

# Being on track never felt better



**Rail and Mass Transit**

# Trelleborg Industrial Anti-Vibration Solutions



**With over 100 years of experience, Trelleborg Industrial AVS make improvements people can physically feel. From smoother travel to quieter, more efficient machines, we make life feel better. With quality, testing and compliance built in, we're in it for the long haul, ensuring your solution never felt better, over an extended and often arduous life-cycle.**

**With three state-of-the-art manufacturing plants across the globe, our experience in rubber to metal bonding enhances a range of industries, including off-highway vehicles, rail and mass transit, marine and energy and general industry. The Metalastik and Novibra product ranges in particular epitomize the expertise and rich heritage of our anti-vibration solutions.**

**We offer an end-to-end service, to take you from concept through design, manufacturing and testing to delivery, helping you cut costs, mitigate risk and receive on time, on budget delivery.**





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## **PERFORMANCE THAT'S NEVER FELT BETTER**

We know that you're looking for more than products: you're looking for business solutions. That's why we focus our product development on enhancing and differentiating your operations. Our materials and technologies are developed to facilitate faster, smoother, quieter and safer rail travel. With safety and reliability so high on the agenda, the rail market is a rightly conservative one. That's why our solutions come with the reassurance of extensive and reliable testing, and finite element analysis carried out in our IRIS approved factory.

The industry is globalizing rapidly, but political and economic factors demand localization. With over 100 years' experience supplying anti-vibration systems to the global rail industry, we have a deep knowledge of national and international regulations. We help you to ensure compliance through high quality, reliable solutions, ensuring your business has never felt better.

## **QUALITY, RELIABILITY, SAFETY**

Quality, reliability and safety are absolutely paramount in the rail industry, and there's no substitute for experience. Focused on advanced technology and design, we provide the know-how, skill and technical expertise to develop solutions that ensure your organization has never felt better. We believe in intelligent innovation: all our solutions are based on the unique needs of your application and developed in the most cost effective way.

We understand the rail industry and appreciate the product performance such a demanding environment dictates, developing solutions that perform over long and arduous lifecycles. From installation to decommissioning, your passenger journeys will have never felt better.





## **PARTNERSHIP ETHOS**

We believe that working in partnership will achieve the best results for our customers. Our specialist teams will assist you from specification and design to post-installation. We also deliver training on getting the best out of our anti-vibration systems for customers.

## **LOCAL PRESENCE, GLOBAL REACH**

Trelleborg Industrial Anti Vibration Solutions is part of Trelleborg Group, which employs 15,000 people in over 40 countries. Whatever your challenge, whatever your role and wherever you are, we are nearby to offer expert knowledge and quality solutions.

## **TECHNICAL EXPERTISE**

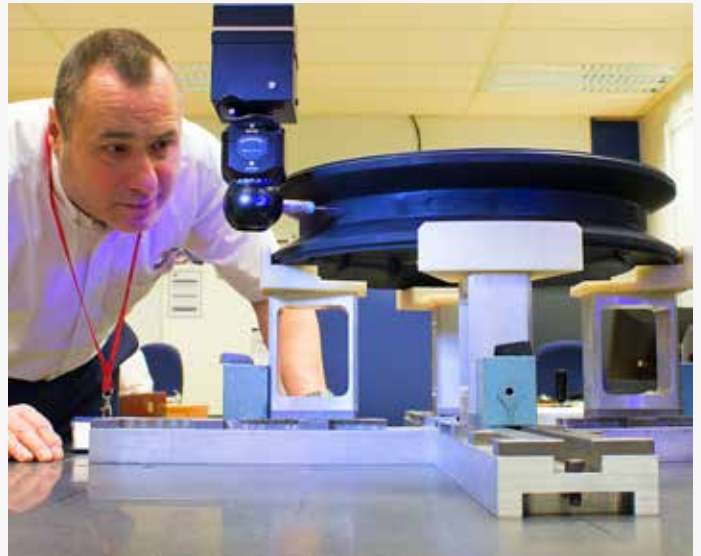
Trelleborg Industrial AVS is a world leader in the design and manufacture of rubber to metal bonded components for noise and vibration isolation in engine mounting and suspension systems. Our skilled R&D team is constantly working to evolve our solutions, working closely with customers to pre-empt and rise to changing markets and requirements.



# Customized Solutions

Wherever there is rail, there is vibration and wherever there is vibration; Trelleborg has the experience to protect your people, your passengers and your productivity. Our shock, noise and suspension systems are tailored to your unique situation and requirements.

