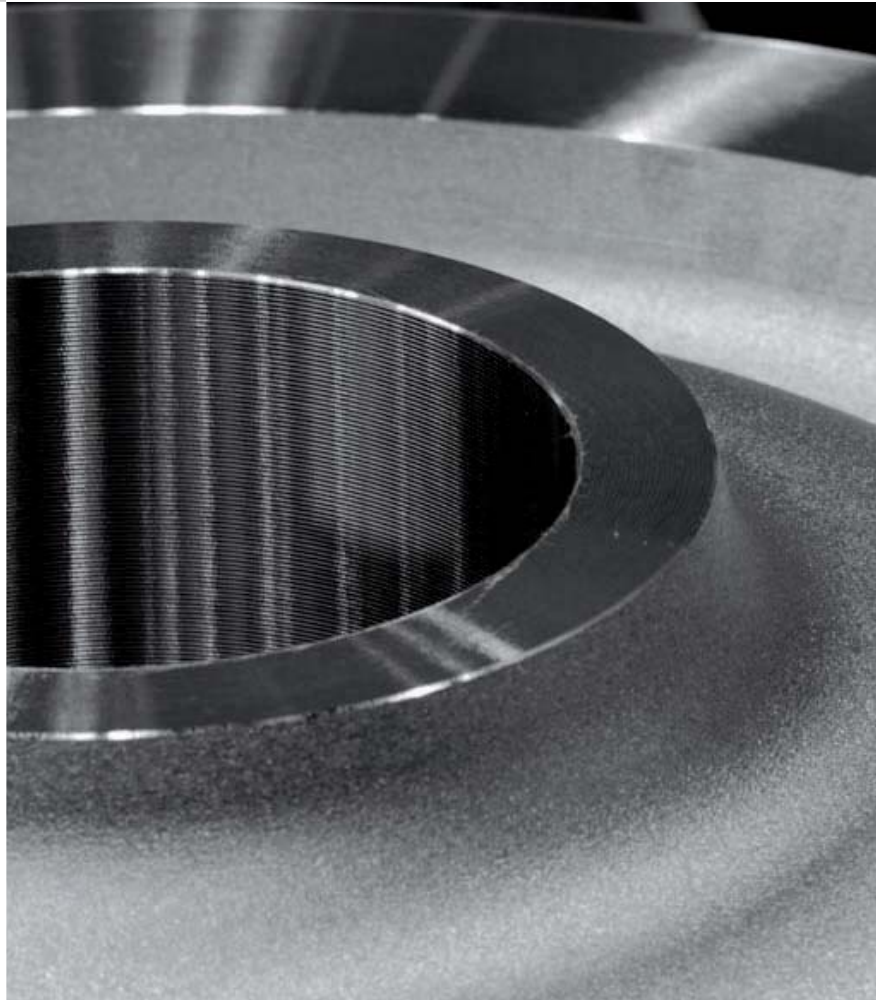




BONATRANS





WE CREATE THE FUTURE

BONATRANS GROUP a.s.

During the recent 15 years we have grown from a local manufacturer to the biggest producer of railway wheels and wheelsets in all EU countries. We provide a complete range of products from freight wheelsets to products for very high speed. We actively supply to 70 countries worldwide. Our solutions are tailor-made to needs of our customers.

To achieve it we have had to adopt and master the following attitudes:

- Growing
- Not being afraid of difficult tasks
- Learning and transforming new things into standards quickly
- Investing in advanced technologies and testing equipment
- Adjusting to our customers' needs

We are a dynamic company, we do not stagnate and we bring the same values to our customers and partners.

WE CREATE THE FUTURE

Applications

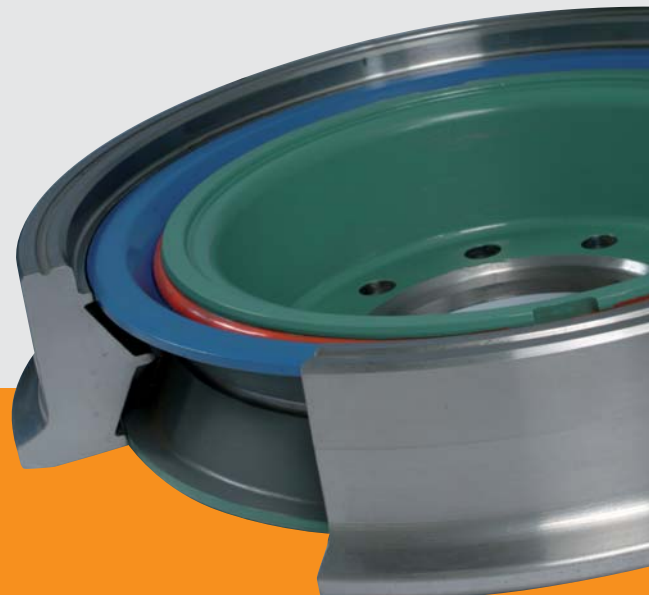
Railway wheels, axles and wheelsets with a Bonatrans manufacturing mark safely and reliably transport passengers and goods in all types of railway vehicles:

