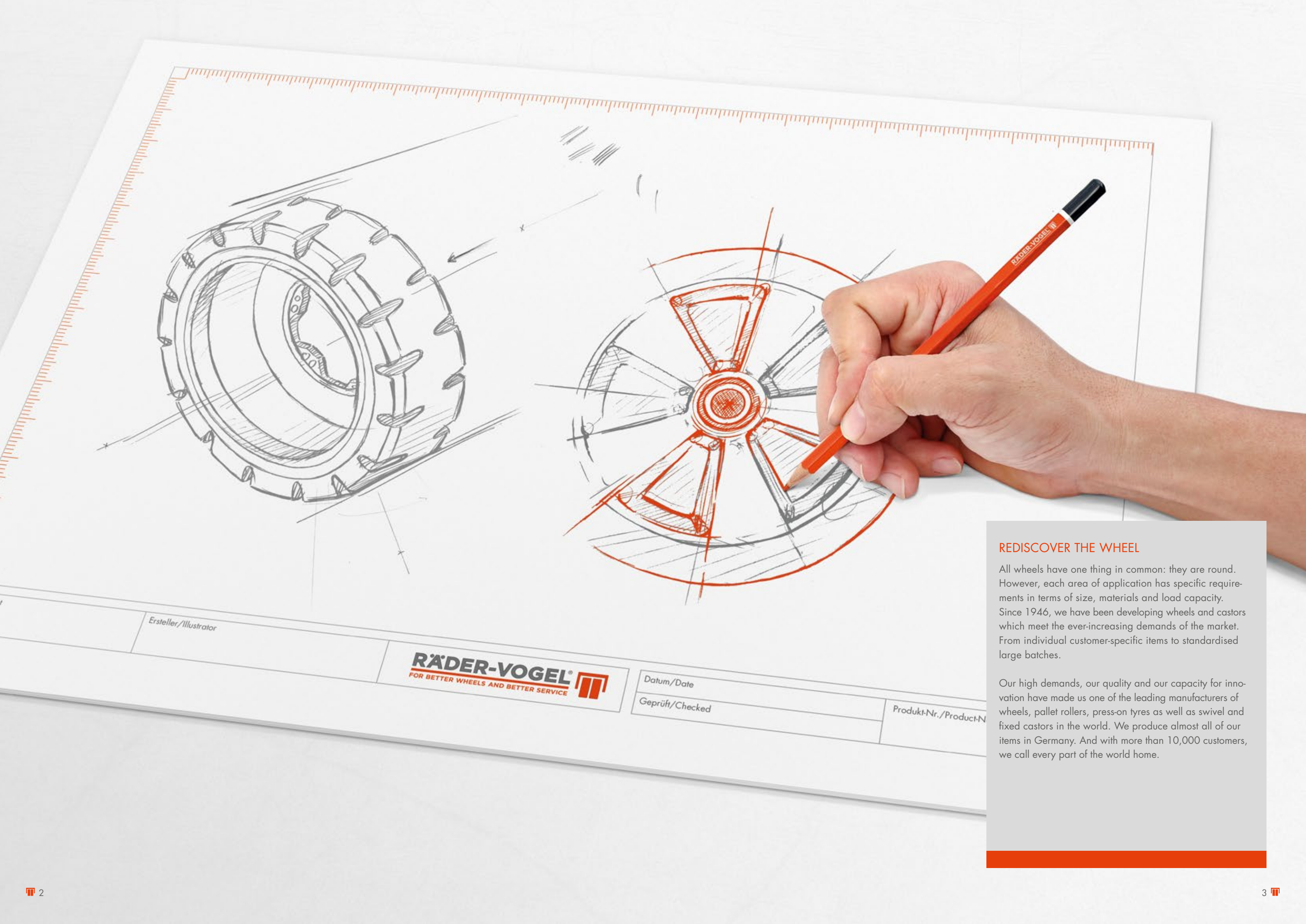


**RÄDER-VOGEL®**  
FOR BETTER WHEELS AND BETTER SERVICE



**SPECIAL SOLUTIONS**



### REDISCOVER THE WHEEL

All wheels have one thing in common: they are round. However, each area of application has specific requirements in terms of size, materials and load capacity. Since 1946, we have been developing wheels and castors which meet the ever-increasing demands of the market. From individual customer-specific items to standardised large batches.

Our high demands, our quality and our capacity for innovation have made us one of the leading manufacturers of wheels, pallet rollers, press-on tyres as well as swivel and fixed castors in the world. We produce almost all of our items in Germany. And with more than 10,000 customers, we call every part of the world home.