With so many international standards to meet, you need to be sure that your components are compliant. Our experience and history in the global rail industry, coupled with our sound understanding of legislative standards and requirements, mean we can tailor a precise solution that meets your every regulatory need.



## HIGH LEVELS OF SERVICE

Trelleborg can manage your whole project from concept, through polymer design engineering and manufacturing, to testing and installation. This ensures your solution is delivered on time and on budget, and delivers reliable performance that just feels better.

Where custom solutions are required, we have a wide ranging experience in designing for and testing rail applications, and modelling the perfect anti-vibration and suspension system characteristics to meet your needs.



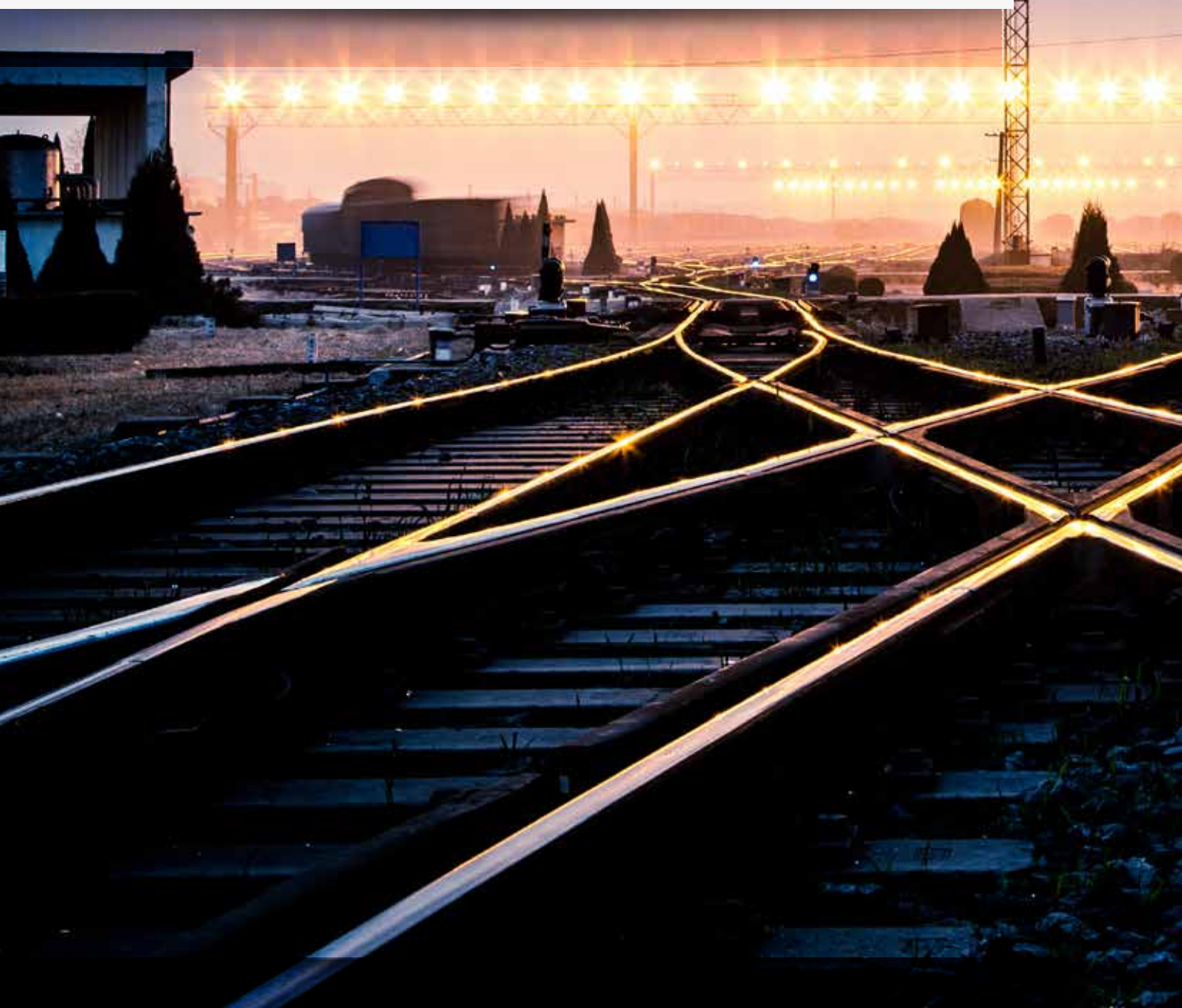




Technological innovation at Trelleborg results in first to market products, which go on to set the standard. Just take the examples of the chevron, hourglass spring and airspring, invented by Trelleborg, now industry standard.

