



# EURAILSROUT

Inspection & Analysis

## FACTSHEET

### AXLE BOX ACCELERATION MEASUREMENTS (ABA)



## Axle box acceleration measurements (ABA)

**EURAILSCOUT uses measurement trains to measure and inspect the condition of the rail infrastructure, in particular the geometry of the track and overhead line.**

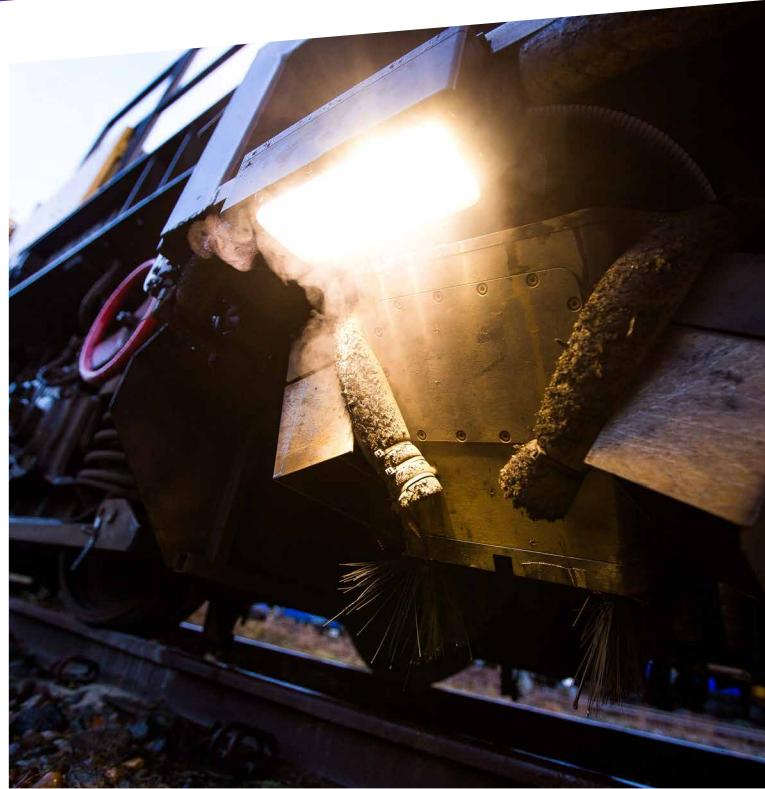
For geometry measurements, think of for example track gauge and height, and the lateral position of the track structure. In addition, we measure the overhead line, such as the height, lateral position and thickness of the contact wire. For this purpose, **EURAILSCOUT** uses complex sensors and measuring equipment, which are able to measure the geometry very precisely in between normal train operations. The results of the measurements are analysed and assessed using the customer's standards, so that the actual condition of the rail infrastructure is clear and (more) focused maintenance activities can be performed.

### Simplified condition monitoring

In order to meet the desire to determine the condition using simpler sensors and measuring equipment, **EURAILSCOUT** has the ability to apply accelerometers. The accelerometers can be applied on the axle boxes of the wheelsets of a (measurement) train to make a simpler, but more limited, assessment of the track geometry. Accelerometers can also be used on a pantograph, in order to determine the condition of the contact wire.

Measuring accelerations on a vehicle provides a qualitatively insight into the condition of the infrastructure, but it is a relatively inexpensive and simple arrangement. Frequent execution of the measurements makes it possible to obtain an insight into geometry defects. In this way, it is possible to map the development of geometry defects. In addition, a quantitative assessment can be given by converting acceleration signals into track geometry parameters.

Measuring axle box accelerations on our measurement trains is an addition to the accurate measurements we perform. It gives the opportunity to validate the results of the axle box accelerations in conjunction with the precise geometry measurements and thereby to establish evaluation criteria.



Axle box accelerations applied to passenger trains can be used to provide a simple, frequent and relatively inexpensive indication of the condition of the track or catenary geometry.

### Detection of rail defects

In addition to geometry measurements, it is possible to combine the axle box acceleration measurements with measurements that **EURAILSCOUT** carries out with regard to the condition of the rail. The measurement data can be used in addition to evaluate potential defects in the rail surface and the internal condition of the rail.

