

Measuring wheelsets



- Building custom measuring wheelsets
- Deployment of measuring wheelsets

Contact us

PROSE measuring wheelsets

Since 2011, PROSE has been building custom measuring wheelsets at our own facilities in Berlin. You can use our instrumented wheelset systems flexibly and in a variety of ways. The peripheral components, including the signal transmitter and receiver and the wheelset calculator, can be used with any wheelset. You can use the durable instrumented wheelset itself as a sensor for a long period of time. PROSE measuring wheelsets are also available for rental.

Furthermore, we develop and produce telemetry adaptors and adapt existing measuring wheelsets to new application cases. Our measuring wheelset is a sensor like any other; any test centre can use it after a short introduction.

PROSE provides support from design and instrumentation of wheelsets to performance of the instrumented wheelset tests. We can offer customised buy/rent solutions that fulfil your needs.

Deployment of measuring wheelsets

Guaranteeing safe running and obtaining vehicle homologation requires test runs with measuring wheelsets to determine the forces at the contact point between wheel and rail. PROSE supports you in measuring wheel-rail forces for all kinds of wheelsets, from mechanically independent single wheels to locomotive wheelsets powered via hollow axles.

For this purpose, PROSE uses its own flexible instrumented wheelset system. Its modular structure comprises the wheelset, a signal transmitter and the wheelset processor. To determine wheel-rail forces, the system measures the deformation of a wheel or an axle by means of strain-gauge bridge circuits. A system component mounted on the wheelset amplifies the measurement signal from the strain gauge and transmits it to the wheelset processor. Available signal transmission options include the analogue but very robust slip ring technology, an optical telemetry system and radio transmission. In these latter two variants, the system digitalises the data right on the wheelset to enable smooth transmission.

The wheelset processor plays a critical role in determining forces precisely. Based on wheel deformation, the processor uses an algorithm to calculate the wheel-rail forces in all directions together with other parameters such as the position of the wheel-rail contact point. PROSE provides the results as analogue signals for further processing.