

we innovate

Blickle solutions for **conveyor systems**

Efficiency

Speeding up material flows to maximize output

Performance

Innovative materials and designs for outstanding performance

Precision

Smooth rolling performance, even at high speeds



JUST BETTER

The wheel is one of the most important inventions of mankind.

The simple, basic principle has been continuously developed throughout history. Today, wheels and castors are high-tech products that provide mobility in a wide variety of industries.

Blickle, which is still a family owned firm, has grown from a small craft business into a leading global manufacturer of wheels and castors in just two generations. For us progress is a tradition. Our commitment to values such as trustworthiness, reliability, innovation and a sense of responsibility has only grown over the decades. We attach a great deal of importance to closeness to our customers, serving as a competent partner in a wide variety of applications. Today, more than 1,200 employees worldwide ensure that Blickle wheels and castors in “made in Germany” quality are used wherever mobility is required. Customers are impressed by the high quality of the products, which are practically maintenance free, and also by their durability and fast availability.

Our customers have increasingly demanding standards for wheels and castors used in conveyor technology. Systems used to transport people, goods and machinery have to be able to handle heavy loads at high speeds. They also need to be extremely reliable, particularly as these systems are often in use 24/7. Using cutting-edge technology is the only way to meet these standards. Blickle products are perfect for applications where high levels of efficiency, performance and precision are required. In this magazine, you will discover innovative solutions that we have found for a wide variety of challenges in the field of conveyor technology.

I wish you an enjoyable read and some interesting insights.



Reinhold Blickle
Managing Partner

PS: We look forward to each new challenge. Contact us today!

BLICKLE MOVES THE WORLD

Escalators, conveyor belts and forklift trucks all have a vital role to play in global supply chains. Without conveyor technology, the entire world would be at a standstill. Robotics and automation have raised the bar hugely for the performance of conveyor systems, and by extension the performance of the components which make motion possible in the first place: wheels and castors. Today's conveyor systems are high-tech facilities that keep our global supply chains moving smoothly. Conveyor technology keeps everything moving: people, goods and equipment.

When you consider everything that conveyor systems have to handle nowadays, it becomes clear what an engineering marvel they are. The top priority for operators of these systems is that they function reliably at all times, regardless of the weather. Conveyor systems have to be capable of transporting increasingly heavy loads from A to B quicker than ever before – all without sacrificing reliability. Higher, faster, further – only systems which meet all of these requirements while remaining efficient will be able to keep up with the speed of the modern market.

Of course, conveyor systems would not work at all without wheels and castors. In addition to being reliable, these small components

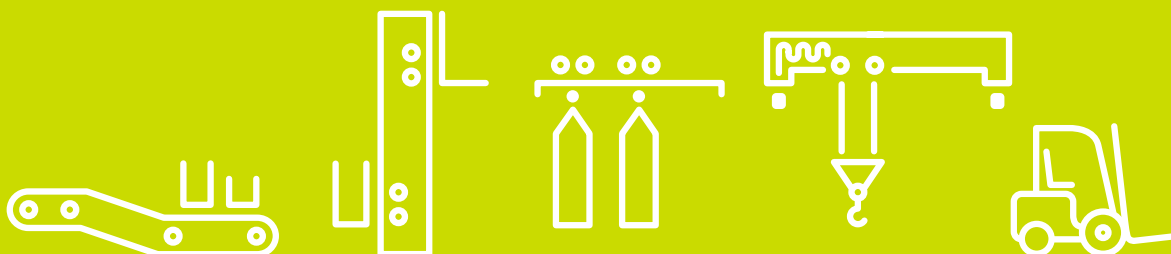
have to provide a level of performance which borders on the miraculous, while also providing an outstanding level of efficiency and precision. This is one of the challenges which we deal with every day here at Blickle. Providing solutions which go faster, higher, further while also being more reliable, more specific, more resilient and more precise - that's what drives everybody in our design, development and manufacturing departments.

Our experts have in-depth industry knowledge and stay up-to-date with the latest trends. Over the years, we have built up an extensive level of expertise in almost every area of conveyor technology. From cranes through to rack feeders, elevators, sorting systems,

Intralogistics as we know it would not be possible without high-performance conveyor systems. Moving, transporting, guiding, securing, driving, braking, accelerating, dampening, supporting or reducing noise – Blickle is up to the mark in every area.



escalators, conveyor belts and forklifts, Blickle wheels and castors are used for almost every application in this area. We move people, goods and equipment with loads weighing up to 100 tonnes. Our product range includes guide rollers, drive wheels, load wheels and flanged wheels in a wide range of dimensions. Our seasoned experts draw on years of experience from countless projects around the world to develop solutions that meet the precise demands of our customers.



Blickle provides high quality products for conveyor belts, lifting systems, vertical conveyors, overhead tracks, crane systems and industrial trucks.

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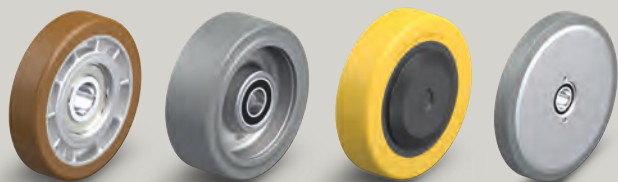
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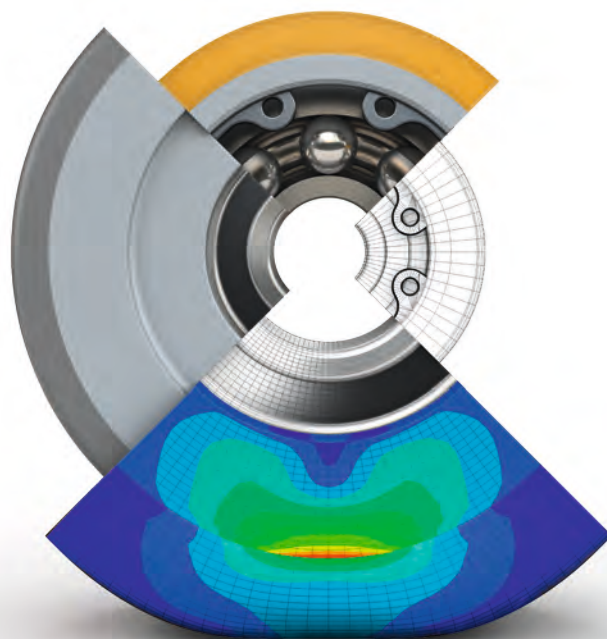
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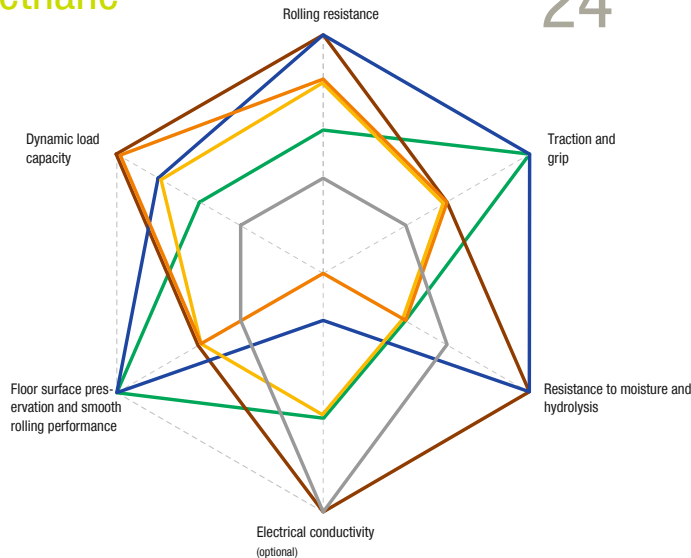


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Please note:

All personal terms stand for female, male and diverse.