Ersteller/Illustrator



Datum/Date

Geprüft/Checked

Produkt-Nr./Product-N

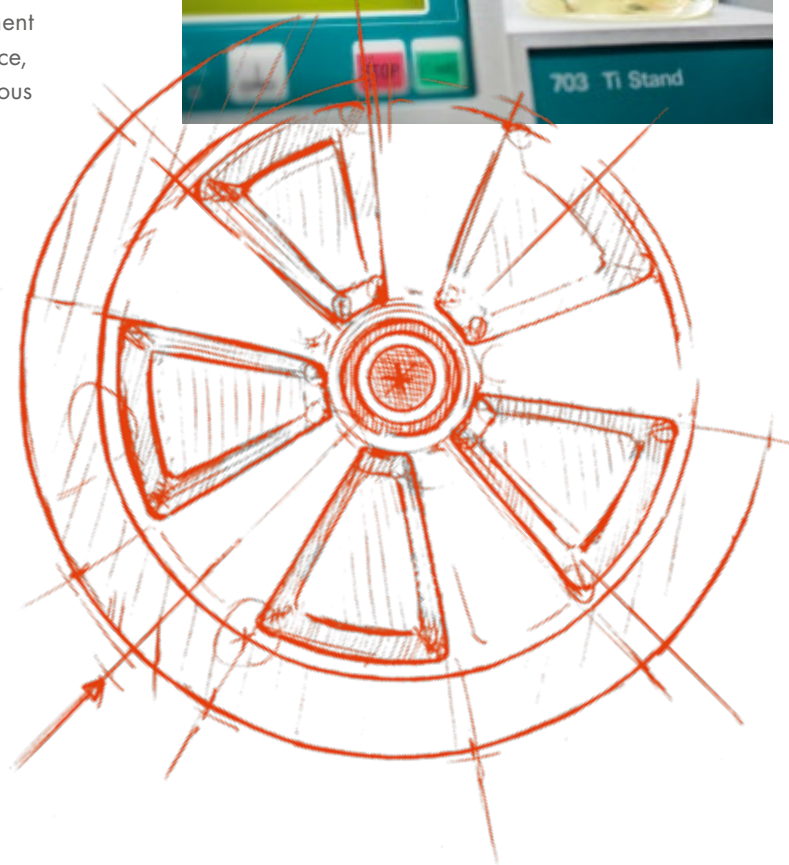


# The right wheel for every application

Our products keep things rolling in a wide range of industries. From the extraction and processing of raw materials and intralogistics to transportation and supply systems – prominent manufacturers around the globe place their trust in us.

From small PEVOLON® conveyor castors and heavy-duty twin-wheeled castors with PEVOPUR® wheels to VULKOLLAN®\* press-on tyres – more than 30,000 items with diameters of 30 mm to 1,800 mm and load capacities of up to 80 tonnes illustrate our range of products and our expertise. All of our drive, load and guiding wheels as well as our press-on tyres, running wheels and pallet castors must meet the highest standards every day. From short-term loads to continuous operation, in clean environments or in mining, our products always offer you security and reliability.

The wide range of applications for our wheels and castors is matched by a correspondingly diversified selection of tread materials. Hot cast polyurethane elastomers play a particularly important role here. These are of higher quality than cold cast systems and must be tempered in a subsequent heat treatment process. Their benefits include low starting and rolling resistance, good chemical resistance to mineral oils, greases and various solvents and non-marking properties.



## SPECIALISTS IN CUSTOM-MADE PRODUCTS

We work with you to develop solutions for complex tasks that meet your specific requirements. Thanks to our many years of experience and our extensive know-how, we construct wheels and rollers in premium quality. The latest tools such as 3D-CAD-systems, FEM calculations and simulations are some of the standards in the development process. Our specialised consultants will guide you from the beginning to the successful conclusion of the project, as your satisfaction is our primary goal.

### PEVOTEC®

Our brand PEVOTEC® includes an extensive range of special polyurethane elastomers which are used under extreme operating conditions. Depending on the task at hand, we develop the ideal wheel material for you by adapting the chemical and physical properties of the materials to suit your requirements.

\*VULKOLLAN® is a registered trademark of the Covestro Group.





Heat, water, dust, mineral deposits: mining exposes people and machinery to extreme conditions. Because conveyor and transport vehicles operate nearly 24 hours a day as they mine for valuable raw materials, all the materials used need to be able to withstand these unique conditions and thus ensure safety and efficiency both above and below ground.

We've been successful in open pit and underground mining for more than 25 years and optimise wheels for a whole host of vehicle types and systems. Whether for soft or hard rock, our extraordinarily diverse wheel tread materials and our complete wheels have been tested in the laboratory and proven their worth on the job. We develop tailored solutions for special requirements in order to provide new prospects for future high-tech mining applications.



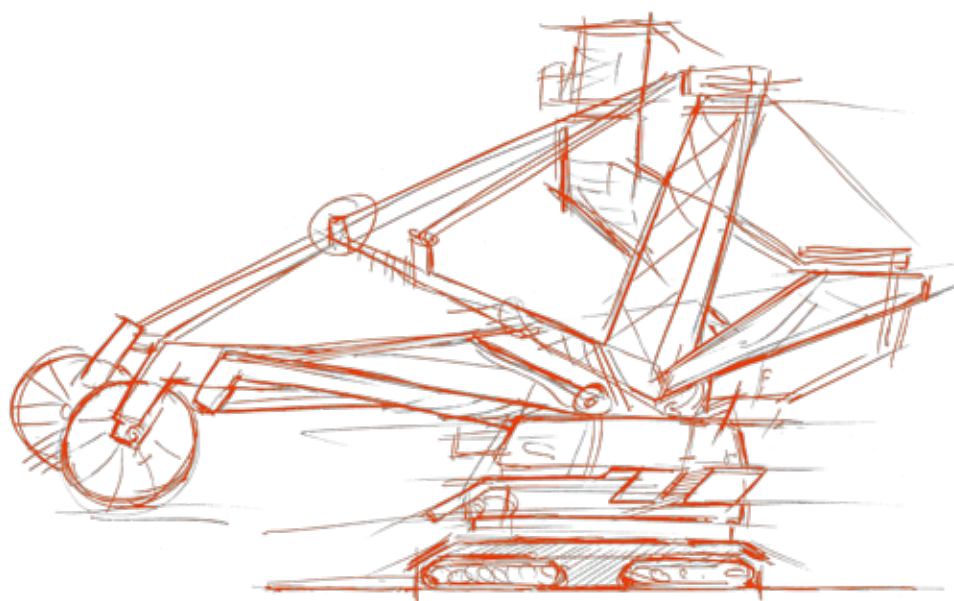
# Mining

## LOAD-HAUL DUMPERS (LHD)

As one of the most important pieces of equipment in mining, load-haul-dump vehicles work almost non-stop under the harshest conditions. Here, durable and long-lasting wheels are essential for preventing costly production losses. The proven reliability of our products minimises precisely such machine downtime. At the same time, low vehicle height is a decisive factor where adits are low and have uneven floors. This is another area in which we can offer specially tailored solutions for your specific needs.



