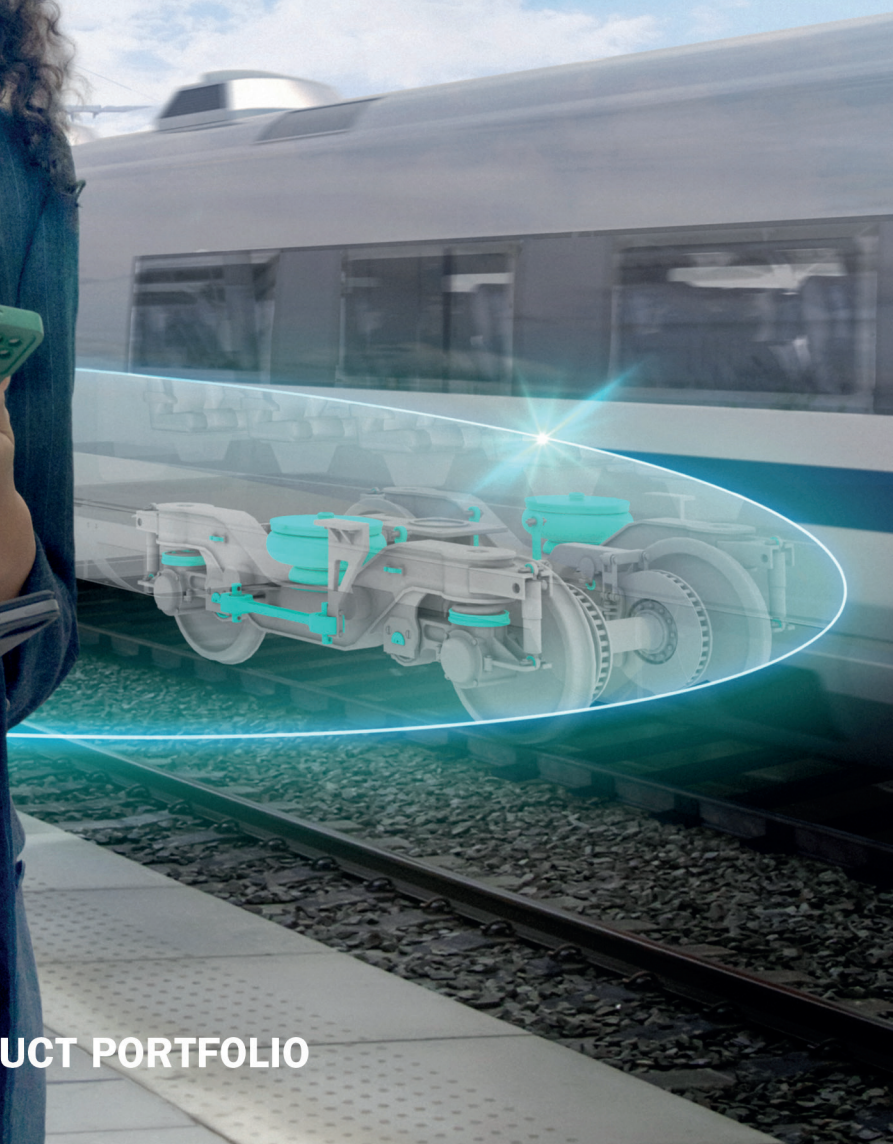


# Rail solutions



PRODUCT PORTFOLIO





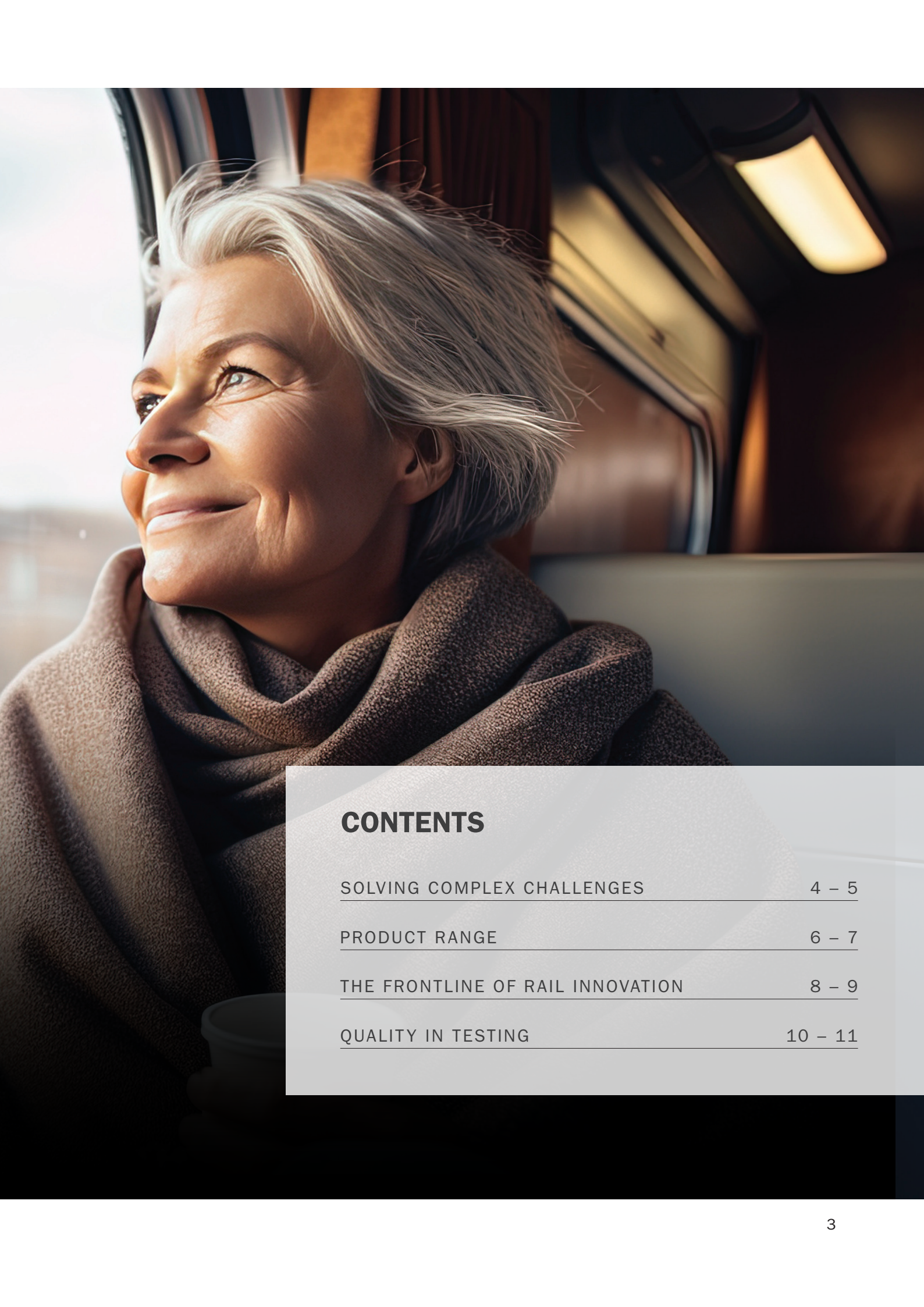
# Quality, innovation, durability.

## **EMBARKING ON A NEW RAIL FRONTIER OF COMFORT AND SAFETY**

Experience a new era in rail innovation with Trelleborg's Antivibration Solutions. As rail networks grapple with overcrowding and evolving commuter patterns, Trelleborg's polymer engineering expertise offers groundbreaking solutions. Our century of experience transforms noise and vibration issues into enhanced passenger comfort and equipment protection. We collaborate closely with industry stakeholders to deliver bespoke solutions, from suspension systems to powertrains, all designed, developed, and tested in IRIS approved facilities. Our excellence is evident in compliance, innovation, and reduced maintenance, reflecting in improved safety and brand reputation. Trelleborg redefines rail travel by harmonizing tradition with cutting-edge advancements, promising a journey that is not just defined, but elevated.

**Welcome to the frontline of rail innovation, welcome to Trelleborg.**





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# Solving complex challenges

## FORGING FUTURES TOGETHER

Playing a vital role in national and global economies, the rail industry is responsible for transporting people and goods safely, reliably and cost-effectively. We work tirelessly to meet these demands, developing safe solutions that perform over long and arduous lifecycles in the most challenging conditions.

Thanks to our efforts, passengers and workers feel safer and more comfortable, and our customers feel the benefits of working for a pioneering global brand:

- **Protection.** Our solutions extend the life of your equipment and components and offer superior protection against impact, vibration and noise.
- **Value.** By helping reduce downtime, we minimize your maintenance and repair costs while lowering the long-term cost of ownership.
- **Responsibility.** We help you improve the safety and comfort of passengers, as well as the sustainability of your equipment.
- **Support.** Wherever you are, you'll have access to local engineering support and a robust and reliable supply chain.