Publisher


we innovate mobility

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TO BE THE BEST AND CASTOR MANUFACTURER TO WORK WITH

Dr. Sarah Blicke-Fenner, David Blicke
Managing Partner



WHEEL MANUFACTURER

We want to be the best. In products and solutions, in service and partnership, in research and innovation. In consultation with our customers, we develop high-quality, long-lasting, user-friendly and innovative wheel and castor solutions for people around the world. Goods, machines and transport systems of all kinds can be moved safely, efficiently and ergonomically.

BEHIND THE SCENES

BLICKLE'S TEAM OF EXPERTS ON THE LATEST TRENDS IN CONVEYOR TECHNOLOGY

The wheels and castors used in conveyor systems need to meet a complex and varied set of requirements. Whenever we are unable to use one of our standard solutions, we tailor our wheels and castors to make sure that they meet the individual requirements of our customers and are suitable for their intended use. All of our departments, from Product Management through to Sales and Design, work together closely in order to provide the best possible outcome for our customers. We sat down with Blicke experts Michael Haug (Conveyor Technology Product Manager), David Vogelmann (Head of Sales), Thomas Zimmer (Head of Heavy Duty Wheel Design), Dr. Yannic Gross (Head of Polyurethane Development) and Marc Braschler (Head of Polyurethane Production) to find out more about their roles.

What are the current trends in the field of conveyor technology, and what are you doing in response?

Michael Haug: Conveyor systems are involved in every part of our lives, and that level of integration is on an upward trend along with automation. This is a segment which has seen significant growth in recent years. Demand is increasing for systems that can guarantee a high level of throughput and keep material flows moving quickly. That's why it's so important to have conveyor systems that are extremely reliable and don't require much in the way of maintenance. We provide resilient and maintenance-free wheels and castors that keep systems moving smoothly for longer and are perfectly suited to meet modern requirements. Another trend is the growing importance of saving energy and using resources efficiently. Blicke wheels help customers be energy-efficient thanks to their hardness and their low level of starting and rolling resistance.

Dr. Yannic Gross: We can also develop custom combinations of materials for customers interested in our polyurethane wheels. This allows us to design treads that are perfectly suited for the customer's use case. We only use suppliers that we know and trust. To guarantee that the polyurethane is perfectly suited to the job, you have to make sure that you are using the right materials and the right processes. That's where our expertise comes into play.

Thomas Zimmer: We really focus on meeting the demands of our customers, which is something that sets us apart from the competition. We take a detailed look at their technical requirements and their needs from the very beginning, and if the brief is complex enough, we will get an expert from the Design department involved at an early stage. We can then select the optimal solution from our extensive standard range or tailor a design to meet the exact needs of the customer.



What makes Blicke a specialist in conveyor technology solutions?

Thomas Zimmer: I think the variety of materials we use is a key factor. For example, if a customer's top priorities were smooth motion and noise reduction, then we would choose a softer material for the tread. We also have harder materials available for customers who value precision over everything else. The wide range of materials that we have at our fingertips covers virtually any requirement that our customers might have.

How important is conveyor technology for Blicke?

David Vogelmann: It is an extremely important sector for Blicke. Blicke guide rollers are the products that see the most use in conveyor systems. Our wheels and castors are used for a wide variety of applications, from sorting systems through to conveyor belts, overhead conveyors and rack feeders. In addition to our standard range, we also provide different versions and special solutions that are particularly valued by original equipment manufacturers. We

work closely with our customers at every stage of the development process, which is something they really appreciate. Standards for the wheels and castors used in conveyor systems are extremely high. This actually works in our favour due to Blickle's commitment to innovation and quality management.

How do you go about finding the perfect solution for each individual customer?

David Vogelmann: Our strategy is to develop solutions together with our customers. That's why we always start with taking a close look at the customer's specifications. Based on this initial assessment, we come up with a number of proposals and discuss the advantages and disadvantages of each with the customer. Blickle engineers from the Design department will also be involved if a project is particularly complex.

Thomas Zimmer: It's at this stage that we take a really close look at the customer's requirements – we have detailed discussions about the customer's facilities, the kind of wheels that they are currently using and how much load they need their new wheels and castors to take. This helps us to select a suitable range of materials and make sure that our proposals have the right dimensions. The earlier we can get involved in the development process, the more likely it is that we can use wheels and castors from our standard range. If we cannot find something suitable in our standard range, we can use it as a starting point and make changes to characteristics like the wheel geometry, the bearing, the thickness of the tread or the material in order to develop a tailored solution. Once the requirements are clear, the Design department gets to work and starts running simulations. We then calculate the load bearing capacity and the anticipated service life of the bearing to make sure that the design is feasible.



Marc Braschler: From a manufacturing perspective, the Design department provides the specifications for a product that is the best possible solution for the customer in terms of both cost and efficiency. We then assess a few different scenarios and select the manufacturing method that we feel is the best choice from both an economic and technical standpoint – either a highly automated process or a manual process using specialised casting systems. The method we use will depend a lot on the quantity and the batch size that the customer requires. These factors also have an impact on the nature and the quantity of the moulds that we use in the casting process.

Are there any special requirements for the wheels used in conveyor systems?

David Vogelmann: Conveyor systems generally require wheels and castors with a high dynamic load capacity that are also capable of operating at high, sometimes breathtaking, speeds. We also see a lot of demand for maintenance-free wheels and castors which are capable of running on a 24/7 basis. When it comes to selecting the right wheel for any given application, we also have to factor in high levels of acceleration and braking force, rapid changes in direction and even the heat involved.

Michael Haug: Requirements can vary significantly depending on how the customer intends to use our wheels. Wheels used outdoors in offshore and gantry cranes, for example, need to be particularly resistant to heat, cold, hydrolysis and corrosion. In the automotive industry, on the other hand, wheels need to be ultra-reliable and capable of handling extreme loads. They also need to combine high traction with low wear. In a sector like warehouse logistics, the focus tends to be on speed combined with conductivity and energy efficiency.

Space is often at a premium when you are dealing with conveyor systems. How does that influence what you do in the Design department?

Thomas Zimmer: That's really one of our biggest challenges. When you don't have a lot of space available, you are limited in your choice of bearings and you don't have that much material to handle loads. >>



David Vogelmann: Once the design of the product is set, we can produce prototypes if needed and simulate how they perform in real world conditions at our test facilities. If the project calls for it, we can also provide samples for long-term testing. It is really important that everyone involved in the process – like the customer, the sales departments and the developers – are all pulling in the same direction and communicating on a regular basis.



>> This poses a few restrictions in terms of the expected service life of our wheel designs. The solution is to use higher quality materials. If we are designing a polyurethane wheel for a customer, we can use high-performance materials like Blicke Besthane, which has a high load capacity and outstanding dynamic properties. We also have a range of high-end materials at our disposal if we are looking at solid plastic or injection-moulded options.

What are you looking to achieve in the future with Blicke's product range?

Michael Haug: We want to be able to provide our customers with tailored solutions and continue to work with them on the process of developing the perfect product for their needs. We will be expanding our already extensive product range and the modular system that we provide to put us in the best possible position going forward. Our overall aim is to remain on the cutting edge in terms of our ability to meet the needs of our customers. That is one of the reasons why we appointed an expert for each segment of the market in our Product Management department last year. Each expert

focuses on a particular area and has an in-depth understanding of the needs of our customers and the market.

Dr. Yannic Gross: We are currently in the process of developing another premium polyurethane, which will be capable of handling even higher dynamic loads than our current selection, while also being perfectly suited for high-speed applications. We are also looking for ways to cut the rolling resistance of our polyurethane treads even further. We work closely together with our Design and Production departments as well as our suppliers throughout the process of developing and optimising our polyurethanes. This is the only way to ensure that the materials we develop in the lab are also suitable for practical use.