Source: RÄDER-VOGEL



## MONORAIL SYSTEMS FOR MINING

Our products must be able to withstand the enormous contact pressures encountered in the transportation of persons and materials in mines. To fulfil these demands, we offer wheels with high-performance VULKOLLAN® 95 Shore A treads. This material stands up to the highest dynamic loading stresses and is characterised by a high static friction coefficient that enables the wheels to overcome inclines of up to 30 degrees.



## PIT CAGE

Pit cages travel considerable distances between the pit bank and the workings when transporting people and equipment in and out of the mine and hoisting extracted materials to the surface. Smooth-running, well-damped and, above all, safe wheels made with anti-static materials are an absolute must for mine-hoisting systems. Our wheels offer the additional benefit of a particularly long service life: they last up to six times longer than conventional wheel tread materials, at speeds of up to 21 metres per second.



Source: RÄDER-VOGEL



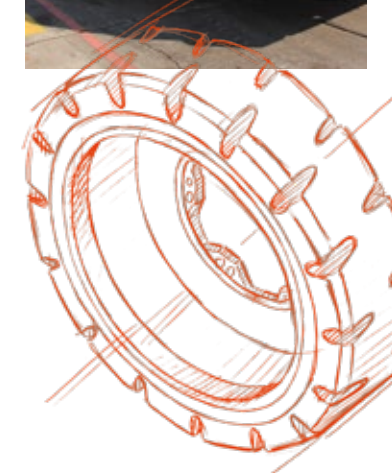
Source: RÄDER-VOGEL

## SHUTTLE CAR

As the link between the continuous miner at the face and the conveyor line, shuttle cars frequently have to master difficult and uneven surfaces. Especially for such conditions, we offer wheels with and without treads that can be optimised in collaboration with you to meet the specific needs in your mine. In comparison with conventional wheels with the same dimensions, wheels customised with PEVOTEC® treads can handle much higher loads.



