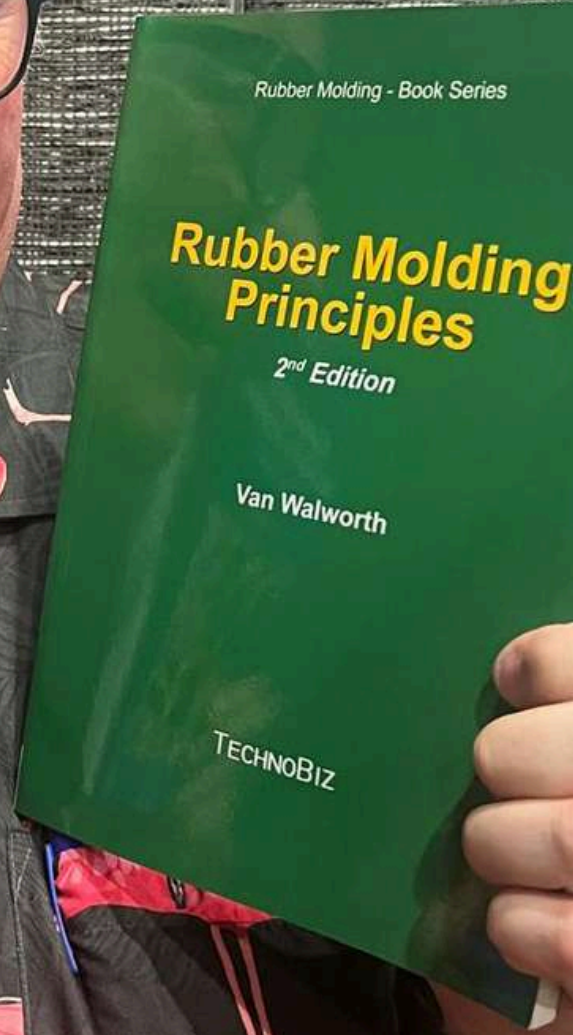
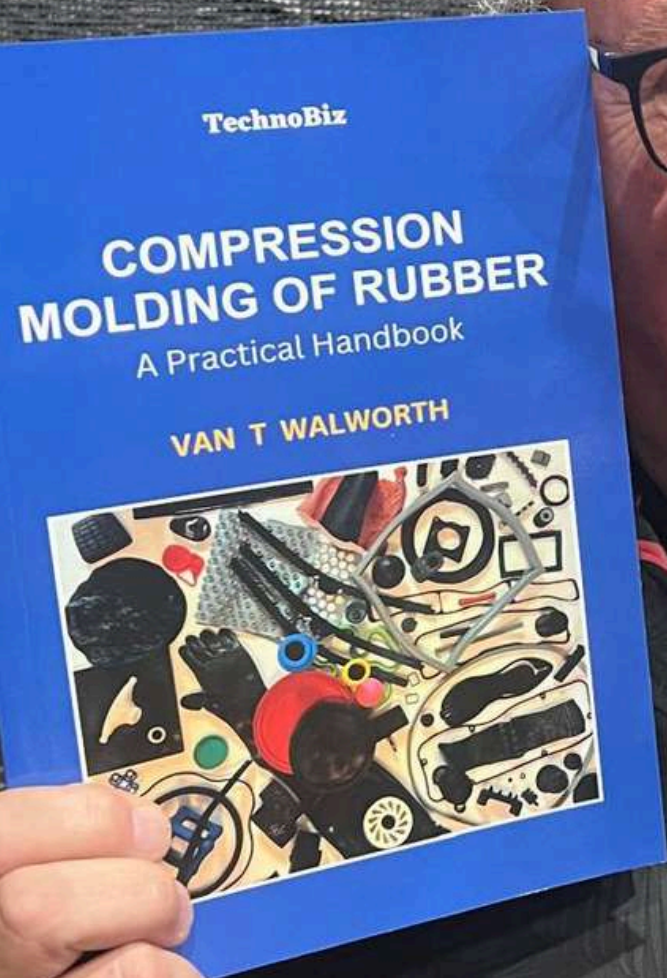
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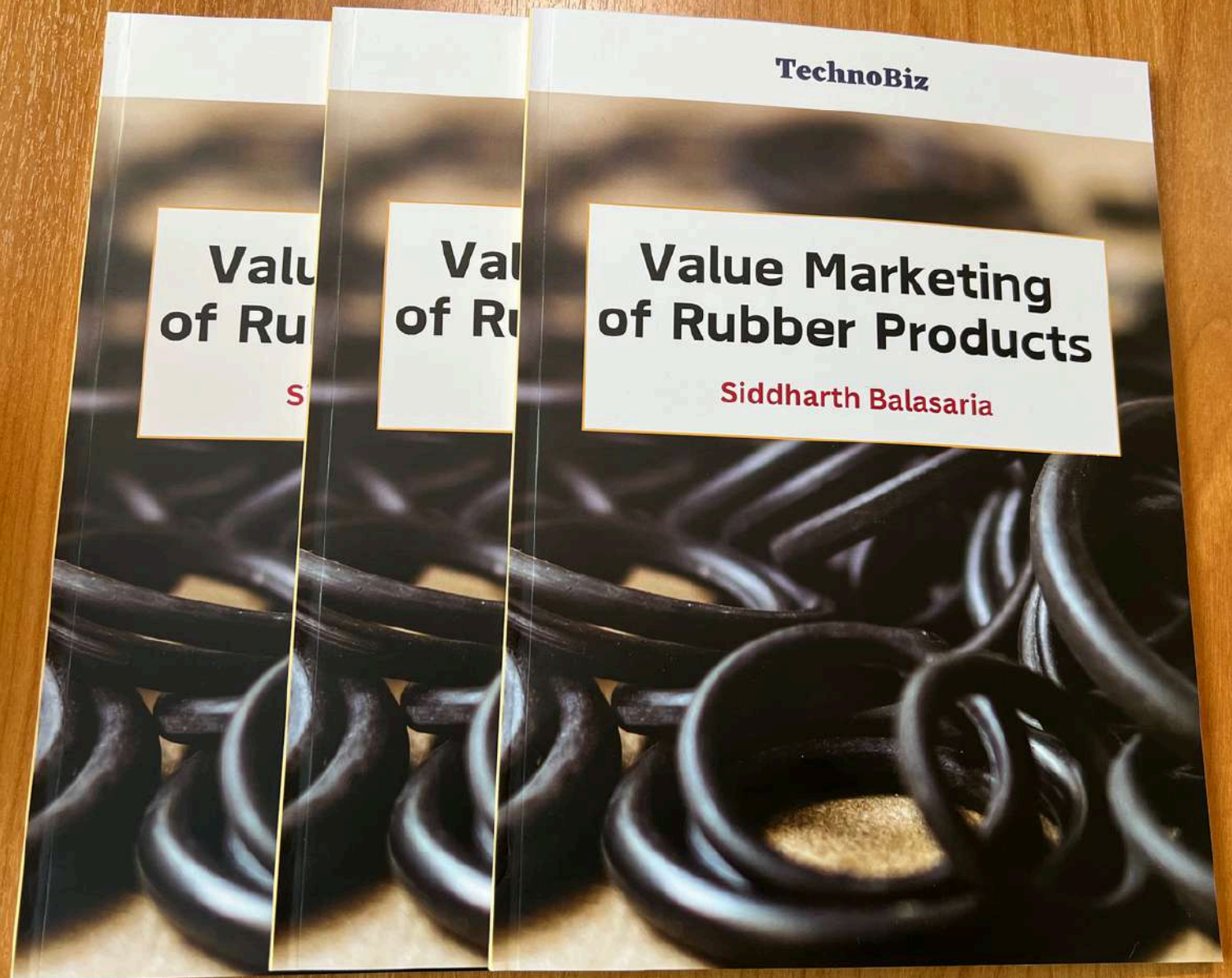
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# BOOKS

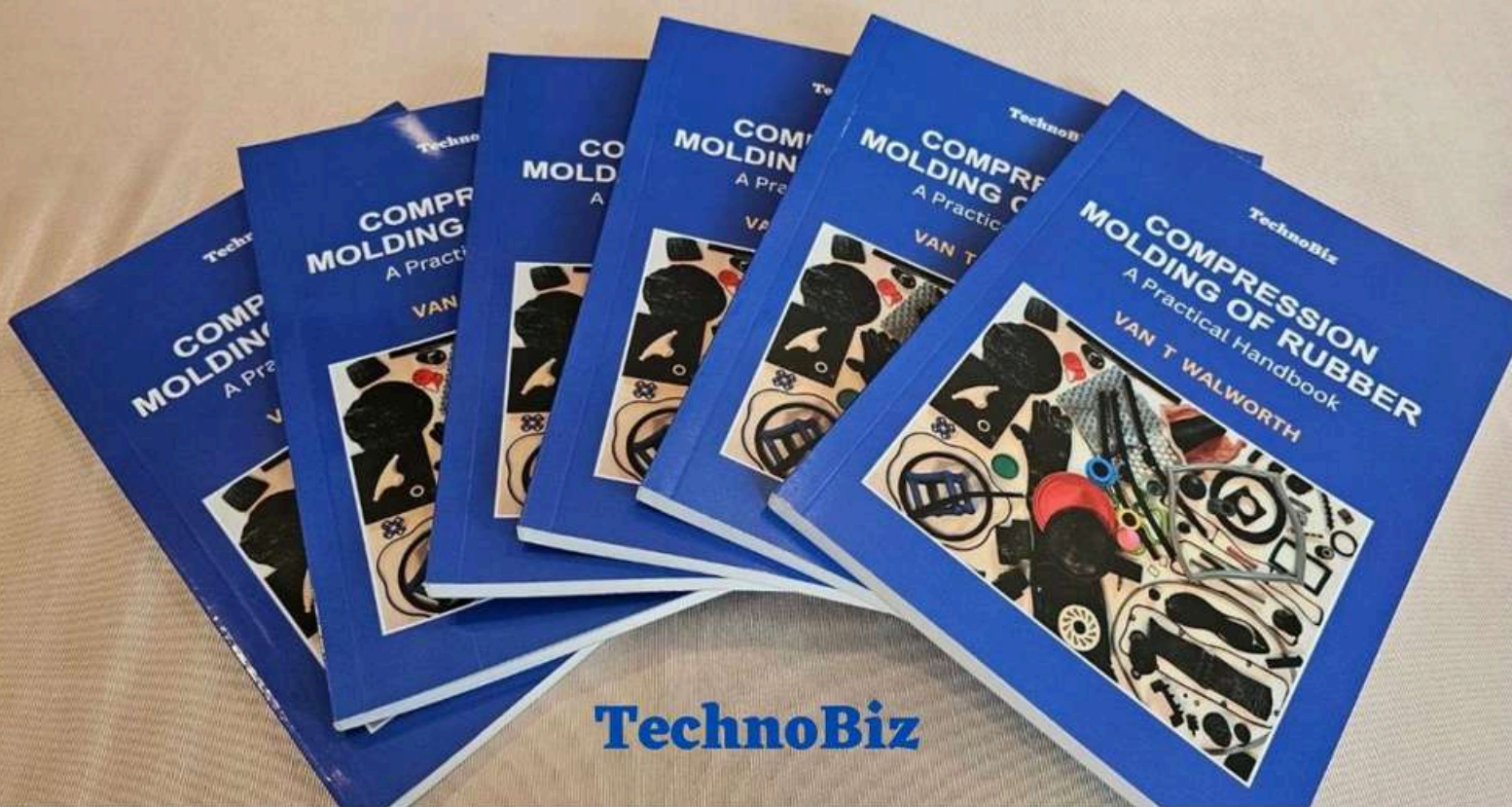