How do you make sure that the manufacturing process meets the demanding quality standards of the customers?

Marc Braschler: Polyurethane production is an extremely complex process – you have to monitor many different parameters to make sure that your final product has a consistently high level of quality.



David Blicke,
Managing Partner



Want to know more?
Simply scan the QR code
and immerse yourself in the
Blicke world of innovations.

We perform rigorous quality checks on all the materials we use to make our polyurethane. Our production systems keep a detailed record of the entire production process. Any faults or defects are detected immediately so that we can rectify them. We use high-quality injection moulding equipment to ensure that our wheels stay within specified tolerances and are correctly centred. We take samples from each batch and use specialised testing equipment to check that they meet the required specifications. Once the wheels are complete, we put them through another round of tests to check their tensile strength, resistance to tear propagation and durability. We have also developed our own specialised method for testing the adhesion of the tread. My team and I are proud of our track record when it comes to quality management, and we frequently receive positive feedback from our customers.

Dr. Yannic Gross: Our new polyurethane competence centre contains a laboratory and a technical centre, both of which use state-of-the-art equipment. This facility allows us to develop new polyurethanes independently of the production process and perform material tests without disrupting production. We always make sure to have enough lead time in the run-up to the extensive tests that we run so that our results are reliable and reproducible. We are constantly improving our analysis methods so that they can provide an even higher level of accuracy. The laboratory is also responsible for inspecting the raw materials that we use and performing chemical analyses of our finished polyurethane materials.

Are there any particularly challenging projects in the field of conveyor technology that come to mind?

David Vogelmann: We once had to find a solution for an automated storage and ordering system. This system used autonomous robots to pick up orders – each of them had eight wheels. The customer

came to us looking for guide rollers, and their requirements were really demanding in terms of the traction, quality and conductivity of the rollers. Our Besthane guide rollers were capable of providing an exceptional level of precision on the rail system despite the extremely high speeds and rates of acceleration involved. Our commitment to innovation and our polyurethane expertise really paid off as we worked together with the customer to find the perfect solution.



The Blickle experts (from left to right): David Vogelmann (Head of Sales), Thomas Zimmer (Head of Heavy Duty Wheel Design), Marc Braschler (Head of Polyurethane Production), Michael Haug (Conveyor Technology Product Manager), Dr. Yannic Gross (Head of Polyurethane Development).

Our new polyurethane manufacturing facility covers an area of around 24,000 square metres and has more than doubled our polyurethane manufacturing capacity. The production building is directly connected to the logistics centre to ensure efficient production processes. Our new polyurethane competence centre contains a laboratory with state-of-the-art equipment. As a result, Blickle is perfectly positioned to meet the increased global demand for polyurethane wheels and castors. This significant investment underlines our ongoing commitment to manufacturing products in Germany, making Blickle ready for future production growth.



The new polyurethane manufacturing facility (front right) with the logistics centre (left rear)



Improving performance with the right castors

FASTER. HIGHER. FURTHER.

Automatic sorting and distribution systems have to be more reliable and perform better than ever – this is as true for airport baggage handling facilities as it is for distribution centres used by shipping companies.

The BEUMER Group – a leading supplier of conveyor systems in these areas – relies on Blicke for its expertise.

Online shopping has boomed in recent years, and the number of parcels and packages sent through the post is increasing rapidly. At the same time, customers expect orders to be delivered quickly. Airports, on the other hand are responsible for handling a significant number of passengers and their luggage in a prompt and secure manner. None of this would be possible without the use of high-tech systems. More performance means more speed, and more strain on components. Guide rollers have a particularly

important role to play in ensuring that systems run smoothly and quietly, while also minimising resistance. The BEUMER Group plans and implements tailored transport and loading systems, palletisation and packaging technology and sorting and distribution systems for a wide variety of sectors. The Beckum-based system provider needed a partner it could trust in order to meet the challenges of the future. The company turned to Blicke.



“Thanks to Blickle, we are able to develop quick, high-performance systems. These systems will give us an advantage over the competition which we can pass on to our customers.”

BEUMER Group

Close partnership is the way to success

The two companies worked closely together on this groundbreaking project. Blickle conducted extensive tests to find the best possible solution. The BEUMER GROUP decided to go with Blickle’s recommendation to use wheels with a tread made of the reaction-injected polyurethane-elastomer Blickle Besthane for their sorting and distribution systems. This material provides a high level of operational performance and is very abrasion-resistant. The wheels are quiet and have a low starting and rolling resistance. The result is quiet and energy-efficient operation. A special aluminium body optimises heat dissipation and makes sure that the bearing is seated securely. The polyurethane tread is also resistant to moisture.

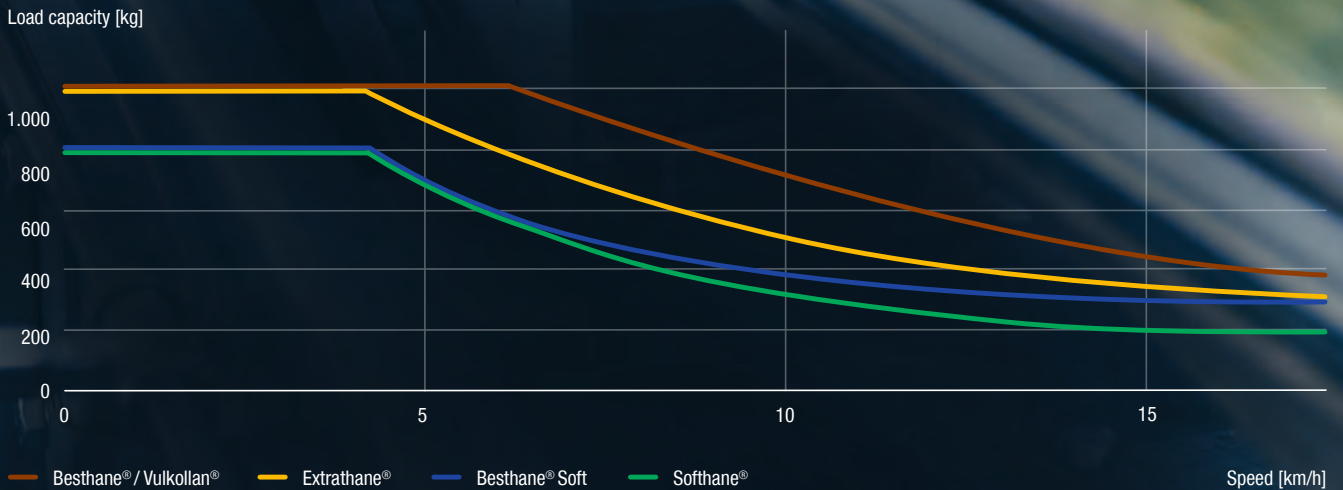
“The new guide rollers significantly improved the performance of our sorting systems,” enthused Mads Kjærgaard, Strategic Procurement Manager at BEUMER. “Blickle castors run smoothly and are capable of handling significant loads. This ensures that the system runs reliably with little need for maintenance.” In addition to the technical advantages of Blickle products, the BEUMER Group also appreciated how quickly the company could deliver and its adherence to delivery times. “The components are an important part of our transport and sorting systems,” emphasised Kjærgaard. Blickle now provides all of the guide rollers for the sorting systems of the BEUMER Group.