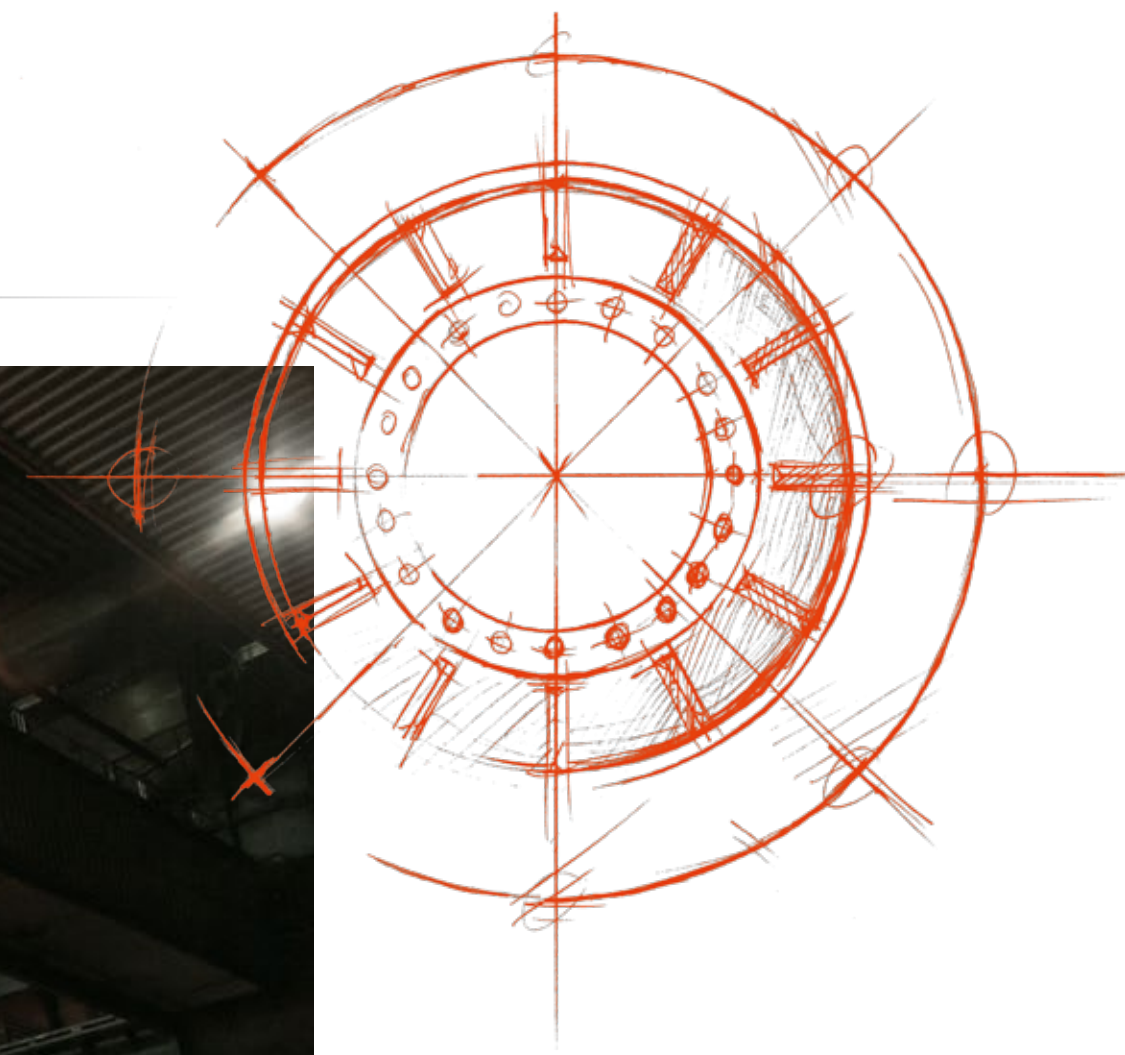
Source: RÄDER-VOGEL



Source: RÄDER-VOGEL



## Metal Industry



When it comes to producing and processing metals, special vehicles are frequently used to safely and reliably transport heavy loads. When sparks fly and things get really hot, wheels for heavy-duty applications need to be able to withstand quite a bit. Our special products made from VULKOLLAN® and PEVOTEC® also operate at full speed here in the harshest conditions and feature quiet operation, good load transmission, high wear resistance and above-average durability. They also offer a high degree of flexibility and freedom of movement for special non-rail-mounted vehicles and can withstand extreme environments and temperatures.



# Metal Industry

## STEEL WORKS VEHICLES

Rail-mounted and non-rail-mounted steel works vehicles are used in steel production for filling blast furnaces, breaking off and removing slag in the blast furnace, and transporting molten as well as hot metals and slag. Due to the intense heat and rugged environment the wheels are exposed to a high degree of strain. Our special designs offer exceptional temperature resistance and durability – even in extreme conditions.



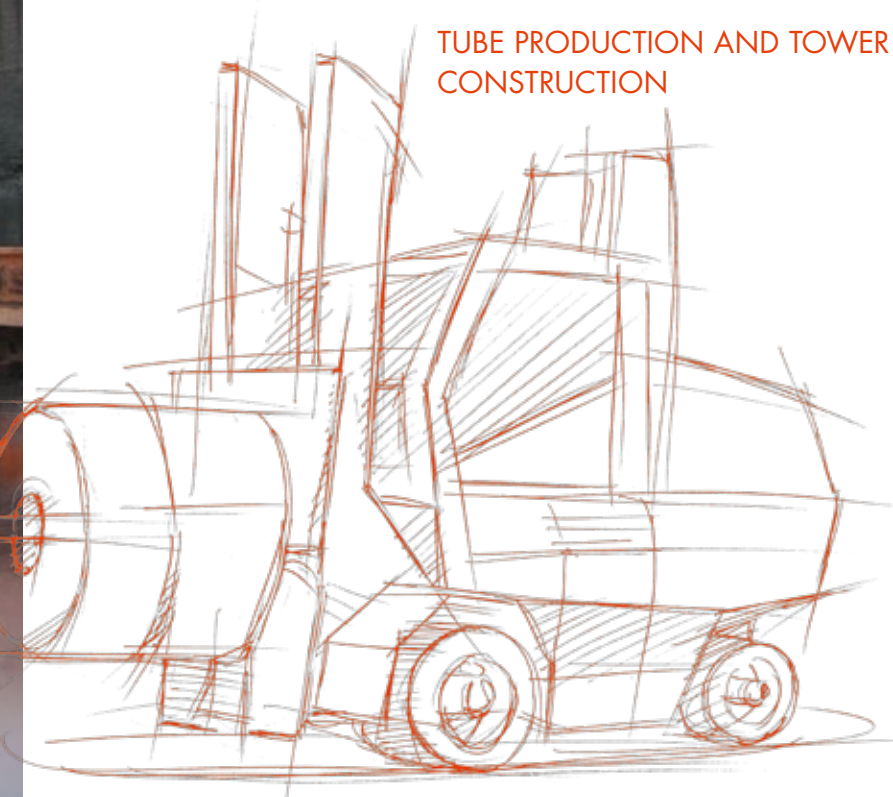
Source: RÄDER-VOGEL

## FORGING MANIPULATORS AND COIL TRANSPORTERS

Our PEVOTEC® wheels developed in-house are used in manipulators for workpiece transportation between heat furnaces and forging units. The material used is designed for the special requirements of heavy-duty applications and can also handle extreme stress and temperatures. The wheels also provide the vehicle with a high degree of flexibility and freedom of movement even in confined spaces.



## TUBE PRODUCTION AND TOWER CONSTRUCTION



Our wheels are used in turning devices for welding and coating metal tubes, in conveyor plants for automated transport, and in cradles for internal conveyance.