- high-speed trains
- intercity and regional trains
- suburban trains and light rail vehicles

- trams and underground trains
- all types of locomotives
- freight wagons

As Bonatrans designs and supplies wheelsets, wheels and axles for all types of applications and for various operating conditions, we are capable of capitalising on the experience we have gathered to offer products optimised in many various aspects. We are always looking for solutions that will provide our customers with the best possible ratio between acquisition/operation costs and the utility value of the products.

Thanks to its long-standing experience in wheelset design, Bonatrans has a number of standardised solutions that may be adapted to specific requirements and needs of the customers. This allows Bonatrans to design and offer tailor-made products to its customers in very short periods of time.





PRODUCTS

WHEELSETS

Complete railway wheelsets for all applications, including assemblies of components such as brake discs, axle boxes, drives and gearboxes, noise absorbers, etc. Dimensions range from the smallest wheelsets for low-floor flat wagons for the transport of trucks to the biggest locomotive wheelsets. The product line includes wheelsets for large axle loads with high thermal loading resistance as well as wheelsets for high speeds and other special applications

WHEELS

A wide range of rolled railway wheels of all dimensions and designs corresponding to various types of applications, including drilled plates, noise and vibration absorbers and brake discs mounted on the wheel plates.

As a specific product, Bonatrans offers rubber sprung resilient wheels with high degree of noise and vibration suppression especially in the domain of urban transport.

AXLES

Driven axles with multiple seats, non-driven railway axles for passenger and freight applications. Axles with seats reinforced with layer of molybdenum or with roller-burnishing, lightweight axles with longitudinal boring (hollow) allowing for precise diagnostics in operation.

DISCS AND TYRES

Complete range of spare discs and tyres, i.e. wagon, locomotive and tram tyres. Bonatrans further supplies machined discs and tyres for rubber-sprung resilient wheels.

NOISE ABSORBERS

Special devices reducing noise and vibrations of wheels in operation.



WHEEL MANUFACTURE



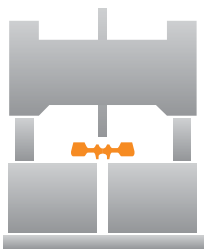
Material cutting on saws



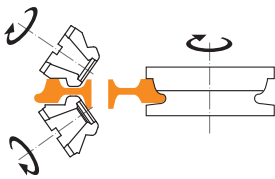
Rotary heart furnace



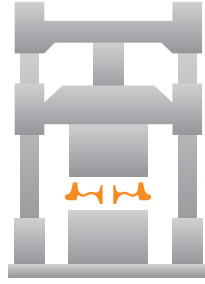
Forging press



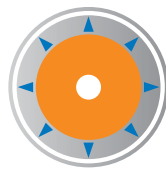
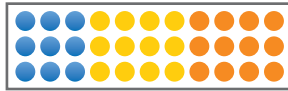
Boring press



Rolling



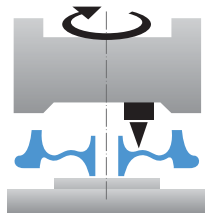
Bending press



Heat treatment



Mechanical and material tests



Machining



Non-destructive tests

AXLE MANUFACTURE



Heating of material



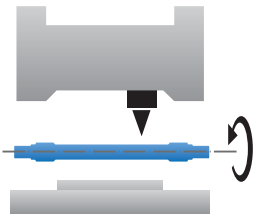
Forging press



Heat treatment



Mechanical and material tests

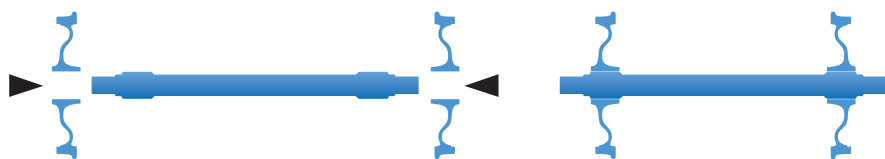


Machining



Non-destructive tests

WHEELSET ASSEMBLY



▶ PAINTING

▶ DISPATCH





QUALITY AND SAFETY

Quality and Safety

Wheelsets are among parts of rolling stock that have critical influence on operational safety of the entire train. In designing and manufacture, therefore, Bonatrans places high emphasis upon strict and thorough quality control relating to the entire delivery process, ranging from the initial negotiations with potential customers to the delivery of completed products.