- **Peace of mind.** Fully tested and compliant with all international standards, our market-leading solutions meet the high levels of safety and reassurance that the rail industry demands.

## A CULTURE OF COLLABORATION

Collaboration forms the cornerstone of our approach. By nurturing partnerships with OEMs, rail stakeholders, and global authorities, we craft tailor-made solutions that elevate rail travel experiences. Our portfolio spans a gamut of components, from suspension systems to powertrains, meticulously conceptualized, developed, and rigorously tested in IRIS approved facilities.

## QUALITY AT EVERY STAGE

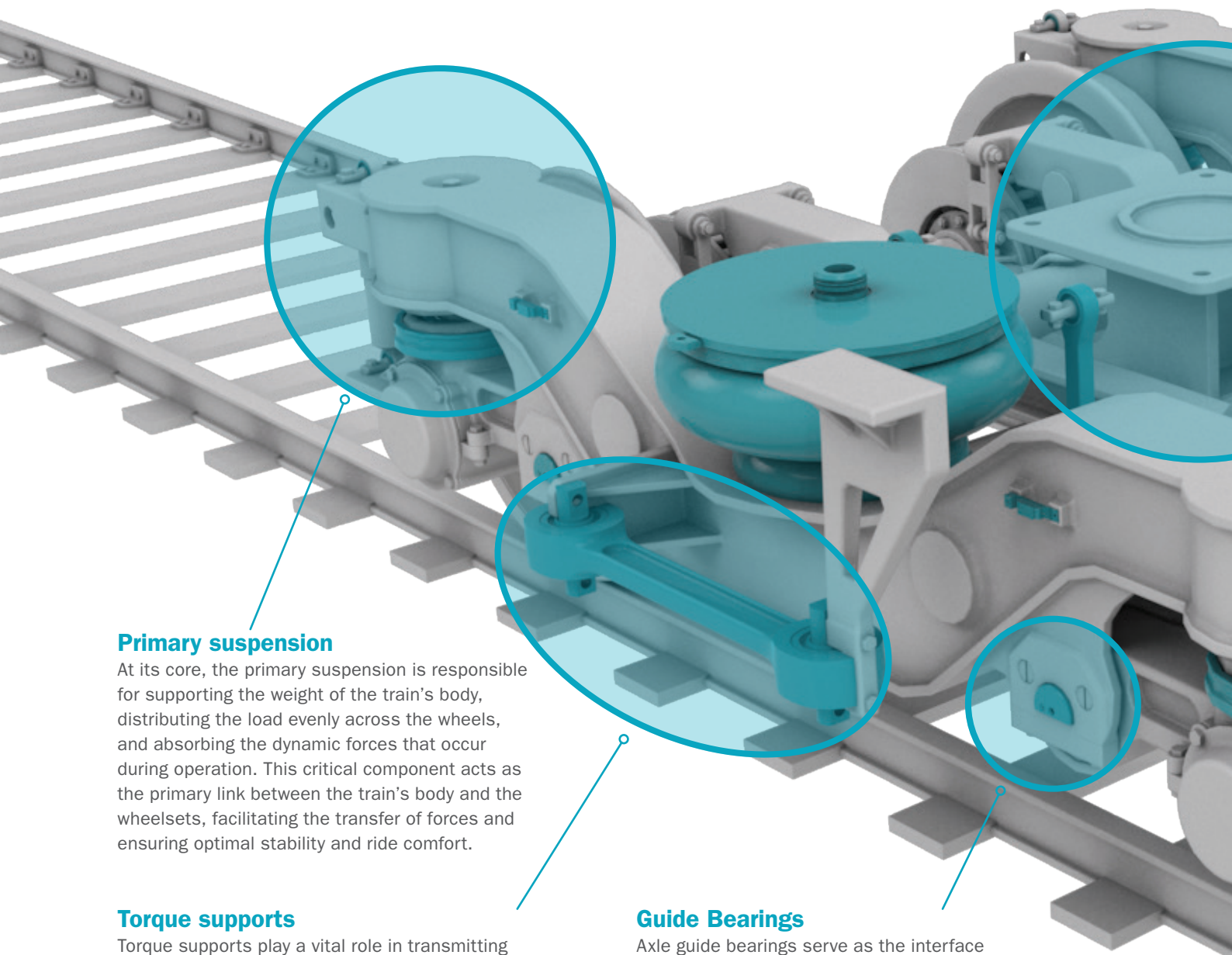
An acknowledged world leader in the design and manufacture of rubber-to-metal bonded components, Trelleborg Antivibration Solutions has developed a comprehensive portfolio of rail application solutions.







