

RÄDER-VOGEL®
FOR BETTER WHEELS AND BETTER SERVICE



PORTRAIT

“Our philosophy: To develop wheels and castors that serve a wide range of industries – and offer our customers security and reliability.
Our claim: The highest level of quality and perfection down to the smallest detail.”



Rediscover the wheel.



QUALITY "MADE IN GERMANY"

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. We have been developing wheels and castors since 1946 that meet the ever-increasing demands of the market. From individual customer-specific items to standardised large batches. For use in industrial trucks, extraction technology, storage technology and in industry, retail and craft industries.

Our high demands on ourself, quality and capacity for innovation have made us one of the leading manufacturers of wheels, pallet rollers, press-on tyres and swivel and fixed castors in the world. We produce almost all of our more than 30,000 different items in Germany. And with more than 10,000 customers, we call every part of the world home.

Experience is the basis on which to create new things.

Wheels for reconstruction – in a nutshell, this is how the family company of RÄDER-VOGEL began. In 1946, Peter Vogel started producing urgently needed wheelbarrow wheels and transport equipment out of old tank wheels using an old lathe in a dance hall. A lot has changed since then. The company has grown steadily, the product range and areas of application have expanded considerably. The dance hall is no more but the spirit of innovation from that time still lives on in that same place.

As an owner-operated family company, we put great emphasis on tradition and values in a bid to create new things. Almost 40 years ago, we started producing wheels out of VULKOLLAN®*. Today, thanks to our high quality standards, commitment and experienced employees, we are the world's largest producer of VULKOLLAN® wheels for the most challenging industrial applications. Many of our own developments are now benchmarks for the market.

With every step that we take into the future against the backdrop of our history, we are aware of our social and ecological responsibilities with regard to our employees and to the environment. We rely on long-term, sustainable growth and long-lasting quality products.

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



The first sales outlet in Hamburg at Amsinckstrasse 2

• **1946** COMPANY IS FOUNDED

• **1967** FIRST OWN BRAND WITH PEVOLON®

• **1977** VULKOLLAN® PROCESSING BEGINS

• **1981** TOTAL AREA OF 3,700 SQ. M

• **1988** TRACTOTHAN® IS DEVELOPED

• **2002** LARGEST PROCESSOR OF VULKOLLAN® FOR WHEELS WORLDWIDE

• **2008** BAYER AWARD

• **2017** TOTAL AREA OF 30,000 SQ. M



We strive for one thing above all else: perfection.

We focus on what we do best – the production of high-quality wheels and castors. Beginning with the mechanical processing of rims and mould making through to machine casting, hand casting, injection moulding and post-processing, we manufacture almost every product here in Germany.

Over an area of almost 30,000 square meters, we manufacture more than 30,000 wheels, with over 25 different wheel-tread materials, every day at our three plants in Hamburg. Our state-of-the-art production facilities and automated processes form the basis for our widely recognised high quality standards.

We manufacture wheels and conveyor rollers made of PEVLON®, PEVOTHAN® or PEVOLASTIC® using modern and fully automated injection-moulding machines. We have the largest and most flexible plant for the processing of VULKOLLAN® and Polyurethane. This allows us to respond to your specific requirements at a moment's notice and also to produce individual pieces and small series efficiently.

We also work with the most sensitive tools there are – the human hand and human eye. Although the majority of our process steps are automated, certain materials and wheel sizes can only be processed by hand. The years of experience and skills of our employees help to further ensure perfect results in this processing step.



Step by step for the best result.



SOLID CORE

For the manufacture of our wheel centres, we process more than 9,000 t of cast iron and steel from European foundries every year in our state-of-the-art mechanical production at more than 30 turning and machining centres. We purchase the wheel centres as cast exclusively from certified producers using automated moulding systems. Thanks to the high quality of the raw parts provided, we can reduce machining to a minimum and ensure a high level of concentricity.



THE RIGHT CONNECTION

After machining, all metal cores are blasted to achieve a pure metallic surface, and are then cleaned of residue in special washing machines, degreased and vacuum-dried. This is followed by a sensitive process step – application of the bonding agent. The cores are sprayed with a special bonding agent in computer-controlled systems, thus ensuring the required bonding between wheel centre and covering.



A PERFECT SURFACE

Our wheel centres are heated to a predefined temperature using special fusion ovens before the actual coating takes place in order to bring the core and casting material to the same temperature and to chemically activate the bonding agent. The prepared cores are then coated with a range of different wheel covering materials, such as VULKOLLAN® or PEVOPUR®, either by machine casting or hand casting.

