

# Good Vibrations for Industry



# Smooth-Running Industrial Applications

ContiTech Vibration Control reliably caters to industrial needs and requirements and develops vibration control technology solutions in the form of sophisticated moulded parts around the globe both with and for its customers, as well as providing quick and flexible services directly at its customers' sites and facilities and all from one single source.

**We have been developing solutions that enable us to effectively reduce and insulate unwanted vibrations and noises for over 50 years. We do so by incorporating our extensive expertise in the fields of technology and material properties into our work and fully tapping into the potential of rubber, metal and plastic materials in order to meet our customers' needs and requirements.**

We consider ourselves to be a development partner and original equipment manufacturer. Our vibration control technology solutions can be found in vehicles such as tractors, excavators and forklift

trucks, in heavy-duty printing machines and at huge offshore facilities such as wind power plants. Our high-quality components and systems help to perfectly mount systems, machines, engines and cabs in accordance with their elastic and vibration properties, as well as protecting both people and the environment.

We provide our customers with a full-service partner that independently accomplishes and supports all stages of the vibration control process, from development through to product tests and trials and right through to production.

**ContiTech Vibration Control is well known all over the world for its:**

- technological leadership and innovative power
- customised vibration control technology solutions and diverse range of standard-quality products
- top-quality materials and services
- high level of functionality and safety
- products that are environmentally friendly and boast long service lives combined with low installation and maintenance requirements
- measurement and simulation processes
- reliability and high product and service availability
- close proximity to customers on a global level thanks to its on-site presence in important markets

# A Wide Range of Solutions

Although our world is constantly oscillating, effective vibration control technology means that such disturbances usually go unnoticed. This technology is often barely noticeable itself, but is nevertheless able to work extremely effectively to protect both people and the environment when used in devices such as sensitive equipment, large plants and systems or other machinery.

**The components and solutions provided by ContiTech Vibration Control in order to combat disturbing vibrations, impacts and noises are just as diverse as the demands and requirements involved in their industrial applications.**

## Perfect Momentum for Wind Energy

The increasing use of wind power plants to generate electricity on a global level is a prime example of how renewable energies are becoming more and more important. The fact that such power plants are growing in size and need to withstand strong forces means that they have to meet high technical requirements. The main requirement for wind power plants is that they need to function reliably and without needing maintenance over long periods of time, even in the harsh and challenging conditions present in offshore parks. We therefore work together with our partners in the wind energy industry to ensure that these plants are both safe and economical.

## Mountings for Cost-Effectiveness and Health

Getting behind the wheel of an excavator, wheel loader or forklift truck involves having to deal with constant vibrations. Shaking gear sticks and vibrating displays can both put a strain on drivers' spines and make it hard for them to carry out their work. They also limit the operating times of vehicles and have an adverse effect on drivers' health. Legislation therefore stipulates that manufacturers must optimally coordinate their suspension systems. The material used in these systems, however, also suffers from strong vibrations, in particular when vehicles travel at higher speeds, which is why specially coordinated suspension elements have been developed for cabs, chassis and engines.






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**Wind power plants are subjected to strong forces that result in vibrations and disturbing noises.** We use mounting elements such as our generator to reduce unwanted vibrations and therefore make an innovative contribution towards reliable power generation.




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**Our hydromounts are components with sophisticated properties and functions.** They act as top-quality and reliable state-of-the-art solutions for anyone looking for elastic mountings for use in all areas of mechanical engineering, engine construction and industrial vehicle manufacturing. When used in power units and devices, our hydromounts reduce the transmission of vibrations to a minimum and provide protection against exciting forces in the opposite direction. The components additionally boast extraordinarily good damping properties.

# A Calm Journey on the High Seas

Around one million passengers enjoy spending their annual holiday aboard a cruise ship every year. Our elastic spring and coupling elements help to suppress vibrations and noises in ship hulls so that these passengers do not have to hear the

huge, noisy and strongly vibrating diesel engines of their giant cruise ships in action. We also use our expertise in the fields of materials and development to provide sustainable benefits for powerful yachts and boats.



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The most successful way to reduce noise and vibrations is to tackle them exactly where they occur, namely at the interface between the engine and the hull of the ship. Our double bush bearing for ship engines ensures that the V-drive transmissions of yachts are optimally mounted. The transmission then allows the engine to be positioned above the propeller shaft at high power, thus providing more space for passengers.