No Limits

TIME IS MONEY

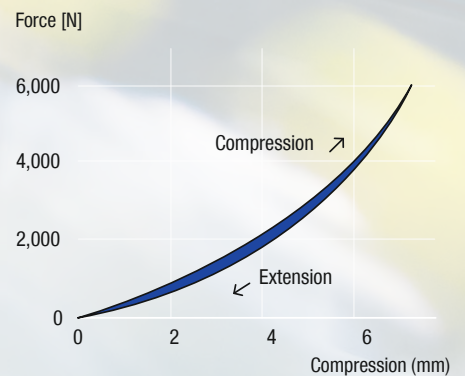
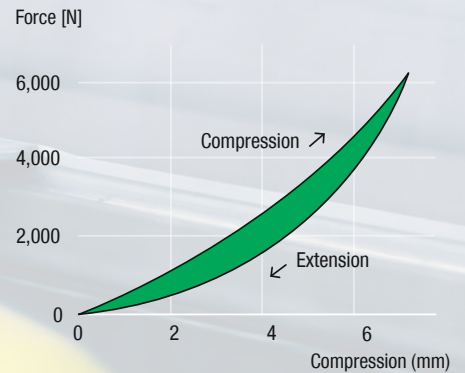
Obstacles are there to be overcome. A commitment to innovation is required to meet the world's need for speed in a time of considerable cost pressure.

How speed affects load capacity (wheel Ø 200 mm) *



VULKOLLAN® is a registered trademark of Covestro Group

How tread elasticity affects rolling resistance (wheel Ø 200 mm; DIN 53512 / ISO 4662)



Innovative highly elastic treads like Blicke Besthane Soft are extremely effective at preventing energy loss due to their incredibly low levels of hysteresis. By offering a rolling resistance that is up to 30 percent lower than comparable alternatives, they provide customers with an option that is more energy-efficient without sacrificing durability. This reduces customer expenses for maintaining their conveyor systems while also helping them reach environmental targets.

Better Blicke

Energy consumption is already one of the most significant cost items facing the industry, and this trend is expected to continue. The answer to this problem is to reduce the amounts of energy required by conveyor systems. Blicke wheels have an important role to play in this regard.

Conveyor technology is developing quickly. Demand for high-performance systems has never been higher due to the massive rise in the number of parcels sent through the post. The statistics look like something out of the Guinness Book of Records: High-tech depots sort around 60,000 packages per hour, while airports frequently handle up to 15,000 package items per hour. Rollercoasters scream down the track at peak speeds well in excess of 100 kilometres per hour, while the world's fastest conveyor belt transports bulk material at a speed of 15 metres per second.

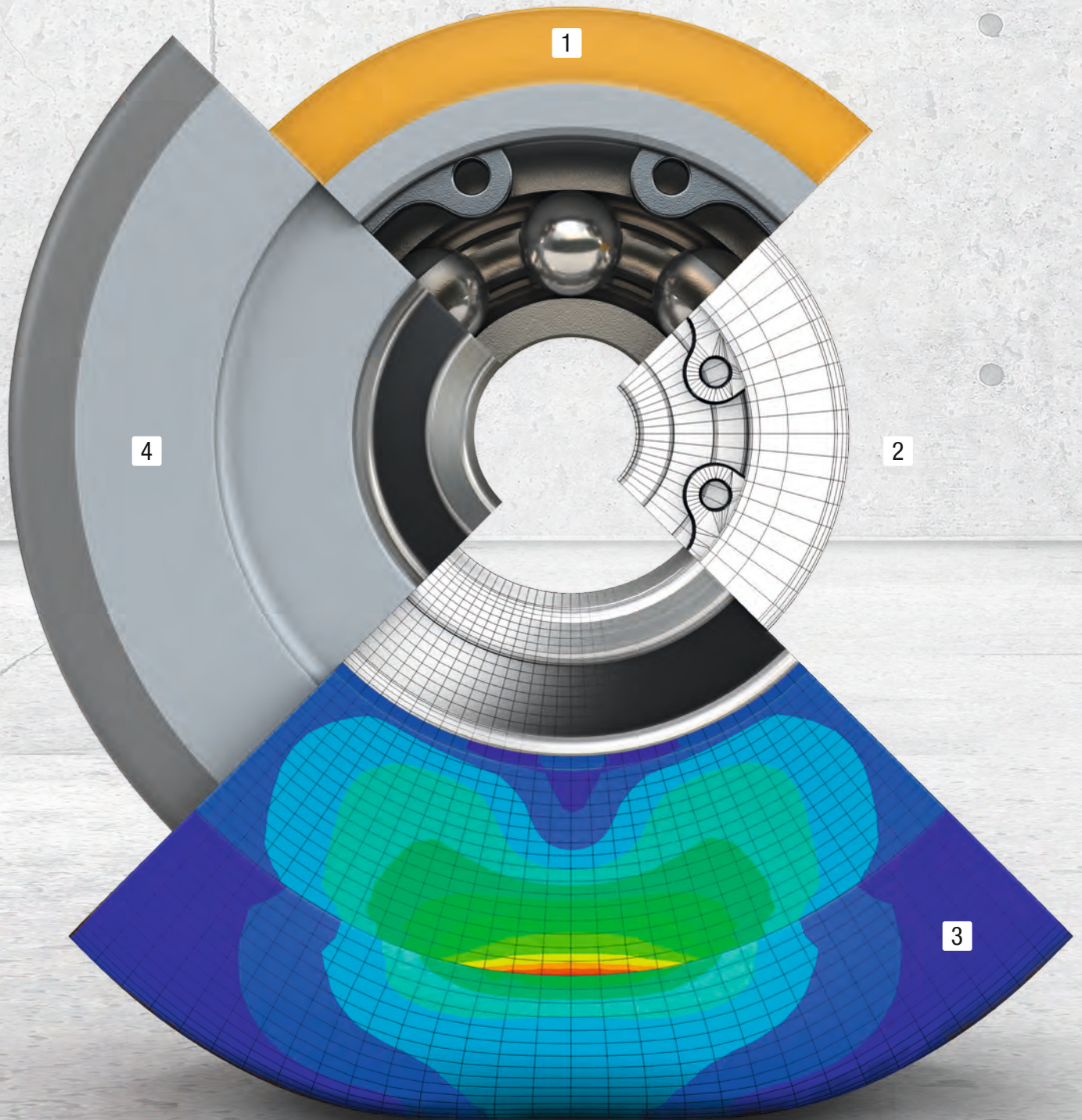
This kind of performance is only possible if you have the materials and products to match. Standards for drive wheels, load-bearing wheels and guide rollers in these systems have gone up in lockstep with the record highs being set in the industry: acceleration, motion and braking all produce extreme dynamic loads. Demand is high for tread materials capable of handling these dynamic loads without excessive heat buildup as speeds get faster, loads get heavier and periods of downtime get shorter. Having the right tread isn't enough on its own – you also need a wheel centre which is up to the task.

Blicke is perfectly positioned to meet all these requirements. We have worked together with leading manufacturers of conveyor technology to develop specialised high-performance materials capable of withstanding significant dynamic loads, even when space is at a premium.

* The load capacity of a wheel decreases at higher speeds as the tread heats up (dynamic load capacity). The higher the rebound resilience of the material used for the tread, the less it will heat up when exposed to dynamic loads. Hardness, compression strength and floor conditions will also have an impact on a wheel's dynamic load capacity.

EFFICIENCY IS INDIVIDUALITY

PEAK PERFORMANCE



Conveyor systems are complex machines that are only as effective as their weakest link. With no room for compromise, outstanding performance is required from each individual component. Each system also has its own unique set of requirements. Designers benefit significantly from having a reliable and experienced partner at their side during the planning process.

At Blicke, we are able to guarantee the highest level of efficiency by ensuring that every component that goes into a wheel meets the specific requirements of our customers. Our extensive product range includes guide rollers, drive wheels, load wheels and flanged wheels for every conceivable application. Developing special solutions is an everyday task for our experts and a challenge that they have handled with resounding success for years. Our high level of vertical integration allows us to put together the perfect combination of treads, wheel centres, wheel geometries and wheel bearings to meet the needs of our customers.