“Even the smallest of details can be crucial to the quality of a wheel. This is why we place so much importance on the small things and manufacture almost all of our products ourselves from beginning to end.”

EXCEPTIONAL TECHNOLOGY

During the manufacture of polyurethane wheel coverings in hot casting, chemical reaction processes take place under strictly controlled conditions and are not terminated until long after the material has hardened. Post-treatment of the coated wheels – known as the curing process – is therefore of great importance and is crucial to the excellent quality of our products. In our curing room, all products undergo a special procedure based

on predefined parameters with regard to temperature, humidity and curing duration. As the only company which processes VULKOLLAN®, we were awarded the ‘Award for Excellence in Development and Implementation of Advanced VULKOLLAN® Processing Technology’ from Bayer MaterialScience and BaySystems (now known as Covestro Group) for our exceptional performances.



Quality knows no compromise.



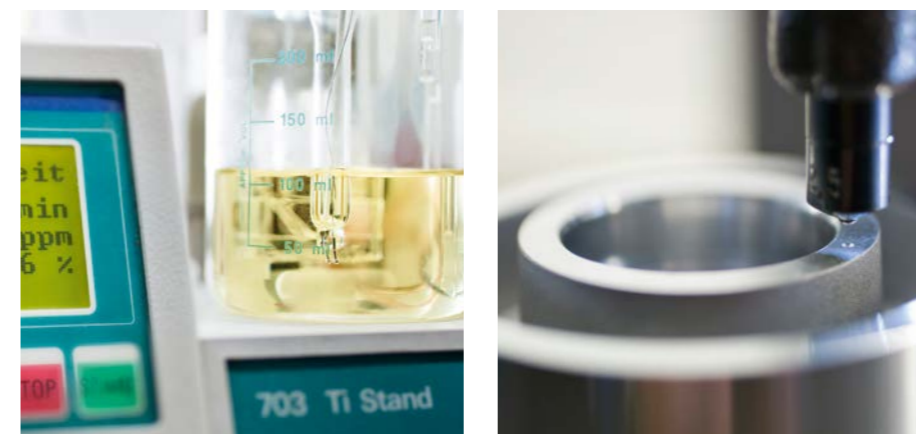
Your trust in our products is what drives us to get a little better each day. This also includes identifying mistakes at an early stage and learning from them. Our specially developed early warning system, which is implemented in all of our processes, and the exceptional quality awareness of our employees are a further indication in our efforts to create the perfect products.

CONTROL AT EVERY STEP

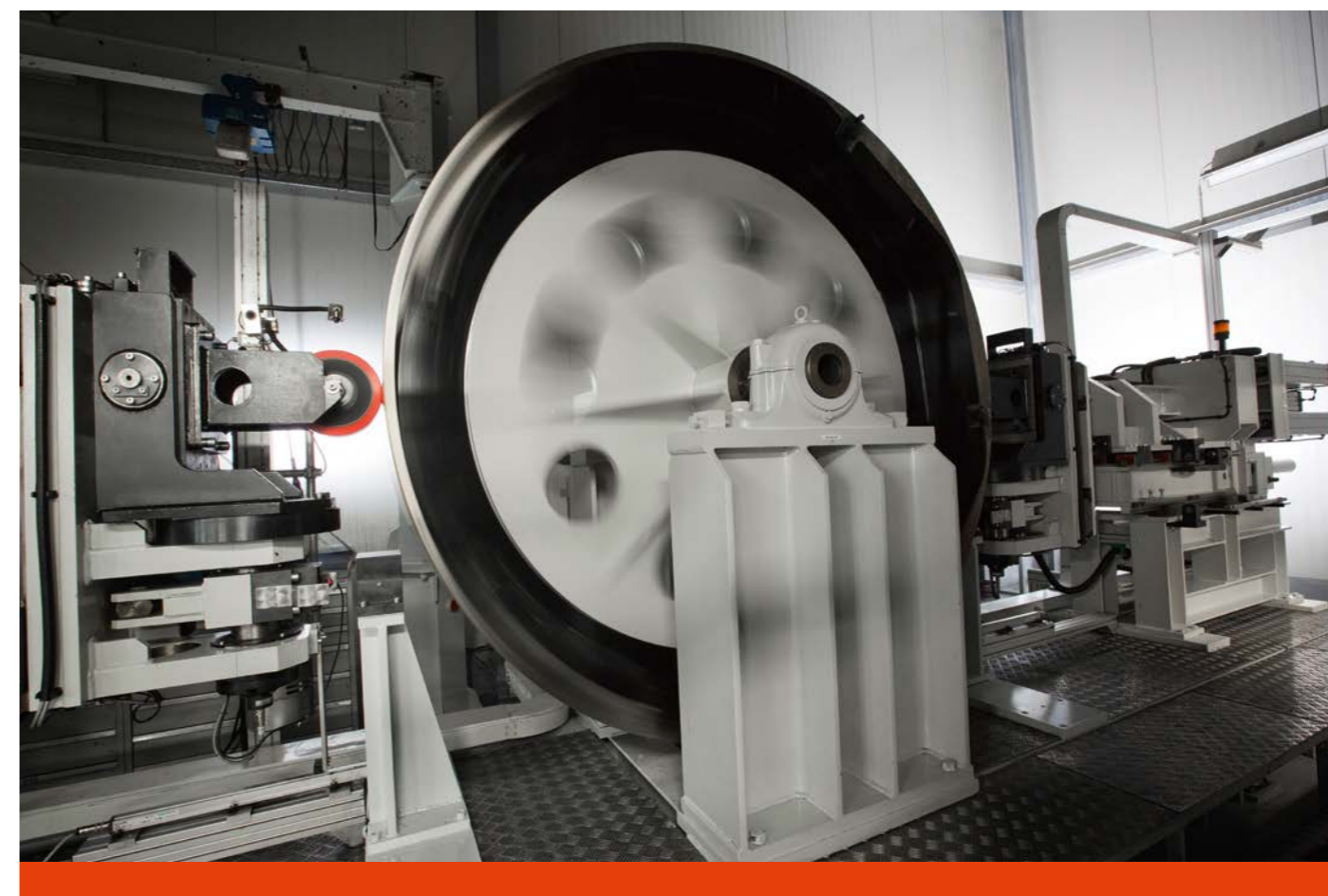
Your trust in our products is what drives us to get a little better every single day. This is because our wheels and castors have to prove themselves under the most extreme operating conditions. Our quality assurance system is certified according to DIN EN ISO 9001 and DIN EN ISO 3834-2. Quality also entails responsible actions, and we are therefore also certified according to DIN EN ISO 14001 and ISO 50001. We have also developed our own advance warning system which is implemented in all of our processes. We monitor each step precisely and carry out 150,000 documented product and process audits every year. All of this and the extraordinary quality awareness of our employees guarantee optimal products.

