



BONATRANS GROUP

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Another BONATRANS Success in High-Speed Rail

India has long been one of the key non-European markets for BONATRANS GROUP a.s., Europe's largest manufacturer of railway wheelsets. Over many years, the Czech company based in Bohumin has contributed to numerous rail projects across the country, supplying wheels, axles and complete wheelsets for a wide range of rolling stock.

Every day, millions of passengers travel on metro systems in cities such as Delhi, Mumbai, Kolkata, Bengaluru, Hyderabad, Lucknow, Kochi, and others aboard trains running on wheelsets developed and manufactured by BONATRANS.

The WAG-12, the most powerful freight locomotive in the Indian Railways fleet, runs on BONATRANS wheels and axles, as do numerous other railway vehicles operating on one of the world's largest and most rapidly modernising rail networks.

As India continues to invest heavily in modern transport infrastructure, its railway sector is undergoing a remarkable transformation. Among the most ambitious projects is the B28 high-speed trainset, the first train of its kind to be designed and manufactured in India.

Developed by the BEML–Medha consortium for the Mumbai–Ahmedabad High-Speed Rail corridor, the B28 has a maximum design speed of 280km/h and represents a major milestone in the development of India's domestic high-speed rail industry.

Drawing on decades of experience in the design and manufacture of wheelsets for high-speed applications, BONATRANS has developed a modern wheelset solution for the B28 programme.

Designed with a strong focus on life-cycle cost, weight optimisation and operational reliability, the wheelsets incorporate a number of advanced technical features:

- All wheelsets have been designed and manufactured in accordance with European EN standards, in line with established practice for high-speed rolling stock.
- The wheels are produced from the enhanced steel grade BONASTAR®. Its higher-yield strength improves resistance to tread deformation, helping to extend wheel life and reduce life-cycle costs.
- The axles are protected by the highly durable BONACOAT®C2 coating system, providing enhanced corrosion resistance and long-term protection.
- Both powered and non-powered axles are manufactured from EA4T category 1 steel, a material widely recognised for demanding high-speed railway applications.
- To minimise unsprung mass, both powered and non-powered axles are designed with a longitudinal hollow bore. Besides reducing weight, the hollow design enables ultrasonic inspection without the need to dismount the wheels or remove the protective coating. Furthermore, the bore is cold rolled over its full length. This additional manufacturing process significantly improves fatigue strength and contributes to the long service life of the axle.
- Wheel and axle markings are applied using precision milling with a round cutter. Compared with conventional stamping methods, this modern approach eliminates the risk of creating stress concentrators, thereby supporting safe and reliable operation.

As India enters a new era of high-speed rail transport, BONATRANS is proud to contribute to a flagship programme that will help shape the future of mobility across the country.



Contact Information

BONATRANS GROUP a.s.

Revolucni 1234, Bohumin

735 94, Czech Republic

<https://www.ghh-bonatrans.com/en/>

pavel.kufa@ghh-bonatrans.com

Tel: +420724210777