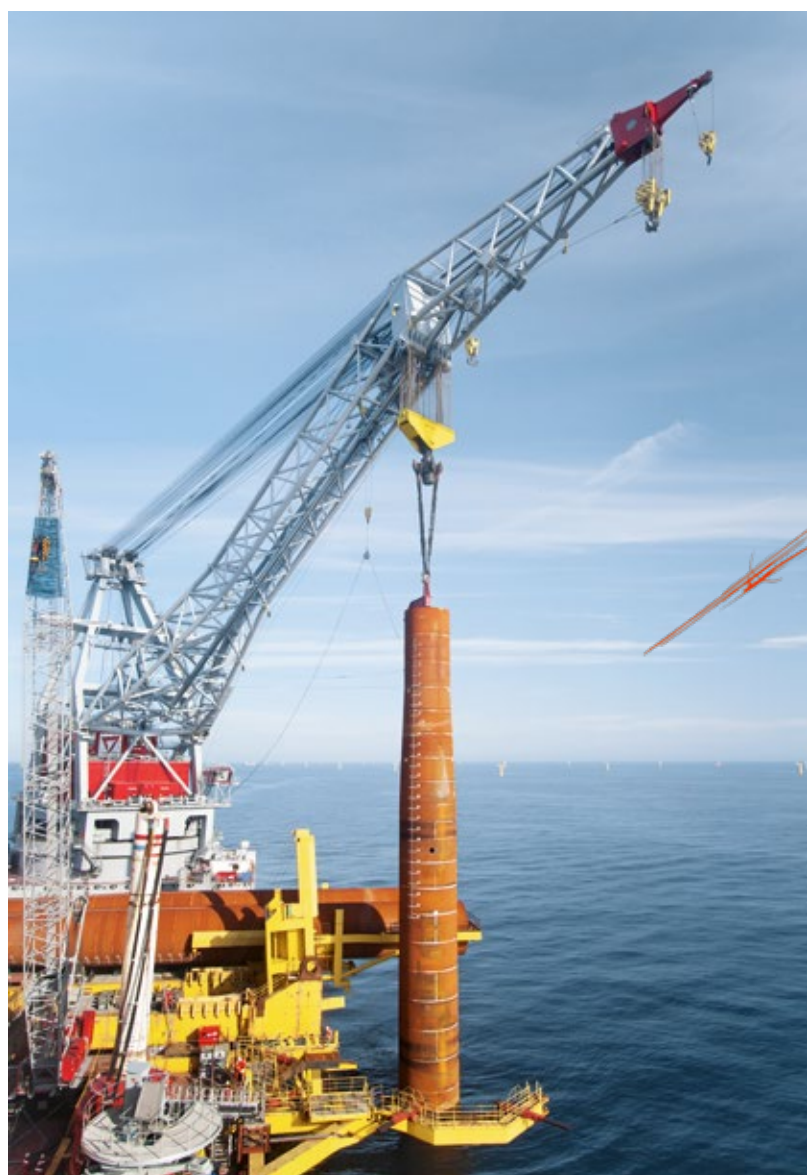
Coastal engineering is an art in itself. In addition to logistical challenges, offshore constructions also need to be able to reliably withstand the most adverse conditions. When it comes to laying pipelines and installing production platforms and wind turbines, our developments for the offshore sector offer suitable solutions: durable products which enable top performance in any and all conditions on the high seas.



# Offshore

## INSTALLATION OF OFFSHORE WIND TURBINES

In order to safely and securely anchor offshore wind turbines out at sea, a stable foundation is a must. For the purpose of anchoring and pile-driving the turbines on the seabed, we provide drive and guiding wheels as well as press-on tyres which can withstand rough weather and, in particular, salt water.