Bonatrans considers the quality assurance system to ISO 9001 to be the necessary but not sufficient basis; the quality system as it is actually implemented in the company has to go far beyond.

There are more than 80 employees of the quality control department in the company responsible for quality assurance of processes, production and services provided by BONATRANS GROUP a.s. Moreover, it is the responsibility of all Bonatrans employees to provide and continually increase the quality at their respective workplaces. Engagement of autonomous teams, implementation of TQM, TPM systems and a number of internal projects focused on innovative activities undertaken by all employees have proved to be effective tools for continuous quality improvement.

The product and design quality is examined by a number of demanding tests performed on Bonatrans' own testing devices and, in case of various special tests, also in a number of renowned testing laboratories.

The quality system in BONATRANS GROUP a.s. is incorporated in the Integrated Control System, together with the environmental protection (to ISO 14001) and the operational health and safety protection (to OHSAS 18001).

Production

High-quality steel is the input material for production of wheels and axles. Bonatrans continuously cooperates with its steel suppliers on further improvement of steel quality and cleanliness, adopting requirements on steel that are more stringent than the general requirements of technical standards (EN, UIC, AAR, etc.).

The complete process from rolling and forging of the input material to the final treatment of finished machined products is carried on state-of-the-art production facilities offering a high degree of automation, allowing preciseness, reliability and repeatability of the production process. Substantial means are invested every year in improvement of the production process and in new production technologies, in order to provide our customers with lasting high-quality of products and services in the permanently changing world.

There is a thorough system of product identification and data recording in place, which makes it possible to trace back all details regarding manufacture of each individual piece.





RESEARCH AND DEVELOPMENT

Research and Development

Bonatrans provides its customers with complex solutions of the wheelset design, optimized for the operational conditions of the vehicle. The designing department develops the product with optimum behaviour in terms of mechanical properties, weight and life cycle costs.

Approximately half of the more than 40 engineers working in the technical department are involved in design and development. In addition to development of new wheelset designs, our engineers are engaged in improvement of material properties (thus extending life and improving safety of wheels and axles), development of new products (such as rubber sprung resilient wheels, brake discs and others). They are also dealing with suppression of noise generated on the wheel-rail contact and are involved in a number of other research activities, which ultimately lead to improvements in the utility value of Bonatrans products.

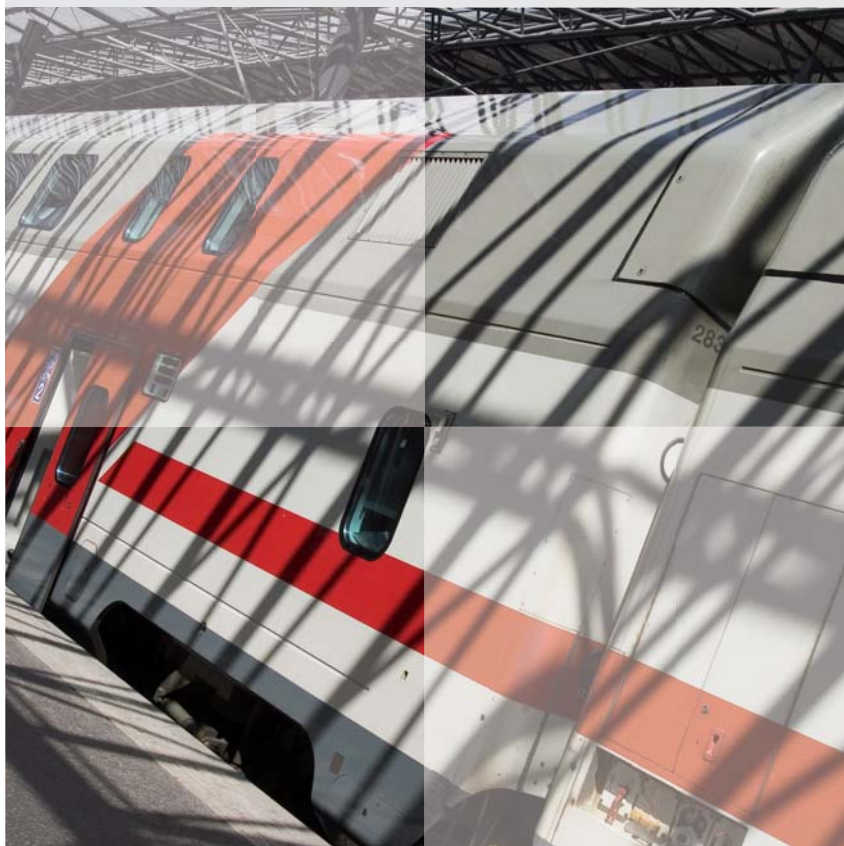
New properties of products are submitted to demanding tests performed on samples as well as on full-size products. In addition to its own testing facilities Bonatrans cooperates with a number of renowned institutes and testing facilities.