# A Clear-Cut Matter

Modern wastewater treatment ensures hygienic conditions and takes care of the quality of bodies of water. It uses a ten to fourteen-hour long processing cycle split into three stages to ensure the high quality of drinking water, which is, of course, an essential focus as the most important human requirement. The second stage of the cleaning process, the biological water treatment stage, uses

silicone membranes for membrane plate air diffusers made by ContiTech. These diffusers mix the heavily contaminated medium with a sufficient amount of oxygen, thus allowing microorganisms to rapidly decompose large quantities of dirt.



**Silicone membranes from ContiTech Vibration Control for use in water treatment plants:** In water management, materials must be able to comply with extremely high demands.

# Strong Brands for Optimal Performance

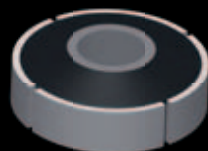
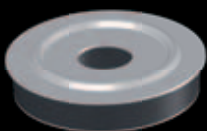
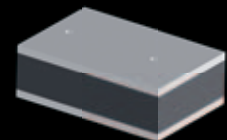
Cost-effective, maintenance-free and reliable – our extensive standard range of high-quality products and services for our customers.

We provide the industry with the perfect impetus by using the unique properties of a material that has been fascinating mankind for over 3000 years: rubber. Rubber can now be found in virtually all technical structures and high-tech products. Its ability to be used in optimal combinations with other materials makes rubber an

extremely valuable substance and it can even be combined with metals or light-weight plastics to form complex technical systems, as well as being used for an extremely wide range of different applications.

Our rubber and metal anti-vibration components are internationally known under the brand names SCHWINGMETALL® and MEGI® and are able to:

- insulate vibrations and structure-borne noise
- insulate machine vibrations
- reduce accelerations
- provide noise protection
- enable powerful drive
- secure the functionality and durability of engines and power units
- prevent damage to the immediate surroundings





Our global sales network provides support and advice and ensures the availability of a comprehensive selection of our branded products with over 1000 standard elements. We also offer our trade partners training sessions that teach them how to use this extensive selection of products and enable them to optimally use our products' diverse range of applications.



### SCHWINGMETALL® and MEGI® – Sophisticated Rubber and Metal Compounds

The ContiTech SCHWINGMETALL® and MEGI® brands have been offering top-quality rubber and metal compounds for a number of decades. Our range of products in this field has successfully proven its worth on many occasions and is still unrivalled by other systems.

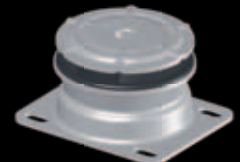
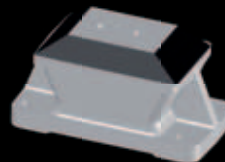
### MEGI®

Our SCHWINGMETALL® portfolio offers impressive cost-effective solutions for a wide variety of requirements involved in the operation of industrial vehicles and printing machines, in the fields of mechanical engineering and toolbuilding, in the railway vehicle industry and in many other areas. MEGI® suspension elements are used to effectively reduce vibrations and noises in machinery, apparatus and equipment and to achieve power transmission free from backlash or friction.

### ROTAFRIX®

### ROTAFRIX® – Our High-Performance Drive Solutions Take Centre Stage

Our friction rings and guide pulleys not only ensure that everything runs smoothly on the large and small stages of the world, but also work efficiently in underground applications such as guiding hoisting cages and skips. In fact, these high-performance products come into their own in all situations in which drives have to work extremely hard. Their high transmission capacities, low space requirements, quietness, simple installation and maintenance-free operation make them the ideal choice for drives for an extremely long service life.





# Customised Technology

Measurement, analysis and simulation are all essential stages of the journey towards perfect designs that focus on the vibration properties of equipment, machinery and engines.

We work together with our industrial partners to tackle the further development of materials and products at a very early stage. In doing so, our constant aim is to manufacture elastomer components that are precisely tailored to suit the needs and requirements in question.