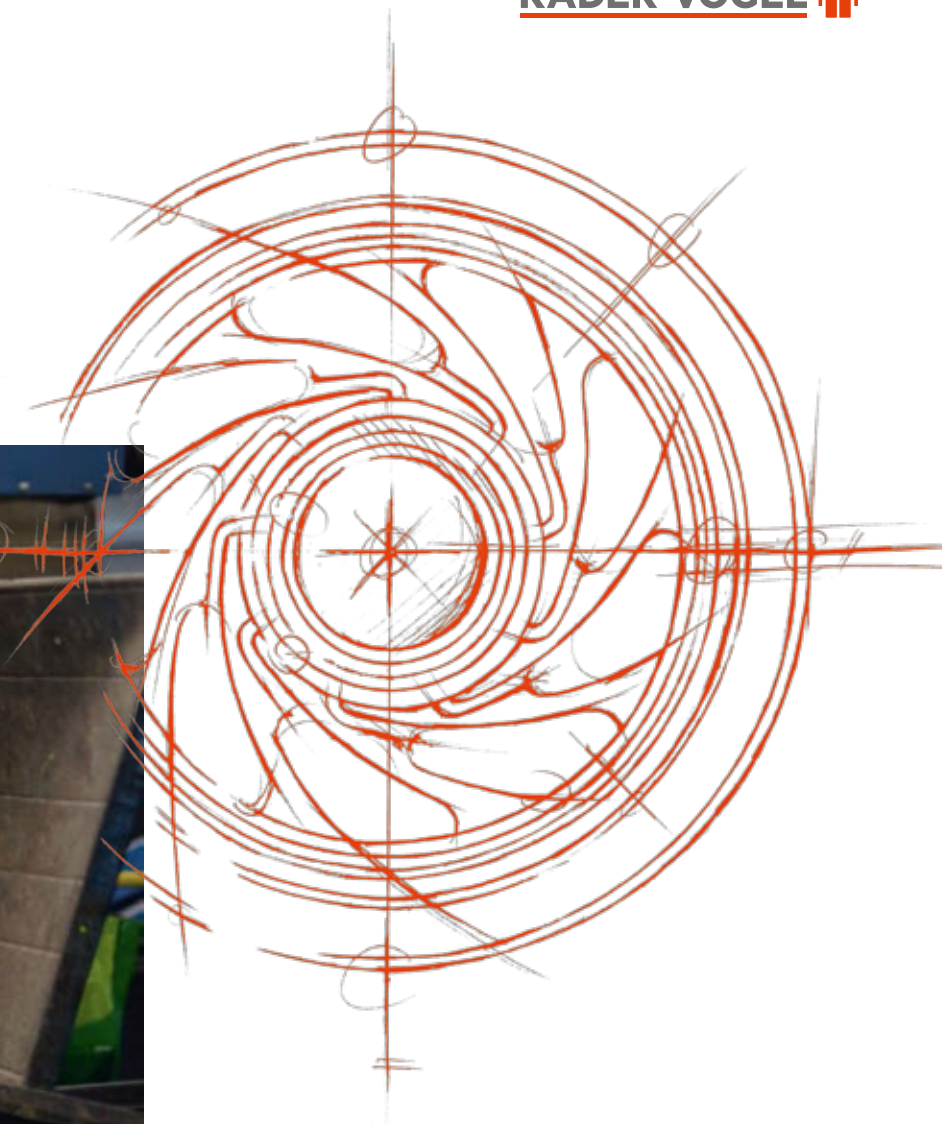
## LAYING PIPELINES OFFSHORE

For the transport of pipelines and pipeline elements, we produce special wheels, press-on tyres and diabolos for use on both spoolbases on land and pipe-laying vessels.





## Recycling



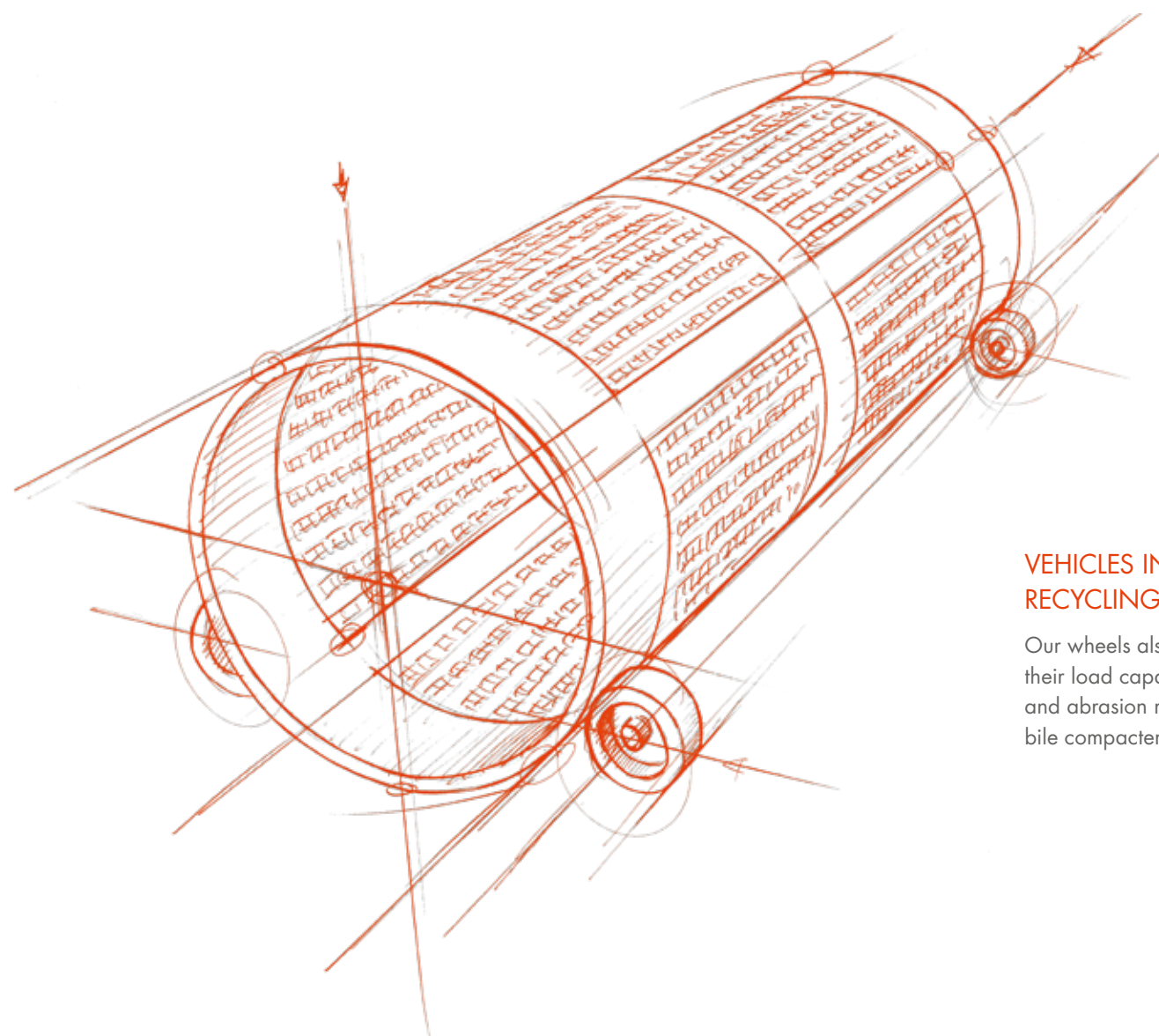
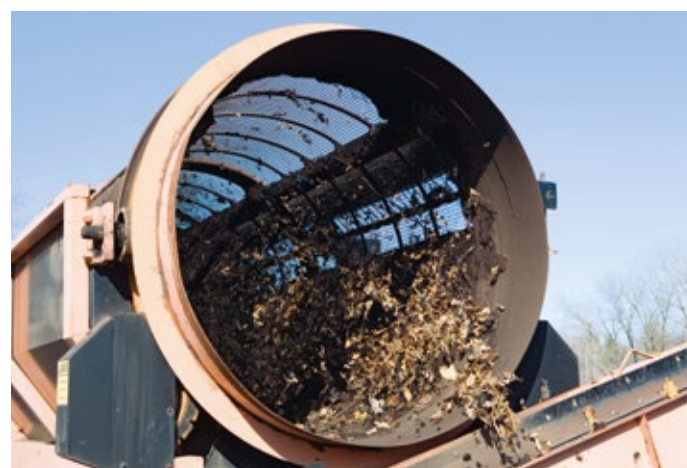
Raw materials of all kinds are scarce. This not only applies to fossil fuels, but also components of everyday materials such as cardboard and paper, making a well-functioning recycling infrastructure all the more important. Our wheels and rollers are used in modern recycling systems. Lightweight packaging, cardboard packaging, household and bulky waste, and bio-waste can be recycled efficiently.



