

# **Automatic MPI Systems For Railway Industry**

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Importance of nondestructive testing of railway axles and wheels is strongly increasing for railway maintenance, repair and overhaul. Conventional NDT equipment for testing of axles usually requires disassembly of the gearboxes, brakes system and other components significantly exceeding the axle diameter. These disassembly steps are considerably increasing the process lead time and to avoid them was main requirement of the customer who was participating on this project. Then the MPI system UNIMAG 2600 AC / AC / AC has been developed by ATG Ltd. to specifically address this issue for big maintenance centers of main European railway companies. It allows testing of the axle with installed various types of gearboxes, brakes and other components installed on the axles, by unique system of magnetization consisting of 3 independent movable coils and direct current technique. The testing process is fully automated and the equipment itself is ready for integration in automated loading / unloading conveyor systems and capable of communication with various central control systems. Additionally, the UNIMAG 2600 is ready for semiautomatic or fully automatic evaluation of discontinuities by special cameras using unique software evaluation based on neural networks, which is currently under development in research and development department of ATG.