Our use of in-depth system expertise as a key factor for the development of optimal components involves the following activities:

## Service life calculations

We use state-of-the-art methods to calculate the service lives of rubber and metal elements. A multidimensional stress condition forms the basis of this analysis, with the results of the finite element analysis identifying areas in which the load is too heavy and enabling these issues to be directly mitigated on the computer.

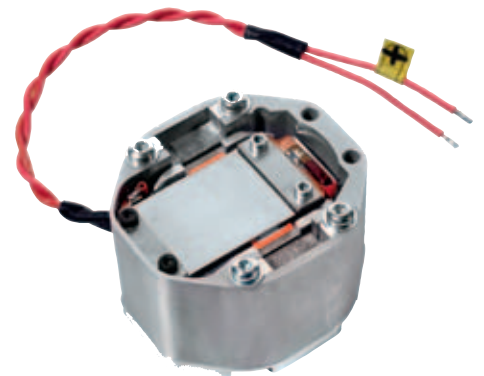
## Multi-body simulation

We optimise both new developments and existing systems in order to provide maximum comfort and convenience. We are able to make reliable statements about

system performance in a variety of different operating states at an early stage when analysing them on the computer. Our experts additionally provide virtual models with real characteristics and load data. We can display the operation of the object being examined in all possible circumstances, from idle operation through to full loads and right through to impact loads, which enables us to gain a comprehensive understanding of the vibration behaviour of the system in question. We are able to carry out these calculations by using software tools that have been specially tailored to suit this purpose.

## Mobile measurement technology

Our mobile measurement technology enables us to record relevant data during the operation of vehicles and systems. We do so by installing a data acquisition device and a number of different sensors in the vehicle or system concerned. Our engineers can then use the data recorded to directly adjust the mounting system to suit its respective application on site at the vehicle/system location.



## Active Vibration Control Technology that Responds to Power

Passive mounting systems are very effective but are also limited in terms of their areas of application, especially when the ambient conditions vary. Active vibration control systems are the ideal accompaniment to such mounting systems because they are able to compensate for disturbances across a wide range of frequencies. The principle behind the active damper is based on the use of electrical energy to produce counter-vibrations that are equally strong in a targeted manner.

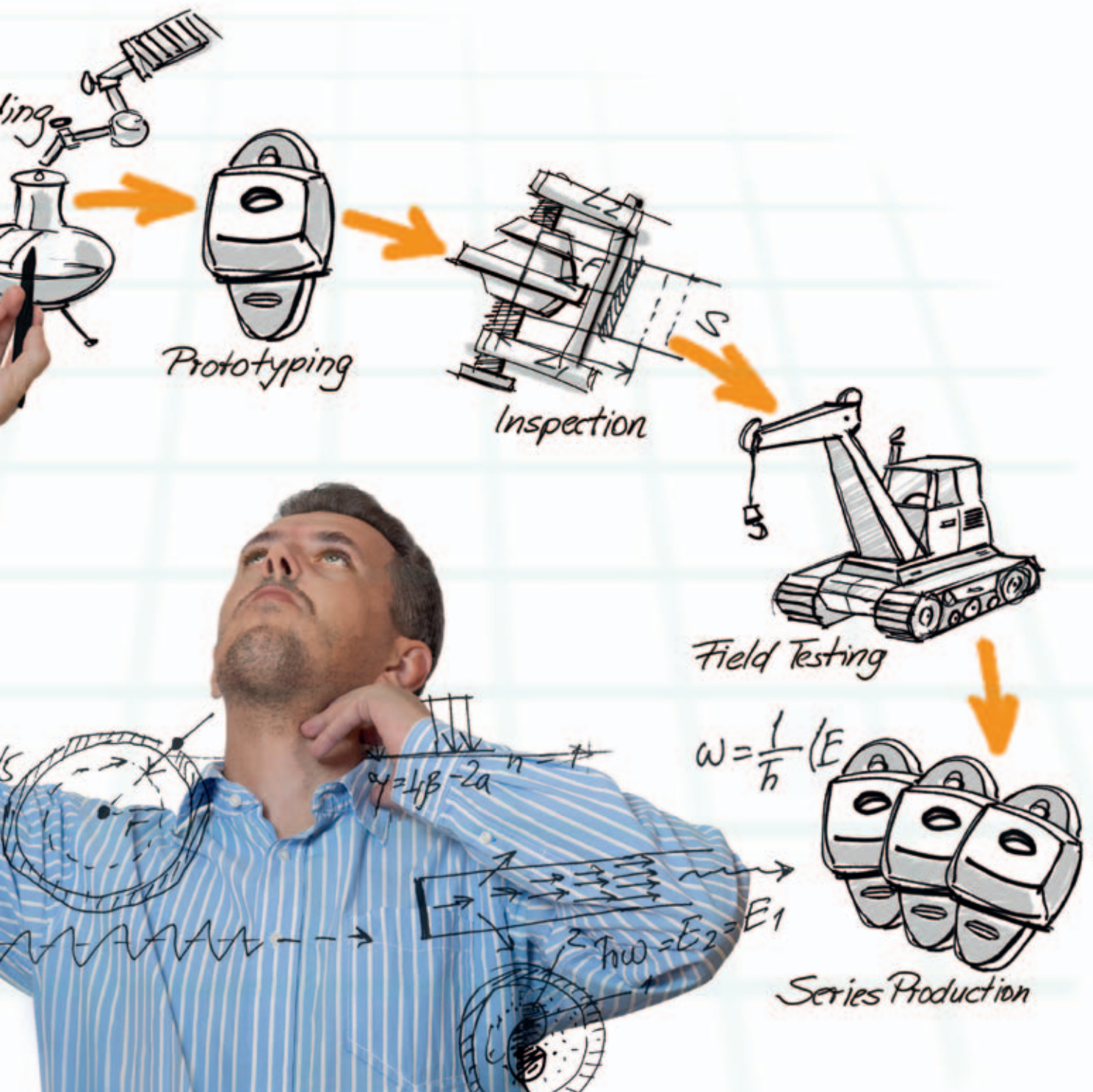
# Comprehensive Service - from Enquiries through to Series Production