COMPUTER-CONTROLLED TESTING

For the dynamic inspection of wheels in accordance with DIN EN 12524-12533, we have developed a special drum test rig. With speeds of up to 30 km/h and a load of up to 70 kN, we can perform endurance tests, load increase tests and driving tests including simulated steering movements and impact loads. For optimal testing of how our products respond to a wide range of challenges, we can simulate a variety of situations in test mode. The tests are of course controlled, monitored and analysed by computer.



Material or finished wheel: extensive tests and inspection procedures ensure that only first-class products leave our plants.



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.

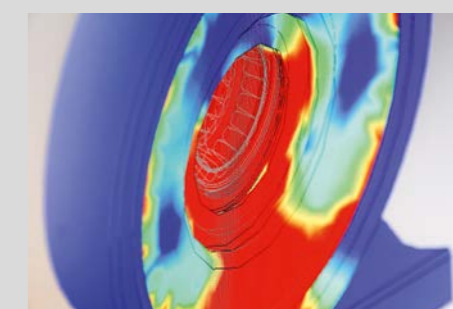
EVERYTHING IS POSSIBLE

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 the key parameters of your wheel on 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®.



The right wheel for every application.

- STORAGE AND SYSTEM TECHNOLOGY
- FOOD INDUSTRY
- AUTOMOTIVE INDUSTRY
- STAGE TECHNOLOGY
- AVIATION TECHNOLOGY
- OFFSHORE APPLICATIONS
- MINING
- AMUSEMENT PARKS