Trelleborg manufactures and markets the Metalastik® brand, one of the most globally successful brands in the rail industry. Metalastik® has a heritage of design innovation that spans nearly 100 years.

Our product portfolio is extensive and always expanding. We have a selection of ready-designed solutions, but also specialize in purpose-driven design. We supply all rail applications from trams and light vehicles to heavy freight locomotives, with state-of-the-art solutions.





Have a look at a range of our rail application solutions below, or get in touch to see how we could engineer a bespoke solution for your project. Further technical information can be found in our product catalogues.

| DESCRIPTION   | PRODUCT   |
|---|---|
| <p><b>Airsprings</b><br/>           Low vertical natural frequency<br/>           High horizontal deflections and low stiffness<br/>           Constant height control</p>  |    |
| <p><b>Bearer springs product range</b><br/>           High vertical load capacity<br/>           High horizontal displacement<br/>           Low torsional stiffness</p>  |    |
| <p><b>Chevron product range</b><br/>           Linear vertical stiffness<br/>           Variable lateral and longitudinal stiffness<br/>           Stiffness rates can be varied by changing installation angles</p>  |    |
| <p><b>Cushyfoot product range</b><br/>           Robust design<br/>           Large variety up to 1.6 tonne load<br/>           Trelleborg original design</p>  |   |
| <p><b>Cushymount product range</b><br/>           Compact fail safe design<br/>           High capacity<br/>           Dissimilar stiffness</p>   |  |
| <p><b>Hourglass springs product range</b><br/>           Rising vertical stiffness with load providing constant natural frequency<br/>           Suitable for a range of applications<br/>           Wide variety of sizes</p>                              |  |
| <p><b>Primary conical spring product range</b><br/>           Compact design containing horizontal loads within the product<br/>           Low horizontal stiffness and high displacement capacity<br/>           Simple to install and low maintenance</p> |  |
| <p><b>Suspension components</b><br/>           Wide range of products<br/>           Bearers, bushes, links, coil spring pads<br/>           Customizable to your needs</p>   |  |
| <p><b>Vee mount product range</b><br/>           Ideal for rail vehicle engine suspension<br/>           Strong casting for safety and reliability<br/>           Three dissimilar translational stiffness for the best vibration isolation</p>             |  |
| <p><b>Metacone product range</b><br/>           Large static deflections<br/>           Compact fail safe design</p>  |  |


A photograph of a middle-aged man with grey hair and glasses, wearing a white lab coat over a blue shirt. He is focused on his work in a laboratory, with various pieces of glassware and equipment visible in the background. The lighting is soft and professional.

# Quality and innovation

**The rail market is necessarily conservative: new products can bring safety and reliability risks. To mitigate risk, overcome potential problems and allow innovation to break through, you need to work with a supplier with a strong track record and state-of-the-art testing.**

Trelleborg has been innovating for the rail market for nearly 100 years. Our high quality products, built on superior materials and technology, mean we can supply a wide variety of demanding applications. What's more, as part of a leading global group; you have the reassurance of our recognized financial strength, which ensures we'll be on hand when you need us, for the lifecycle of your product.





Trelleborg Industrial AVS make improvements people can physically feel. From smoother travel to quieter, more efficient machines, we make life feel better. With quality, testing and compliance built in, you have the confidence you're dealing with a true partner that understands your challenges and will ensure your people and passengers have never felt better.

**Never  
felt better**



Using advanced polymer technology, Trelleborg's industrial anti-vibration solutions (IAVS) operation specializes in the field of rubber-to-metal bonding for the removal of unwanted noise and vibration. Solutions include mountings, bearings and suspension. As part of the Trelleborg Industrial Solutions business area of Trelleborg Group, Trelleborg's Industrial AVS operation utilizes over 100 years of experience to provide solutions for numerous applications and environments, with a reputation of high quality, performance and service life. Markets include rail, marine, industrial and off-highway. The company focuses on isolation, attenuation and suspension solutions of unrivalled quality and reliability. The company's commitment and expert polymer technologies create maximum business value through improved longevity, productivity and cost effectiveness, while also optimizing comfort, health and safety. [www.trelleborg.com/anti-vibration-solutions](http://www.trelleborg.com/anti-vibration-solutions).

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



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