We provide our customers with decades of experience in the reliable production of mounting elements for industrial applications.



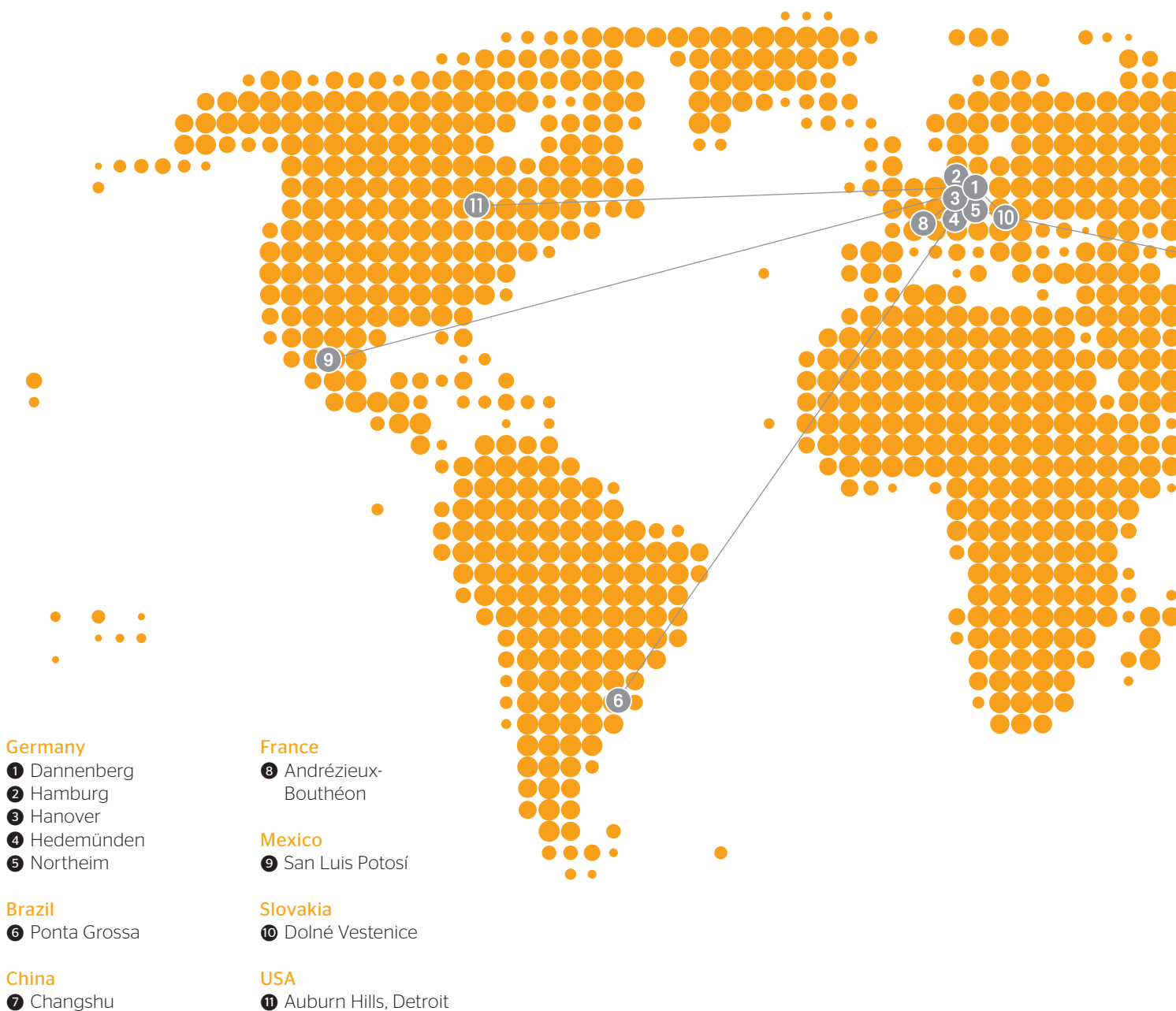
As a development partner, we offer comprehensive expertise in manufacturing elastomer and plastic materials, as well as manufacturing and processing compounds to form products for a wide variety of different applications. Our development departments use state-of-the-art technologies to enable us to offer such products and services. Our customers therefore receive customised mounting systems produced by one single source, from technical designs based on measurements and computer simulation through to the development of a final design and the production and testing of prototypes in our laboratory and field