# Recycling

## SCREEN DRUM SYSTEMS

Screen drums form the heart of modern separating plants and require high-quality wheels to operate efficiently: they're positioned on running and drive wheels, whilst an additional pressure wheel prevents axial displacement. Our VULKOLLAN® wheels ensure quiet operation and minimise vibration. We can easily adjust the size and load capacity of the wheels based on the screen drum system used, taking into account the fraction size, the throughput and the material to be separated.



## BELT CONVEYORS

Both stationary and mobile belt conveyors with swivelling elements are used in recycling and waste disposal systems for quick transport of bulk goods over longer distances. Depending on the composition of the materials being transported, the drive and running wheels and rollers need to be able to withstand many different kinds of strain.



## VEHICLES IN THE RECYCLING INDUSTRY

Our wheels also demonstrate their load capacity, durability and abrasion resistance in mobile compactors and lift trucks.





# Tunnel Construction



Whether underground or underwater, tunnels and pipes are essential for the infrastructure of modern cities and countries. This is made possible with tunnelling machines whose chassis are equipped with our VULKOLLAN® press-on tyres – all over the world.

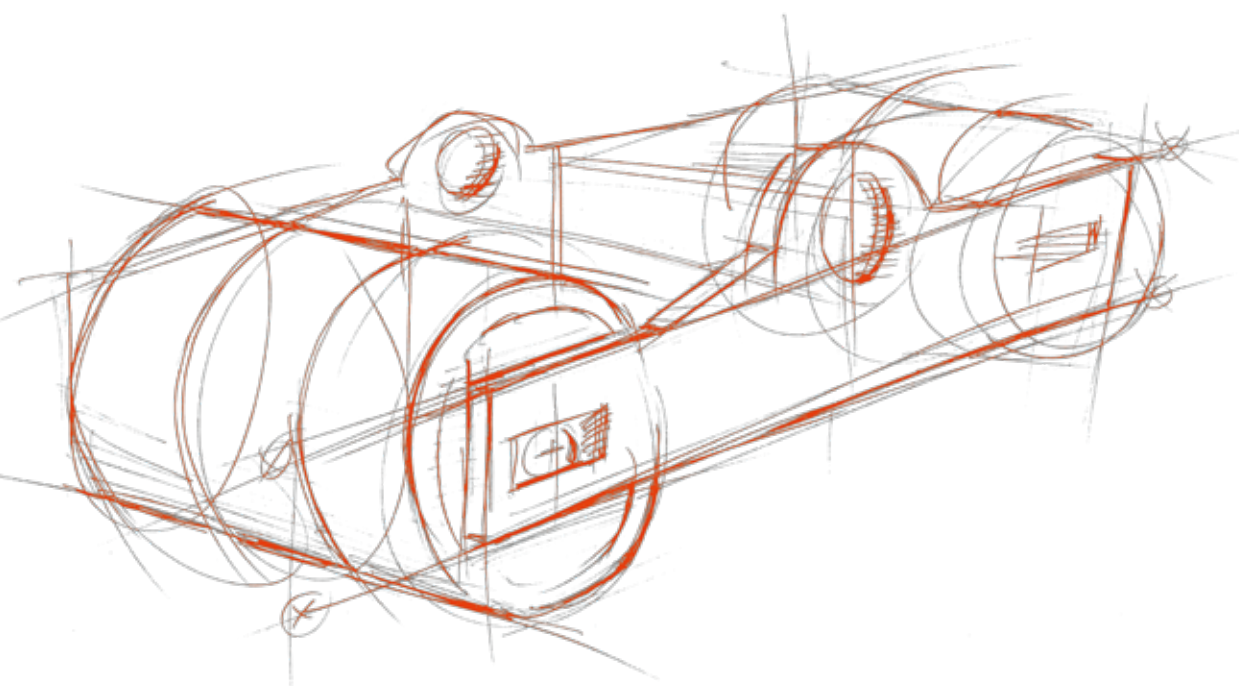
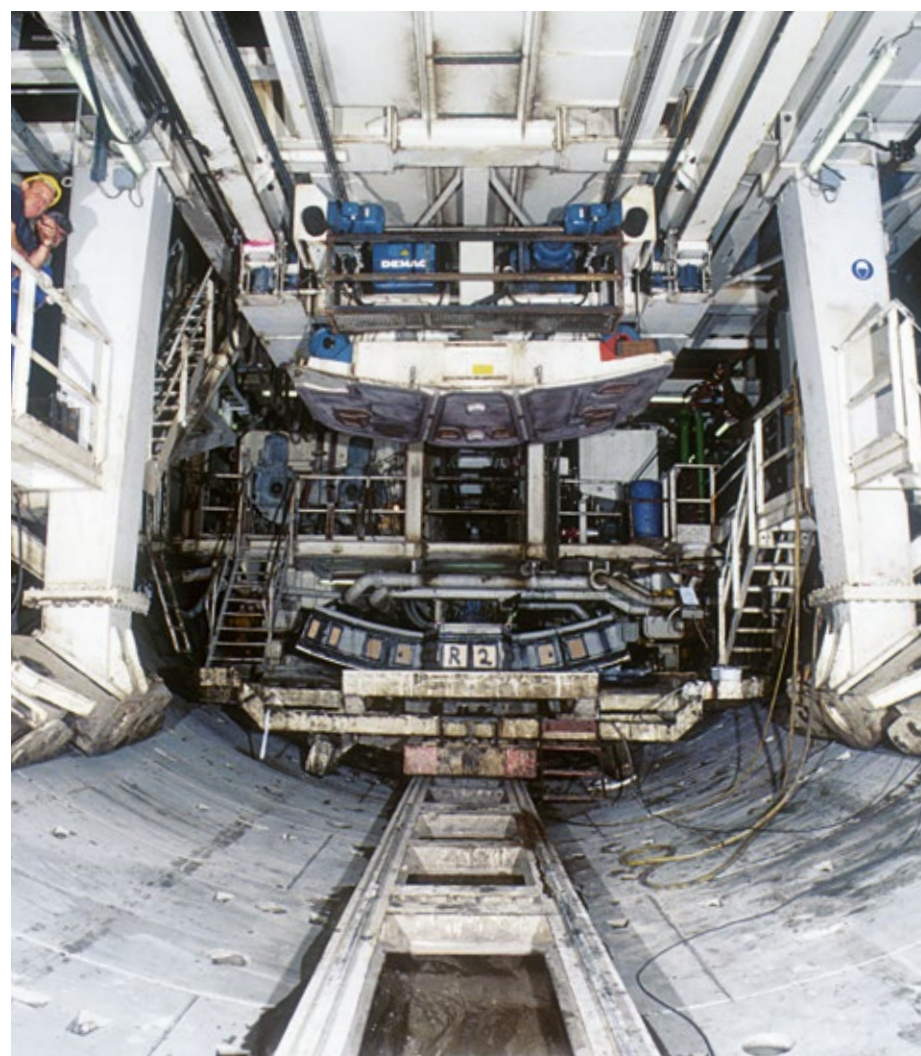