# Product range



## Primary suspension

At its core, the primary suspension is responsible for supporting the weight of the train's body, distributing the load evenly across the wheels, and absorbing the dynamic forces that occur during operation. This critical component acts as the primary link between the train's body and the wheelsets, facilitating the transfer of forces and ensuring optimal stability and ride comfort.

## Torque supports

Torque supports play a vital role in transmitting torque from the locomotive's power source to the wheels, enabling the conversion of energy into forward motion. By effectively distributing and managing the rotational forces generated by the powertrain, torque supports ensure optimal performance, traction, and power delivery throughout the train's operation.

## Guide Bearings

Axle guide bearings serve as the interface between the axle and the bogie frame, guiding the axle's movement and maintaining proper alignment. These bearings bear the weight of the train and facilitate the transfer of forces between the wheels and the chassis, optimizing stability, reducing friction, and enhancing overall system performance.

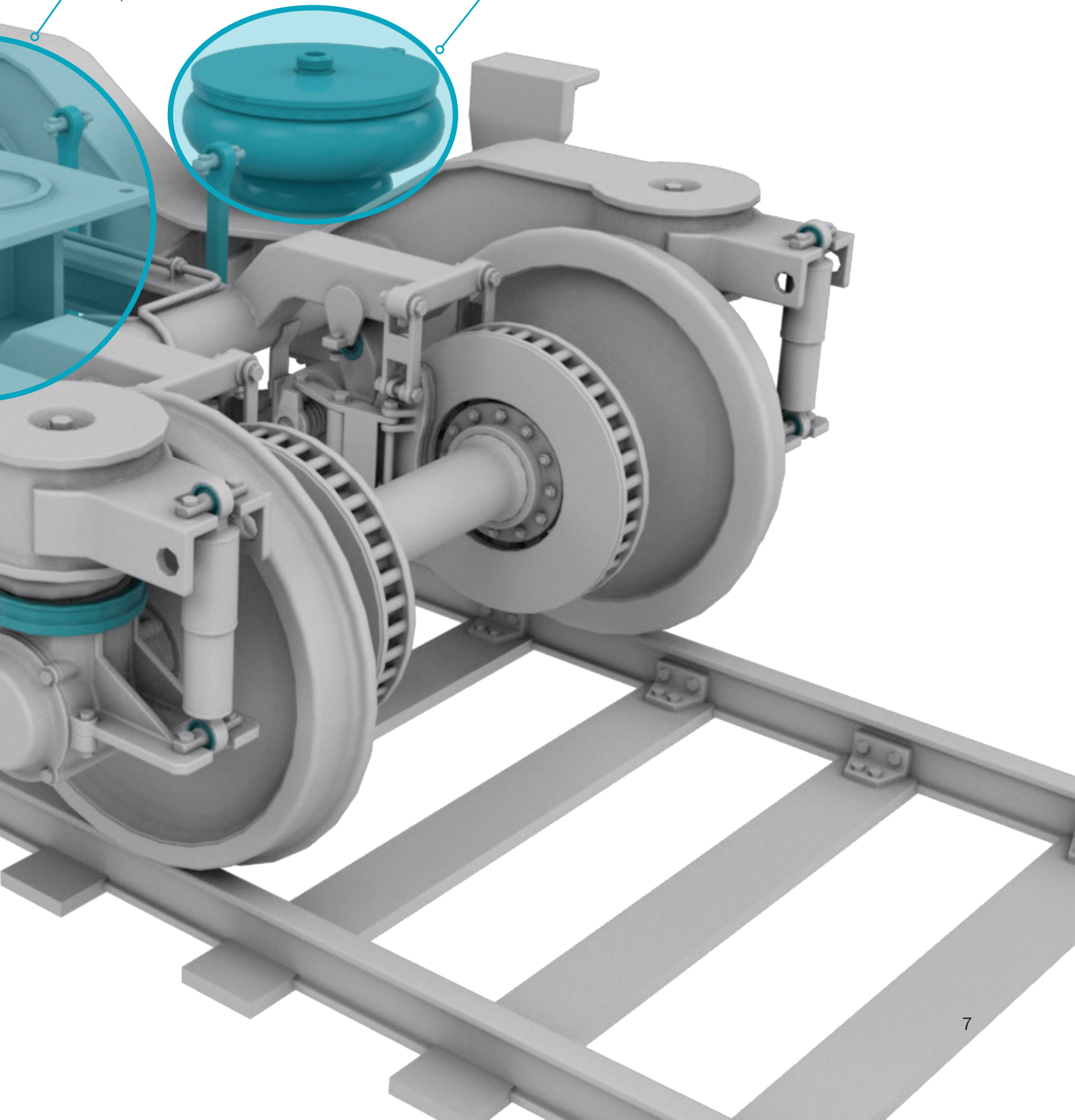


## Auxiliary Solutions

These auxiliary components play a crucial role in enhancing safety, stability, and overall system performance. Buffers absorb energy during collisions, ensuring passenger and crew safety. Pads distribute forces, reduce vibrations, and dampen noise, contributing to comfort and efficiency. Traction links transmit power, enabling efficient traction and propulsion. Anti-roll bars reduce lateral body roll, maintaining stability during curves or uneven tracks. Together, these components form the backbone of auxiliary systems, ensuring a seamless and reliable rail experience.

## Secondary suspensions

Secondary suspensions work in tandem with primary suspensions to further dampen vibrations, absorb shocks, and maintain stability as the train travels along the tracks. They are designed to mitigate the impact of irregularities in the rail infrastructure, such as bumps, curves, and switches, ensuring a smooth and comfortable ride for passengers and minimizing wear and tear on the train components.











# The frontline of rail innovation

## **CUSTOMIZED, COMPLIANT, COMPLETE.**

Trelleborg Antivibration Solutions has consistently been at the forefront of innovation in the rail sector. Our history is marked by pioneering solutions that have not only become industry standards but have also set new benchmarks. Innovations like the chevron, hourglass spring, and airspring, originally introduced by us as market-first solutions, are now integral to the industry.

In line with our commitment to innovation, we proudly manufacture and market a range of exceptional products. Among them, Metalastik® has stood the test of time, evolving over nearly a century to become a respected and successful brand within the rail industry.