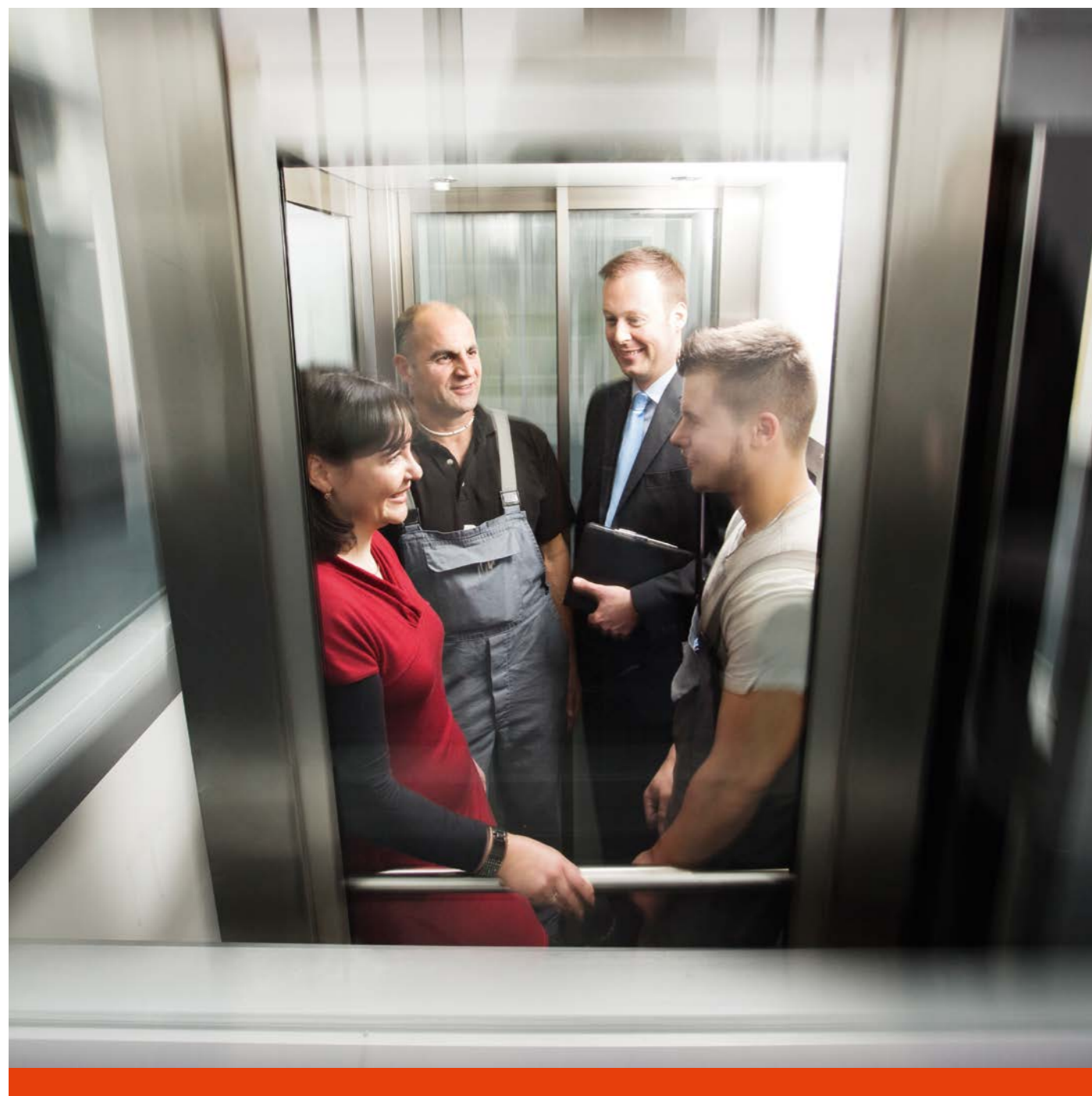
Our products drive a wide range of industries throughout the world. From the extraction and processing of raw materials through to intralogistics and transport and supply systems, renowned manufacturers count on our expertise, quality and comprehensive product range.

From small PEVOLON® conveyor rollers and heavy-duty twin wheeled rollers with PEVOPUR® wheels to VULKOLLAN® press-on tyres – more than 30,000 items with diameters of 30 to 1,800 mm and load capacities of up to 80 tonnes highlight 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 rollers must meet the highest standards every day. From short-term loads to continuous operation, in clean rooms or in mining, our products always offer you security and reliability.



**Motivated employees
are the best basis for success.**

“Reliability and trust are not just at the heart of our business relationships, but also form the basis for our relationship with our employees. They are the very core of our business.”



We are not just an owner-operated family company, but also a company for families. From grandmother to son and to grandson, at our company up to three generations work under one roof. More than 450 employees from 28 different countries do their very best each day to ensure perfect products and first-class service. For us as an employer, this serves as both a confirmation and an incentive. Confirmation of our efforts to treat the people who work for us as equals and to offer them a productive and open working environment. And incentive not to fall short in our endeavours.

Administrators and Process Mechanics, we offer talented young people long-term prospects in seven different trades. This also ensures that we cover our need for qualified and motivated employees. After all, they are the basis for our business success and the driving force behind the continued improvement of our products and processes.

That's why we do not just train our employees on an ongoing basis, we also help them to achieve formally recognised qualifications. From Product Designers to Industrial



At home in your market.