1 Wheel bearings

All of our products use high-quality wheel bearings that are perfectly suited for use in a wide variety of applications. Blicke also has an extensive range of specialised bearings for use in environments that are particularly hot, cold, damp or dusty. The company also uses grooved ball bearings for applications where operational performance and durability are the top priority. We use specialised simulations to give us an accurate representation of the operational performance and durability of a wheel in any given application.

2 Tread geometry

Tread geometry has a significant impact on how a wheel performs. To give just one example, specialised geometries can be used to reduce the tension within a wheel when it is exposed to significant loads. Customised tread geometries can also be used to prevent edge loading in specialised applications.

3 Tread thickness and compression

Blicke's product range includes treads with dimensions that maximise smooth rolling performance. Specialised tread thicknesses can be used for heavy duty applications when space is at a premium to ensure that wheels have the required load capacity, even at high speeds.

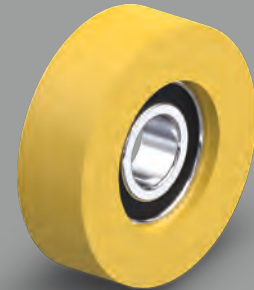
4 Material and Shore hardness

Blicke provides a wide range of materials with different degrees of hardness to suit any requirement in terms of load capacity, rolling resistance, rolling performance, grip and floor surface preservation. Our experts can adjust formulas to make sure that materials have just the right properties for specific applications.

Premium quality in the Blicke standard range

Blicke guide rollers

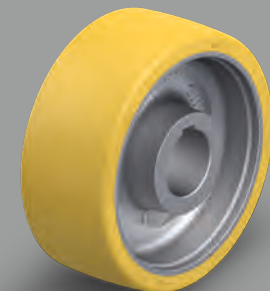
- 7 series and 99 versions available
- Wheel diameter: 25–125 mm



Load capacity: up to 530 kg

Blicke drive wheels / basic wheels

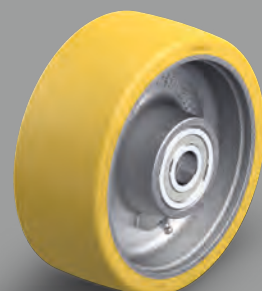
- 7 series and 151 versions available
- Wheel diameter: 75–1,000 mm



Load capacity: up to 25,000 kg

Blicke load wheels

- 7 series and 155 versions available
- Wheel diameter: 35–1,000 mm



Load capacity: up to 30,000 kg

2

THE WAY TO SUCCESS





Performance at its best

THREE SHIFTS OF RELIABLE WORK

Conveyor technology and automation to order – that is the slogan of ROFA AG. It also perfectly encapsulates the high standards that Blickle sets for itself.

Sometimes you just need something a little bit special

ROFA as a leading global provider of turnkey solutions for conveyor systems, automation technology, intralogistics and special-purpose engineering. The Bavaria-based provider manufactures electric overhead tracks with a rail system on wheels for the automotive industry. ROFA were looking for a new solution as the components they are using could not withstand the high loads and were subject to rapid wear. The solution: A customised design from Blickle, capable of handling heavy loads with ease while also providing long-term reliability.

The brief: Top-notch performance

The electric overhead tracks transport components on a rail system. Brackets are used to suspend the track from the ceiling. The wheels in the system are in use around the clock and subjected to punishing loads. 24/7 automobile manufacturing processes demand a lot from the systems and components supplied by ROFA, and most standard components simply aren't tough enough to withstand the heavy workload. ROFA found that the wheels they were using wore down quickly due to the constant use. The company decided to find a high-performance alternative.

The solution:

Custom-tailored quality from Blickle

Blickle worked closely together with ROFA to develop a specialised GB series wheel with a diameter of 250 millimetres. The process involved testing a variety of treads at an automobile manufacturing plant under real-world conditions. This allowed Blickle's experts to optimise the tread geometry until a perfect solution was available. The wheels developed by Blickle have a tread made from the durable polyurethane Blickle Besthane that is thicker than the standard versions in the company's product range. This allows the wheel to handle any unevenness when transitioning between rails. The specially designed tread with a hardness of 96 Shore A provides a high level of rigidity and boosts the load capacity of the wheel. It is suitable for use in heavy-duty applications involving loads of up to 12 tonnes, while also providing a low level of rolling resistance. The two rows of angular contact ball bearings are capable of handling significant wheel loads without any issues.

ROFA is extremely happy with Blickle's tailored solution, which reliably transports heavy vehicle bodies and other components around the clock. The wheels are also hydrolysis resistant – this prevents premature ageing and stops the tread from detaching from the wheel centre, particularly in environments with a lot of moisture. Choosing Blickle has also paid off economically for ROFA as the custom solution is maintenance-free.

“24/7 automobile manufacturing processes demand a lot from the systems we supply. Blickle designed a tailored solution for us which works perfectly!”

Top performance polyurethane

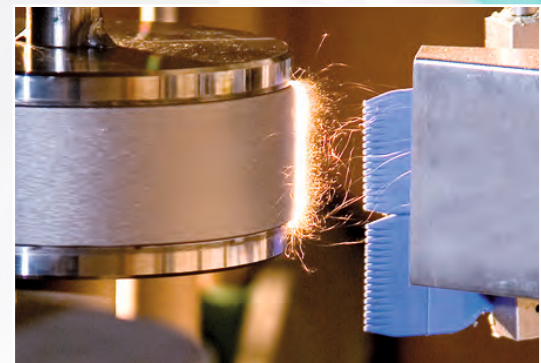
DRIVING SUCCESS

Otto Bayer would have been 120 years old on 2 November 2022. In the 1930's, this brilliant chemist invented polyurethane, something which is now an indispensable part of our daily lives and a material which Blicke considers itself an expert in.

Polyurethane is everywhere: from varnish, adhesives and foam to drive belts, the soles of your shoes and – of course – the treads of the wheels and castors used in conveyor systems. Without this material, conveyor systems would not be capable of performing to the high level that we are accustomed to. There are a number of different factors which can affect the quality of polyurethane, and it is important to note that it will only function as intended if it is processed properly.

Over the years, Blicke has grown into a polyurethane specialist. The company now develops and optimises its own high-performance polyurethanes specifically for applications where high speed, outstanding performance and smoothness of motion are the top priority.

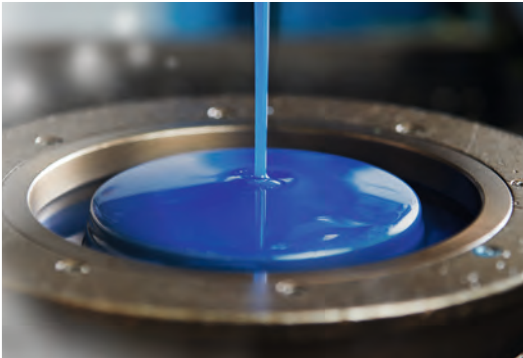
To maintain full control over the quality and performance of our treads, we manufacture them completely in-house. We sandblast, clean and prime the wheel centres using fully automated systems. We then use digitally-monitored machinery for the low pressure casting process. Depending on the formula, we add precise quantities of additives like colour pigments, activators or antistatic agents. This gives us the flexibility that we need to meet the precise requirements of our customers.





