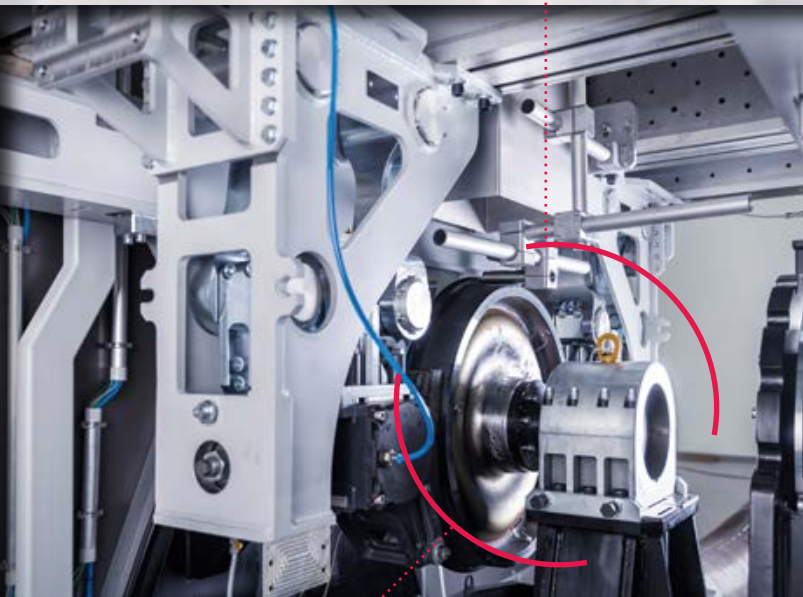




BRAK

LICHTMEISTER Foto- und Filmproduktionen e.U.



Conventional test rigs simulate the inertia of rolling stock by means of huge steel flywheels that do not that does not allow for sudden changes in operating conditions or measurements of braking response time till standstill. The test rig at TU Graz, on the other hand, works with a powerful electric motor that can be flexibly controlled and allows a wide variety of braking scenarios from braking to a complete standstill to experiments regarding parking braking and stopping jerks without any conversion work needing to be done. High-speed trains with speeds of up to 500 km/h can also be tested.

Together with the test bed manufacturer KS Engineers, the Institute of Structural Durability and Railway Technology at TU Graz developed a new type of brake-test rig, which has been in operation in Inffeldgasse in Graz since autumn 2023. Rolling stock brake loads and their effects on the entire running gear can be tested in different scenarios. Looking to the future, a particle measurement system that measures abrasion and particle emissions during braking can be integrated. “We want to be prepared if these measurements are made mandatory in the foreseeable future,” explains Institute head Martin Leitner.

ING SAFELY



An additional plus with the new test rig is the two physically separate test chambers that can be virtually connected to each other. “We can test scenarios where different braking systems are in operation in one train set,” explains Martin Leitner.



All friction brake systems for rolling stock – i.e. disc, tread, pad and wheel disc brakes, as well as the associated brake callipers, brackets and brake carriers – can be tested on the test rig.