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# Compression Molding of Rubber A Practical Guide

**Author :** Van Walworth | **Pages :** 180 | Soft Bound  
**ISBN :** 978-616-92264-44 | **Publisher :** TechnoBiz | **Year :** 2024  
**Book Price :** 159 US\$ + Shipping



## Book Contents

Chapter 1: Introduction to Compression Molding of Rubber  
Chapter 2: Rubber Flow & Behavior of Rubber in Compression Molds  
Chapter 3: Rubber Molding Presses Used in Compression Molding  
Chapter 4: Compression Molding Parting Line Options  
Chapter 5: Compression Mold Alignment & Registration  
Chapter 6: Compression Molding Tear-Trims, Over-Flows, and Vents  
Chapter 7: Compression Molding Preform Considerations  
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Chapter 10: Compression Molding Process Troubleshooting  
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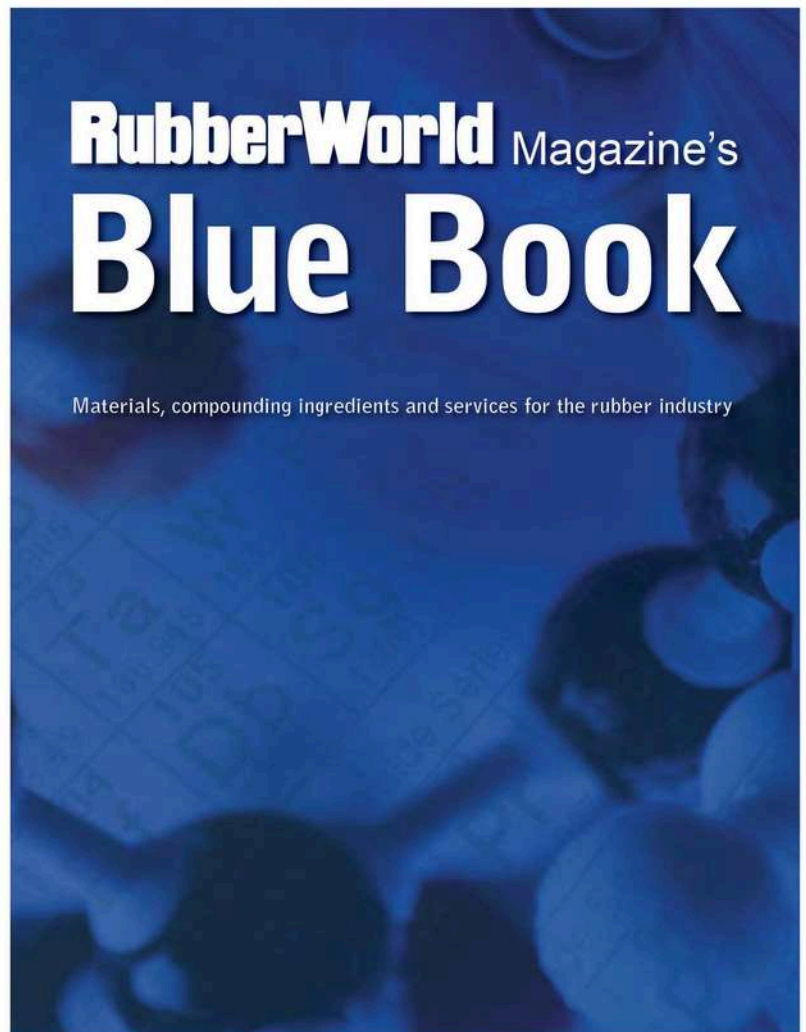
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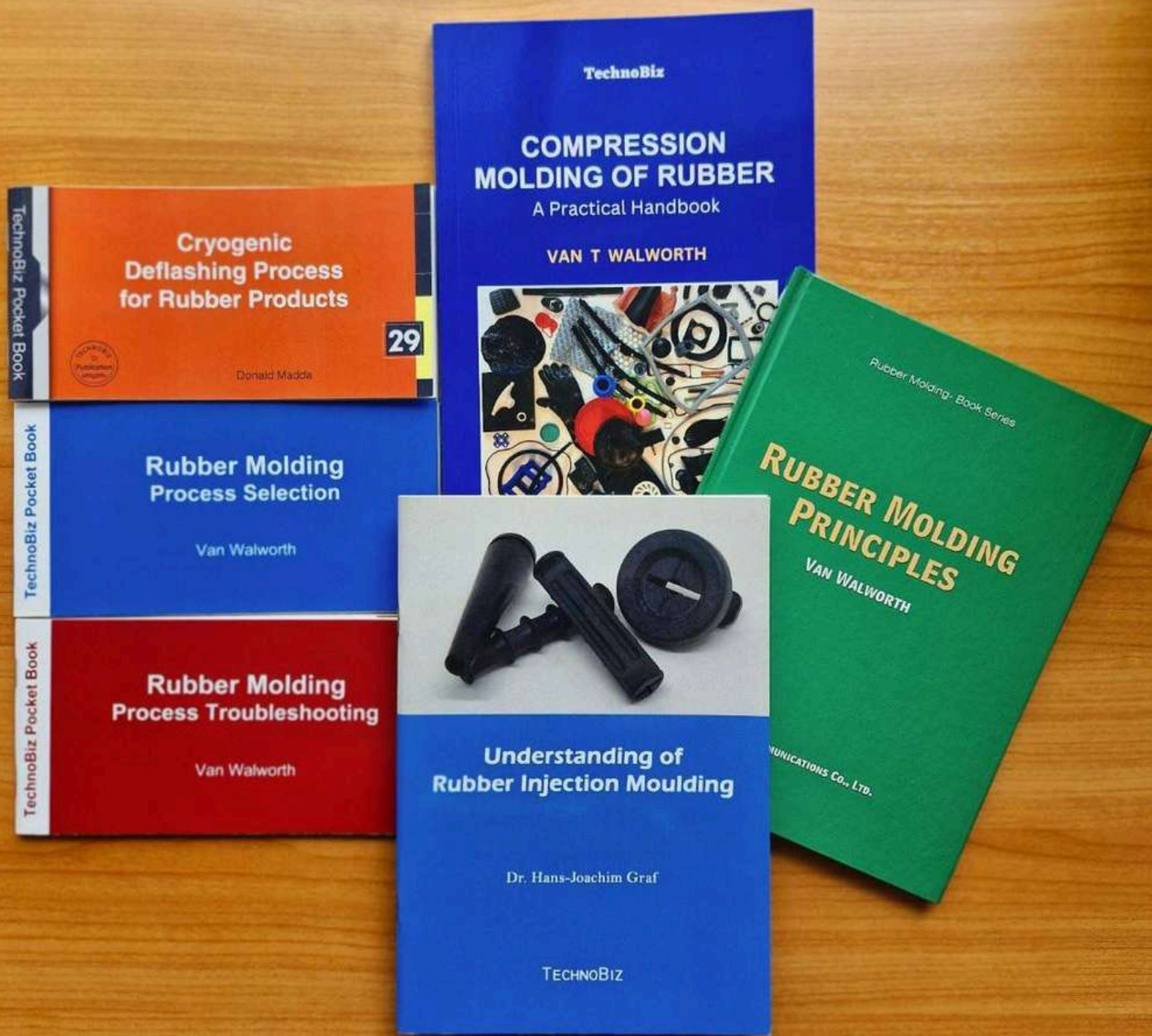
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