Better Bicklé

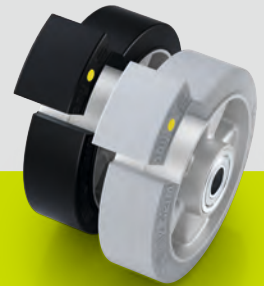
- Polyurethane wheels in all sizes, from 25 to 1,000 millimetres in diameter
- Load capacities of up to 100 tonnes
- Comprehensive quality inspections
- Tread and tyre hardness from 70 Shore A to 96 Shore A
- Special colours possible



BEST OF POLYURETHANE

The best thing about polyurethane is its flexibility – different ratios and production processes can be used to accentuate different properties. Each of our high-performance polyurethane treads is the result of decades of experience and the peerless expertise of our engineers and chemists. We can provide wheels with the best possible mix of properties to suit any situation.

The formula of the polyurethane material and how it is processed are the main factors affecting the quality of the finished product. They have a significant impact on tread and tyre hardness, rebound resilience, abrasion resistance, load capacity, rolling resistance and low-temperature flexibility. In cooperation with renowned research institutes and using the most modern methods, our developers are constantly improving the existing recipes and finding the best combinations of tread, thickness and contour. In addition to the properties of different tread materials, the extent to which they adhere to the wheel centre also plays a significant role in the quality of the product. That is why wheels and their treads are tested extensively during development so that we can guarantee a consistently high level of quality over the long term.



What is electrical conductivity?

The electrical conductivity of wheels and castors protects against electrostatic discharges that can be generated by transport equipment or by transported goods. A wheel or a castor is regarded as electrically conductive if its ohmic resistance does not exceed $10^4 \Omega$. A wheel or castor is considered antistatic if its ohmic resistance is between 10^5 and $10^7 \Omega$. Blickle provides ESD versions of wheels and castors for applications requiring an ohmic resistance of up to $10^9 \Omega$.



- 75 Shore A
- Standard polyurethane, soft
- Very good traction, excellent floor surface preservation and smooth rolling performance
- Antistatic version available



- 75 Shore A
- Top performance polyurethane, soft
- High dynamic load capacity with very good traction and resistance to hydrolysis
- ESD version available



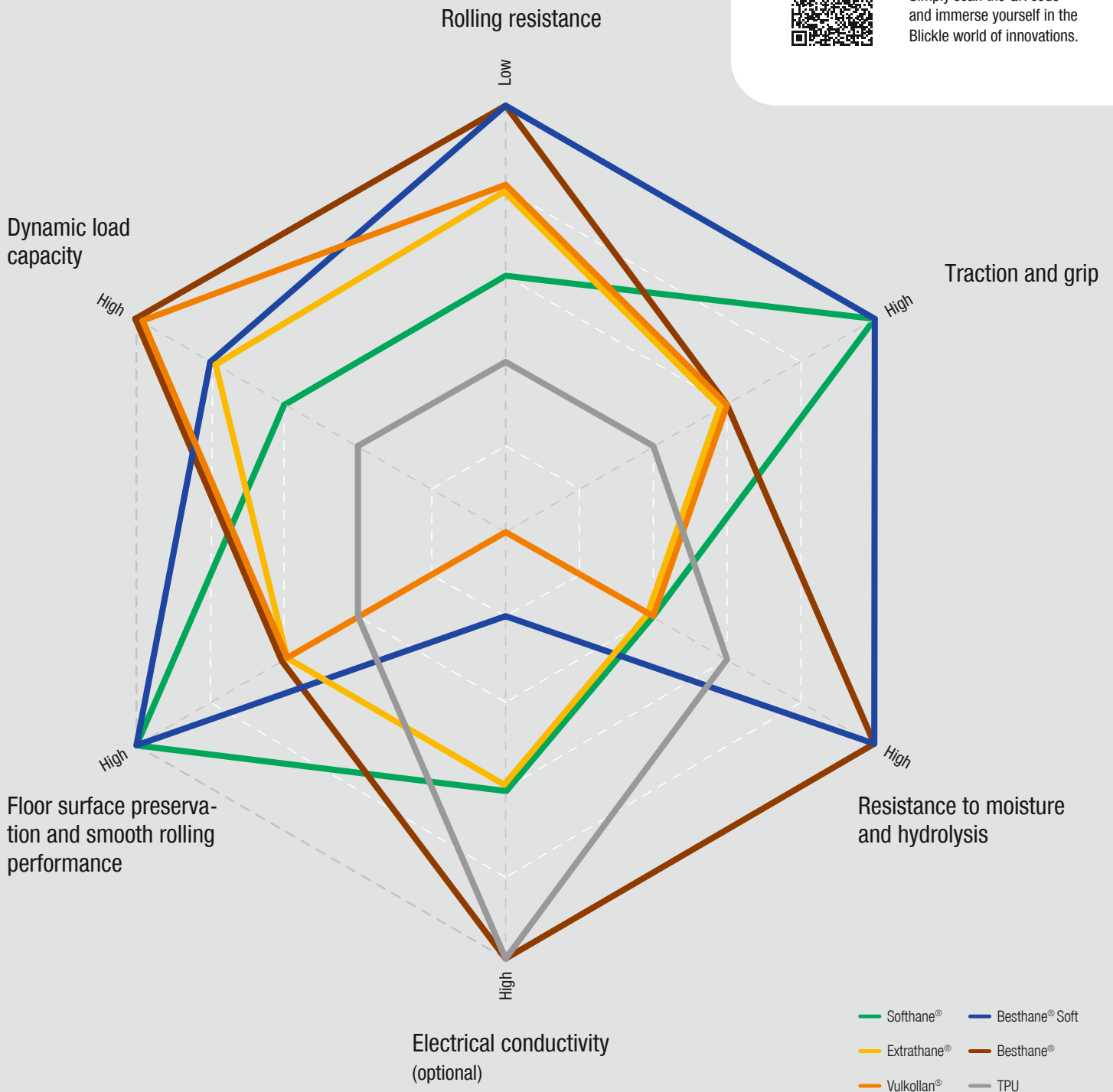
- 92 Shore A
- Standard polyurethane
- Versatile standard polyurethane with a high dynamic load capacity
- Antistatic version available



- 92 Shore A
- Top performance polyurethane
- Very low rolling resistance, very high dynamic load capacity and resistance to hydrolysis
- Electrically conductive and ESD versions available



Want to know more?
Simply scan the QR code
and immerse yourself in the
Blicke world of innovations.



- 92 Shore A
- Top performance polyurethane
- Low rolling resistance and a very high dynamic load capacity

Thermoplastic polyurethane (TPU)



- 94 Shore A
- Thermoplastic polyurethane
- Moisture-resistant and hydrolysis-resistant versions available
- Electrically conductive version available

Ergonomics – “Made by Blicke”

When we talk about ergonomics, rolling resistance is the most important factor. At Blicke, we can proudly say that our products have the best rolling resistance in all classes. Years of experience in many different areas have given us a high level of expertise in material development. But to stay the best, you have to keep getting better – a large part of our development work therefore focuses on researching new tread materials.



High performance. In all conditions.

KEEPING ENERGY AND DATA FLOWING RELIABLY

Systems which provide energy and data to mobile equipment like cranes require a high level of precision and performance so that cable trolleys can move safely and reliably on their tracks without the need for maintenance. There's a number of challenges to overcome: these systems have to withstand frost, moisture, heat and salty air, in addition to long service hours.

Downtime, maintenance and swapping out components for offshore cranes can be expensive. Conductix-Wampfler, one of the world's leading manufacturers of cable trolley systems, had a long history of compromising on the quality of their guide and load-bearing rollers. The company's cable trolleys are used in harbour cranes and other facilities. The load-bearing and guide rollers of these trolleys are subject to significant pressure. They are frequently in use outdoors around the clock and exposed to frost,

salty air, moisture and heat. The customer had to replace the castors they were using on offshore cranes at regular intervals to prevent them from failing when unloading container ships, which could lead to expensive downtime. Costs for maintenance and spare parts were going up. The company also constantly had issues with treads coming loose due to corroded wheel centres. The rollers also provided an inadequate level of hydrolysis resistance.