Our dedication to innovation remains steadfast today. Through significant investments in research and development, we collaborate closely with rail partners and academia to anticipate and address future needs. This dedication has resulted in a comprehensive and continually expanding portfolio of rail sector solutions.

We invite you to challenge us with your unique requirements. Our specialized teams will accompany you through every stage – from initial concept and design to precise manufacturing, rigorous testing, and seamless installation.

Benefit from our wealth of expertise, coupled with our IRIS approved facilities, ensuring that the solution not only meets but exceeds your expectations and aligns with international standards. Discover the full power of our innovation, backed by a legacy of being the frontline of innovation in the rail sector.



# Quality in testing

## TESTED, TRUSTED, PROVEN.

**We understand the demanding environment of the rail industry, and the pressures you face.**

On one hand there's the over-riding concern for safety, with comfort for workers and passengers also a prime consideration.

On the other, there's the need to drive energy efficiencies in the face of rising environmental concerns. And through it all, there's the need to improve productivity and profit by extending the life and performance of equipment.

For these reasons, the rail industry is both risk averse, and keen to embrace new cost-effective technology. Trelleborg Antivibration Solutions is able to balance the demands of both.

Our high-quality products are the result of over 100 years' experience in the rail sector. They're manufactured in a world-class plant with superior materials and technology, giving you proven performance and total peace of mind. And they're tested in IRIS approved facilities, delivering the reassurance and quality you need throughout the lifecycle of your product.

What's more, as part of a major international group, Trelleborg Antivibration Solutions offers you the reassurance of financial strength, global support and on-going investment in quality and testing.

You will feel the advantages today, and into the future.











Trelleborg Antivibration Solutions (AVS) - Leading the Frontier of Innovation in Noise and Vibration Control. With our advanced polymer technology and expertise in rubber-to-metal bonding, we're pioneers in combating noise and vibration. As part of Trelleborg Group's Industrial Solutions, we bring over a century of excellence to various sectors like rail, marine, and industrial. Our focus is on crafting isolation, attenuation, and suspension solutions that redefine quality and reliability. Our new value proposition, "The Frontline of Innovation," signifies our commitment to pushing polymer technology's limits. We enhance comfort, safety, and efficiency while extending product life and optimizing costs. Join us at Trelleborg AVS for innovation-driven excellence.



Website



Linked In

[WWW.TRELLEBORG.COM/ANTI-VIBRATION-SOLUTIONS](http://WWW.TRELLEBORG.COM/ANTI-VIBRATION-SOLUTIONS)

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