tests right through to series production. Our customers also benefit from the synergies present within the ContiTech Group throughout the entire process. This not only applies to areas such as test engineering and material development, but also to aspects such as supply and delivery reliability. As part of an affiliated group, we are able to use concentrated expertise and make investments in future technology that set new benchmarks in the market.



# Working All Over the World for Our Industrial Partners

ContiTech Vibration Control is always there to help, wherever our customers need us.



We work flexibly, quickly and sustainably and are able to cater to our customers' needs on a global level. Our international production and development locations enable us to provide perfect momentum and easy communication with our customers all over the world. Our international sales network includes both reliable on-site consultation and advice and high availability of our large range of products, which contains over 1000 standard elements.

**We are here to help you on a global scale:**

- 2,100 members of staff at 10 production locations
- Sales representatives in over 140 countries
- International research and development departments in China, Mexico, Germany, the USA and Slovakia
- Cooperations in Japan, Thailand and Indian

**Our locations are globally certified in accordance with:**

- QS-9000
- ISO 9001
- VDA 6.1
- DIN EN ISO 14001



**ContiTech. Engineering Green Value**

Our company's guiding principle embodies our special commitment to our work and our outstanding technical expertise in the development, production and application of our products. In our globalised world, our main aim is to create sustainable values for the generations of today and the future.

Here at ContiTech Vibration Control, we meet this aim by:

- creating working conditions that protect the performance capability and health of our staff on a long-term basis
- relying on energy-efficient processes and continuously reducing our waste
- developing resource-efficient products such as our lightweight bearings
- using our products to support essential future-oriented industries like the wind industry



# ContiTech

## Vibration Control

Market segment

### Vibration Control Industry

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#### Your local contact

[www.contitech.de/contactlocator](http://www.contitech.de/contactlocator)

#### Certified in accordance with



[www.contitech.de/vibrationcontrol](http://www.contitech.de/vibrationcontrol)  
[www.schwingmetall.com](http://www.schwingmetall.com)

The ContiTech division of the Continental Corporation is a development partner and original equipment supplier to numerous industries for high-quality functional parts, components and systems.

With its know-how in rubber and plastics technology, ContiTech contributes significantly to industrial progress and mobility that is safe, comfortable and eco-friendly.

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