“The rollers in a cable trolley for offshore cranes have to withstand punishing conditions. We knew that we needed an expert partner with a commitment to quality to find the best possible solution. Blickle were our first choice.”

Patrick Schöpflin,
Product Manager Festoon Systems
Conductix-Wampfler

There is always a solution

Thanks to Blickle’s new generation of rollers, these problems are a thing of the past. The wheel and castor specialist supplies components made from high-quality nylon 6, which are cast over with the resilient premium polyurethane Blickle Besthane. The wheel centres are hermetically sealed on one side to prevent the entry of water. The tread is hydrolysis resistant and extremely resilient when used in salty air. The wheels can resist temperatures from -20 to 70 degrees Celsius and remain reliable even in extreme weather conditions. Conductix-Wampfler now relies solely on Blickle’s solution for all of its cable trollies used for applications with a high dynamic load. The rollers have a diameter of 80 to 160 mm. The connection between the wheel centre and the polyurethane tread is extremely resilient and has significantly improved the service life of the rollers. This has noticeably reduced the costs incurred by Conductix-Wampfler for maintenance and storing spare parts.

PRECISION IS A QUESTION OF ATTITUDE

PRECISION IN EVERY AREA

Traceability

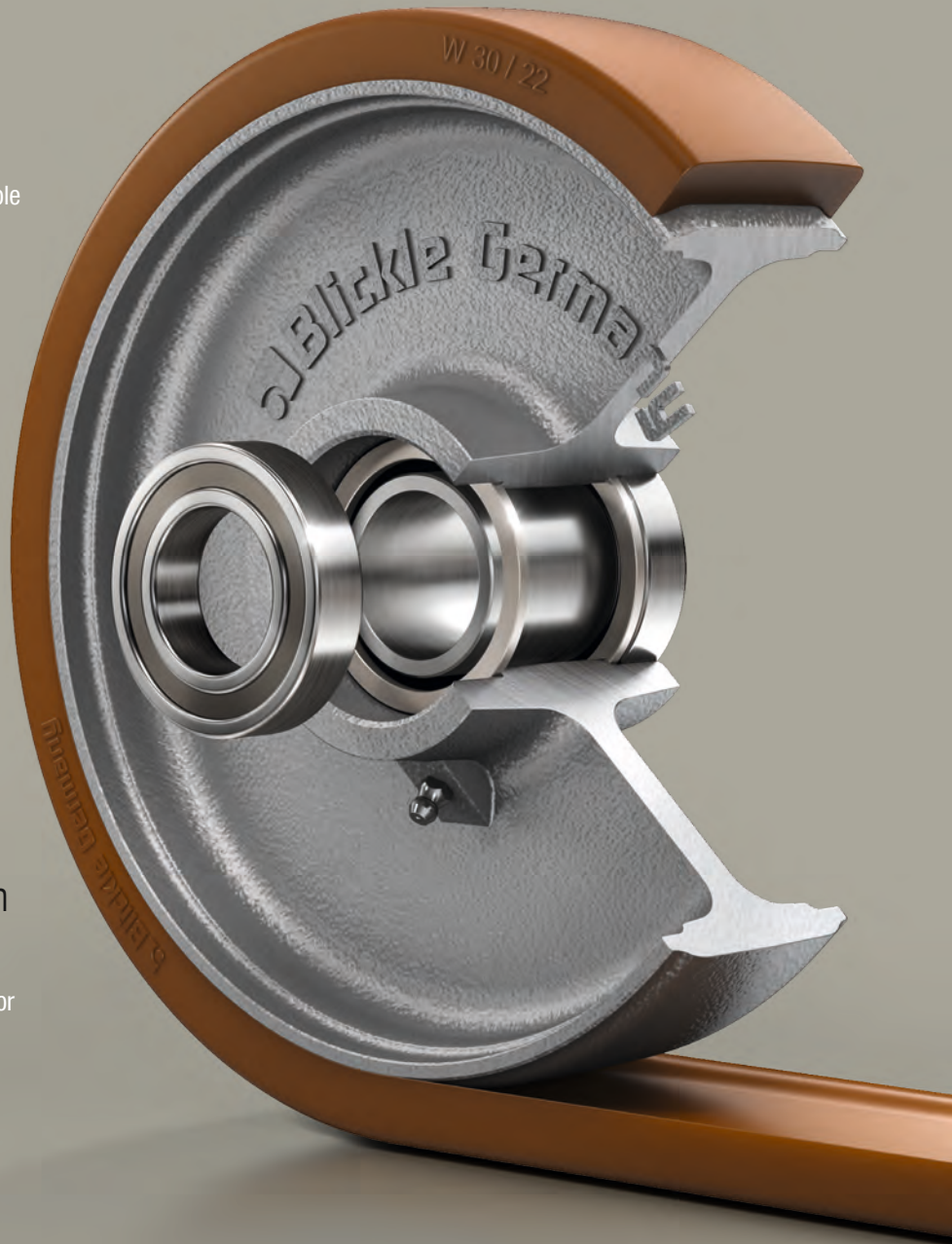
All batches fully traceable

Wheel bearing

Perfectly machined bearing seats with precision down to the last hundredth of a millimetre

Precise production

Minimal and reproducible manufacturing tolerances for all wheel dimensions



At Blickle, we can manufacture everything in-house thanks to our high level of vertical integration. All of our processes are clearly defined, computer-controlled, monitored, logged and traced. We rely fully on our highly qualified specialists with years of expertise. Our management systems, cutting-edge automated production and testing equipment as well as our first article, last article and factory inspections guarantee a high level of quality and process reliability.

If you want something done right, do it yourself. That's what we do, from production all the way until long after the final inspection.

The engineers in our test laboratories have a wide range of test facilities at their disposal, including rotating test benches capable of handling a load of up to 5.5 tonnes, material testing equipment and air conditioning and heating cabinets. We use cutting edge equipment for wheel and castor tests in accordance with DIN EN 12527–12533 (ISO 22878–22884) in addition to destructive testing. We integrate a large number of testing and inspection stations into our production lines to maintain our certified, high-quality standards.

Consistent Blickle quality

Fully automated in-house casting process for reproducible quality

Minimal tolerance

Optional grinding of treads for precision down to the last hundredth of a millimetre

Precise finishing

Optional overtightening of the treads for tolerances down to the last tenth of a millimetre