Environment

To create the future means also to behave responsibly towards the environment in which we live.

BONATRANS GROUP a.s. is a holder of the ISO 14001 certificate, and it seeks to continually diminish the impacts of its business on the environment. In all new investments the company selects environmentally friendly technologies.

Besides the production activities, Bonatrans gives also great consideration to environmental effects of its products. Although rail transport is far more environmentally friendly than road transport the railway has also its environmental impacts, especially in the area of noise where the wheel-rail contact has a big influence. Bonatrans has a range of effective solutions to address this issue, such as application of special vibration and noise absorbers or application of rubber-sprung resilient wheels, which are particularly effective in urban transport.





REFERENCES AND PEOPLE

References

Our clients include major European and international railways such as DB (Germany), SNCF (France), operators in Great Britain, ÖBB (Austria) SJ (Sweden), SBB (Switzerland), SNCB (Belgium), PKP (Poland), ČD (Czech Republic), ŽS (Slovakia), MÁV (Hungary), IR (India), Northern American Railways, and many others.

We deliver products for new rolling stock to Bombardier, Alstom, Siemens, GE Transportation, Rotem, Vossloh, Talgo, Kawasaki Rail Car, Kinki Sharyo, Škoda Transportation, ČKD Vagonka, Tatravagonka Poprad, IRS, Greenbrier and many others.

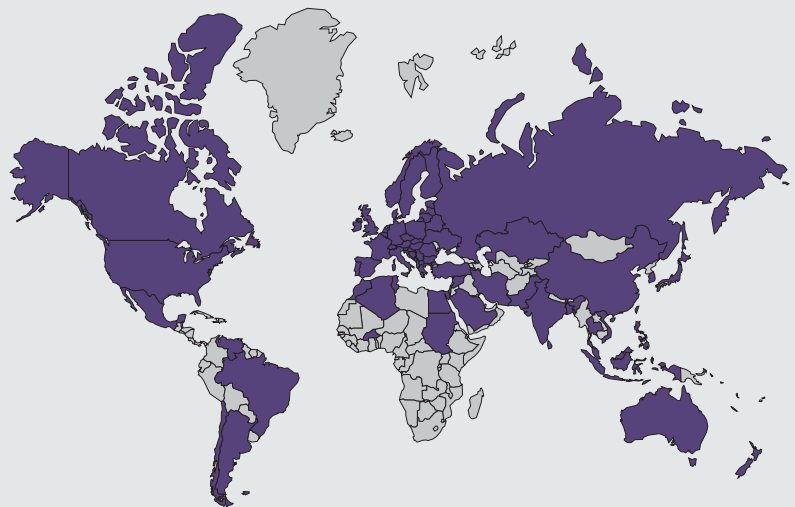
Bonatrans wheels are operated in over 70 countries on five continents.

People

The keystone of BONATRANS GROUP a.s. dynamic growth are people - employees that are willing and able to find and apply new approaches and innovations, that are flexible in dealing with various issues and who think of the needs and requirements of customers in order to provide optimal solutions.

People are and will always be the greatest potential of BONATRANS GROUP a.s. Technology and systems are merely an essential pre-requisite. Bonatrans employees are ready to keep on searching for the best solutions to your needs, starting from the project preparation, through in-time and quality production to delivery and after-sales service of the supplied products.

Delivery Countries



■ BONATRANS GROUP a.s.





WE CREATE THE FUTURE

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