SPECIALIST CONSULTATION

We have an extensive product portfolio and are specialists in tailor-made solutions. It therefore goes without saying that we also offer you a first-class consultation service. Our internal and external sales employees are fully versed in our products and will help you to find the perfect solution, whatever your requirements.

In addition to our headquarters in Hamburg, our employees are also on hand to help in four other regional branches, as well as in a sales office in Austria. All of our sites have their own storage facilities, so our standard products should reach you very quickly.

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What you can always expect from us: customer proximity, first-class consultation and personal service.

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 and our certification as a known consignor, all goods arrive quickly at their destinations.



We are there for you across the world. You can get our products exclusively from independent retail partners in more than 50 countries.

• EUROPE

• CENTRAL AND SOUTH AMERICA

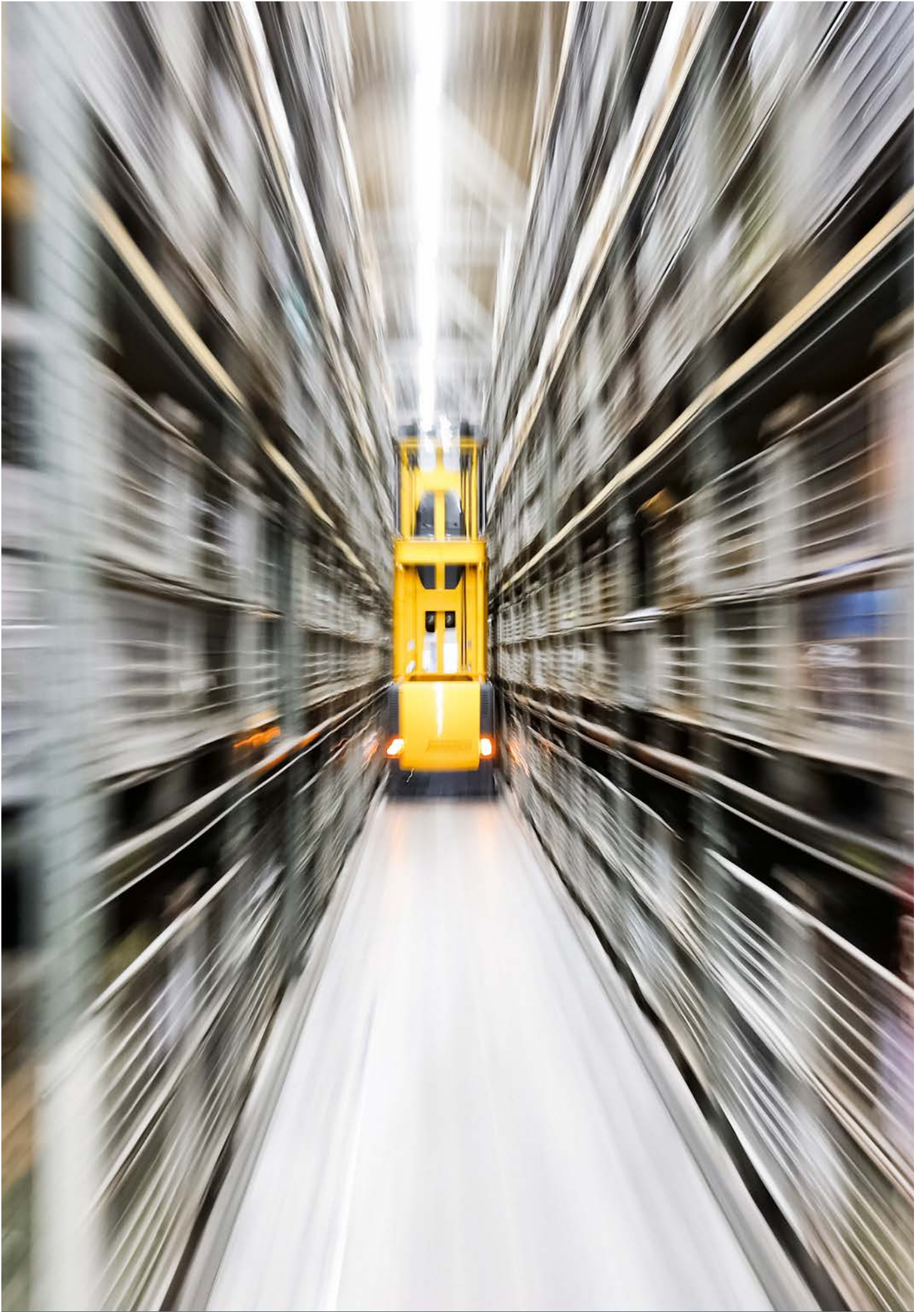
• ASIA

• OZEANIA

• NORTH AMERICA

• AFRICA





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