Testing radial run-out



Inspecting bearing seats and fit



Testing Shore hardness



Testing electrical conductivity



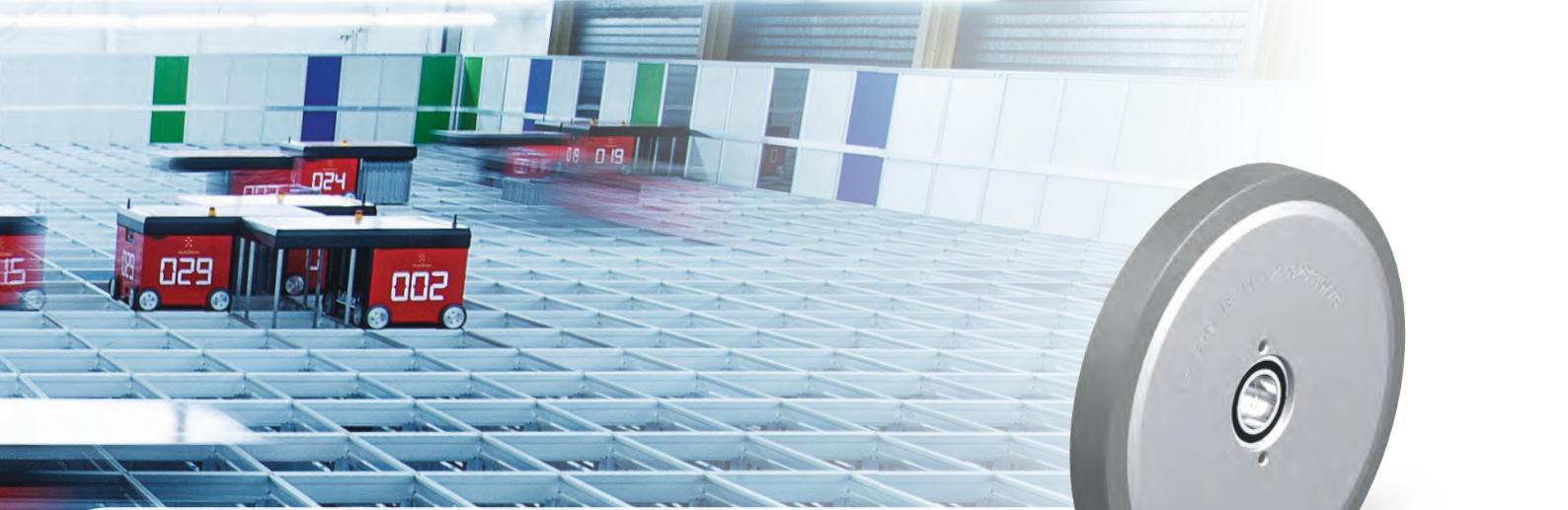
Testing tread adhesion



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4 THE WAY TO SUCCESS





Mobility. New dimension.

EVEN ROBOTS MOVE BETTER WITH BLICKLE

The application: An automated robotic storage and order picking system. The challenges: Maneuverability in every direction. Maximum precision in terms of wheel suspension and wheel geometry. Zero maintenance.

The robots run on a rail system, and each one has eight wheels: four in the direction of travel and four in the transverse direction. The wheels can be raised or lowered so that the robots can move in any direction on the chessboard-style rail system.

The system is manufactured by AutoStore™, one of the 500 largest companies in Norway with branches around the world. The company had a positive experience using Blicke's FALTH series guide rollers with the Blicke Extrathane polyurethane tread for its previous generation of robots. Now it was up to us to overcome the next challenge.

The new generation of robots uses an advanced drive system that has all four wheels in a given running direction connected to a single motor. This produces better force transmission with improved acceleration and braking without the risk of the wheels slipping. The requirements for the wheels are demanding due to the nature of the system.

The ideal solution: Drive wheels from the ALB series. The antistatic polyurethane elastomer Blicke Besthane was used for the tread – a material that we designed specifically for high speeds and acceleration. Blicke Besthane® offers a much lower level of starting and rolling resistance than a wheel with Blicke Extrathane®. A special aluminium design was used for the wheel centre to keep the wheel moving smoothly on the rail system. This allowed us to provide a solution with greater load capacities, faster acceleration and higher speeds. The result: The robots can move with an exceptional level of precision on the rail system despite the extremely high speeds and acceleration involved. The reduced starting and rolling resistance have also reduced the amount of energy used by the system.

“Precision, smooth rolling performance and durability are our top priorities. We knew that we could rely on Blicke to find the perfect solution.”

Jone Gjerde, Chief Operating Officer AutoStore™

BLICKLE. BEST IN

- > More than **30,000 standard products** provide the perfect solution for almost any situation.
- > **Fast and inexpensive** solutions thanks to Blicke's modular design principle.
- > Flexibility in **special solutions**: Together with you, we will develop a solution customised to the individual application.

Product
Variety

- > **A high level of vertical** integration and production at the headquarters ensure complete control over all work steps.
- > High **Blicke quality standard** by combining state-of-the-art machines with precise manual work throughout the entire production process.
- > State-of-the-art, automated production and testing facilities guarantee **high process reliability** and **"made in Germany" quality**.
- > Our products are designed for **long service lives**.

Quality
and
Production

Service

- > Fairness, loyalty, respect and trust are at the heart of **all of our interactions** with our customers, suppliers and employees.
- > **We are committed to acting responsibly** both at our headquarters in Rosenfeld and also at our international subsidiaries.
- > Recognised as a **climate-neutral company** and for **sustainable entrepreneurship**.

Responsibility



**KLIMANEUTRALES
UNTERNEHMEN**
certified by Fokus Zukunft

Cooperation

- > Decades of experience and competence in **all industries** as one of the world's leading manufacturers of wheels and castors.
- > **For us progress is a tradition**: A family company now in the 3rd generation.
- > Close customer support through network of **specialist advisors in over 120 countries** worldwide.

Innovation

- > **Intelligent drive solutions** that provide support wherever human strength is no longer sufficient (e-mobility solutions).
- > Experienced, **specialised teams of experts** enable special solutions to be implemented quickly.
- > By **working with renowned scientific institutes** and universities, Blicke developers get new ideas rolling.
- > **Continuous optimisation** of the existing product range.
- > Around **1,500 successful customer-specific solutions** per year.

Delivery Performance

- > More than **24,000 different products** ready to ship in one or two days.
- > **Short delivery lead times** thanks to decentralised warehouses or direct shipment from our central warehouse in Rosenfeld.
- > First-class delivery performance thanks to a **state-of-the-art logistics centre**.

- > **Expert advice** from personal customer contacts **worldwide**.
- > Informative Blicke website with **product finder and online shop**.
- > **E-commerce and E-procurement solutions**.
- > Presence at **international trade fairs** worldwide.
- > **Blicke Academy**: Training events for employees and dealers.

If you want to be a leader in the market, you have to keep getting better. We want to be the best. For you. For your success. As a solution partner and service provider, we want to help make you successful. That is why, in addition to our extensive standard range, we attach great importance to the development of customised solutions. If a gap appears in our portfolio, we fill it.

Our vertical integration and “made in Germany” production give us complete control over the entire manufacturing process, from the material to the final assembly. We are also proud of our delivery performance. More than 24,000 different products are ready for dispatch in one to two days from one of the most modern logistics centres in the industry. Our quality standards are extremely high – in all areas!

Production: Germany. Sales: Worldwide.

We export our products to over 120 countries worldwide. With 20 sales companies in Europe, North America, Asia and Australia, as well as sales partners all over the world, we ensure that our international customers are well looked after.



OUR WORLD OF CONVEYOR TECHNOLOGY

Mobility in all channels

Discover over 30,000 mobility solutions: Request our current general catalogue or try out our product finder at www.blickle.com



Load wheels

For extremely heavy loads

- Load capacity: 100–30,000 kg
- Wheel Ø: 35–1,000 mm

Special solutions

For tailored applications

Our wide range of over 30,000 standard products provides the perfect solution for almost any situation. All of our products are high-quality, maintenance free, available quickly and have a long service life, as you would expect from Blicke.

Unique conveyor technology solutions that set new standards in efficiency, performance and precision. With us you will definitely find something suitable for your requirements. If you can't find it in our extensive standard range, we can work together to develop a customised product for you: Customising is one of our strengths. **Because our mission is customer satisfaction.**

Guide rollers

For a reliable and precise journey

- Load capacity: 15–530 kg
- Wheel Ø: 25–125 mm

Drive wheels, hub fitting wheels and basic wheels

For optimised drive and traction

- Load capacity: 200–25,000 kg
- Wheel Ø: 75–1,000 mm

Flanged wheels and castors

For high-precision rail-based applications

- Load capacity: 50–9,000 kg
- Wheel Ø: 50–400 mm

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Select. Download. Install.

CAD DATA IN JUST A FEW CLICKS



High end mobility

3D data for all of our products can be downloaded for free in standard formats. You can easily integrate our products into your design right from the start.

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