# Tunnel Construction

## TUNNEL BORING MACHINES

Tunnelling machines and shield machines can do some amazing things. They drill tunnels with diameters between 1 and 21 metres and can dig up to 10 metres a day. They're equipped with up to 200 wheels, each of which boasts a load capacity of approximately 5 tonnes.

Our high-performance VULKOLLAN® press-on tyres are often part of the equation. For more than 20 years, we've supplied wheels, rollers and press-on tyres for tunnel construction projects all over the world.



Tunnel boring machines break new ground around the world, drilling their way through many different types of rock.

We supply wheels for underground infrastructure projects with tunnel boring machines for all diameters and all applications, from railway, metro and road construction to supply and disposal, pipelines, hydropower and mining.





## Your requirements set the benchmark

Whether for individual pieces or large batches, we are specialists and the market leader in custom-made products in Germany. Working closely with you, we develop high-quality solutions for a diverse range of requirements. You can count on our years of experience and expertise in almost every industry.

### EVERYTHING IS POSSIBLE

Forty employees in our construction and development department strive to make your wishes a reality every day. Our range of services includes the entire production development cycle – from the initial idea and construction to testing, all the way through to production. Depending on the requirements and area of application, we can either draw on existing products and adapt them to fit your needs or we can construct new, innovative solutions in collaboration with you.

Based on 3D construction data, we carry out strength calculations and simulations of load cases using specialised FEM modules. This allows us to check all key parameters of your wheel by computer.



### INNOVATIVE WHEEL TREAD MATERIALS

In addition to the construction of custom-made products, we constantly work to further develop our existing product range and to implement market requirements into new products. We are the most innovative company in the development of wheel tread materials in the world and we cooperate closely in this respect with a number of colleges and with our partners. Over the past few decades, we have developed and patented several materials, such as PEVODYN®, VULKODYN® and TRACTOTHAN®.



### TRUST IN OUR PRODUCTS

Our wheels have to prove themselves every day in the most demanding operating conditions. Excellent quality and a long service life are therefore an absolute necessity for us. Our quality assurance system is certified according to DIN EN ISO 9001, DIN EN ISO 3834-2, DIN EN ISO 14001 and other standards. We have also implemented our own advance warning system within our processes. We carry out dynamic testing of wheels in accordance with DIN EN 12527–12533 on our own specially developed roller drum test rig, which allows us to simulate a large number of different usage situations. This means that when you choose us, you can always be sure that you will receive the best-possible product.



Source: Eric Kemnitz/BELANTIS

## Throughout the world



### GLOBAL SALES

You can get our wheels and castors exclusively from independent retail partners in more than 50 countries throughout the world. We have built up close and trusting relationships with many of them – relationships that stretch back over decades. Our partners offer you optimal service on-site, as well as high product availability thanks to their own storage facilities.

We also offer them regular support through intensive product training, technical consultation and joint customer visits. We ship our products across the whole world from Hamburg. Thanks to the excellent infrastructure connections all goods arrive quickly at their destinations.





**RÄDER-VOGEL**

RÄDER- UND ROLLENFABRIK GMBH & CO. KG  
Sperlsdeicher Weg 19-23 • 21109 Hamburg, Germany  
phone: +49 40 75499-0 • fax: +49 40 75499-175

[www.raedervogel.de](http://www.raedervogel.de) • [rv@raedervogel.de](mailto:rv@raedervogel.de)