



Comoran[®] *Condition Monitoring for* *Railway Applications*



APPLICATIONS

High-Speed Trains | Locomotives | Metros | Passenger Coaches

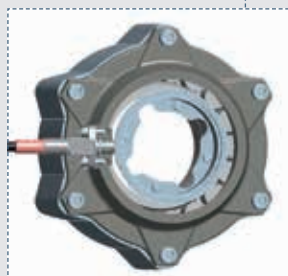
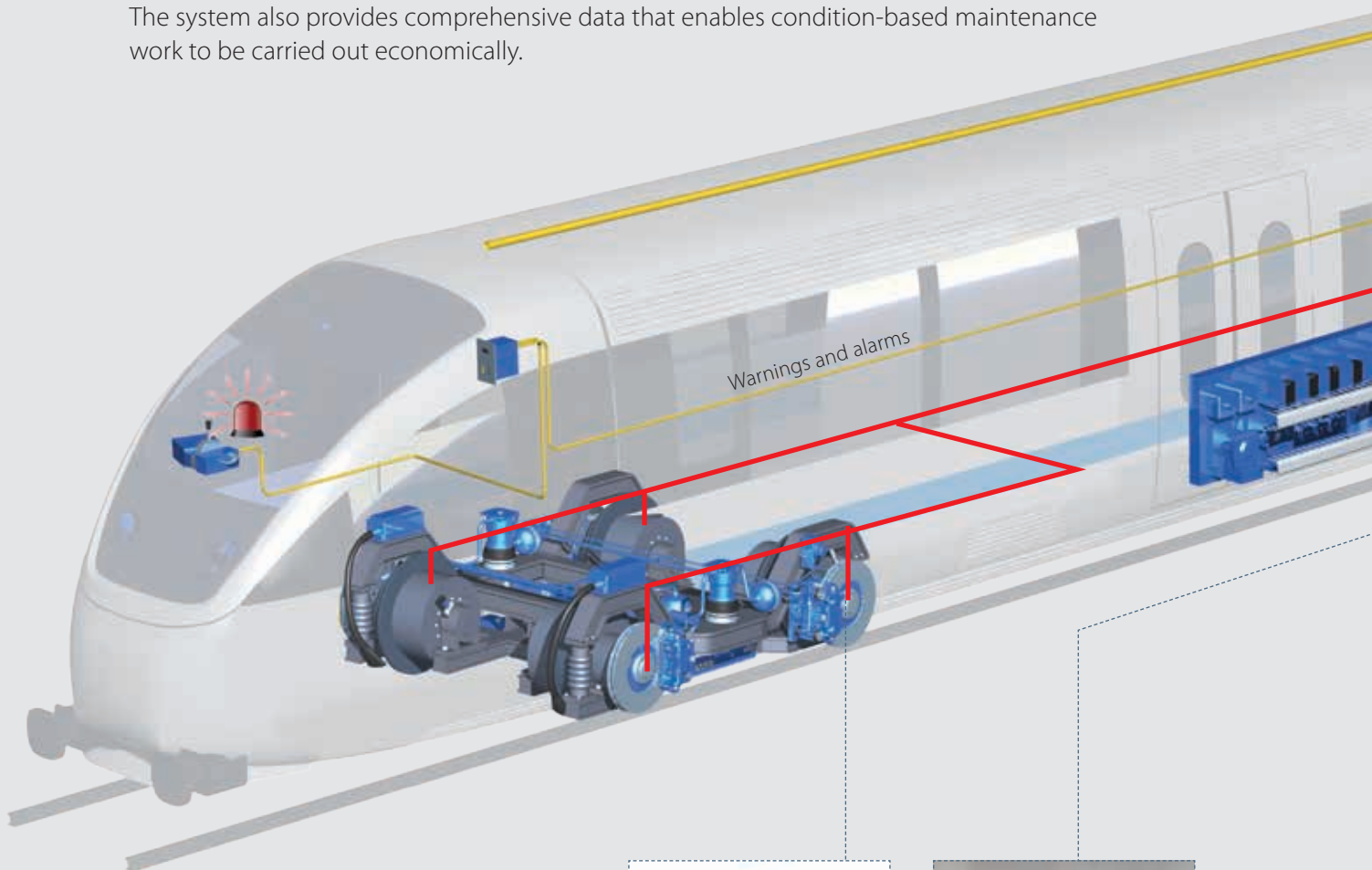
KNORR-BREMSE



COMORAN® – CONDITION MONITORING FOR RAILWAY APPLICATIONS

BOGIE MONITORING AND DIAGNOSTICS.

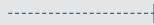
KNORR-BREMSE HAS DEVELOPED A MONITORING AND DIAGNOSTIC SYSTEM FOR POWERED AND UNPOWERED BOGIES AND THEIR COMPONENTS. Integrated into the braking system, Comoran® identifies critical and safety-relevant conditions such as damage to wheelset bearings, hot axle boxes, unstable running or derailment, according to TSI High Speed requirements. The system also provides comprehensive data that enables condition-based maintenance work to be carried out economically.



Multifunctional Sensor FS04



Monitoring Board RB06



Trend analysis

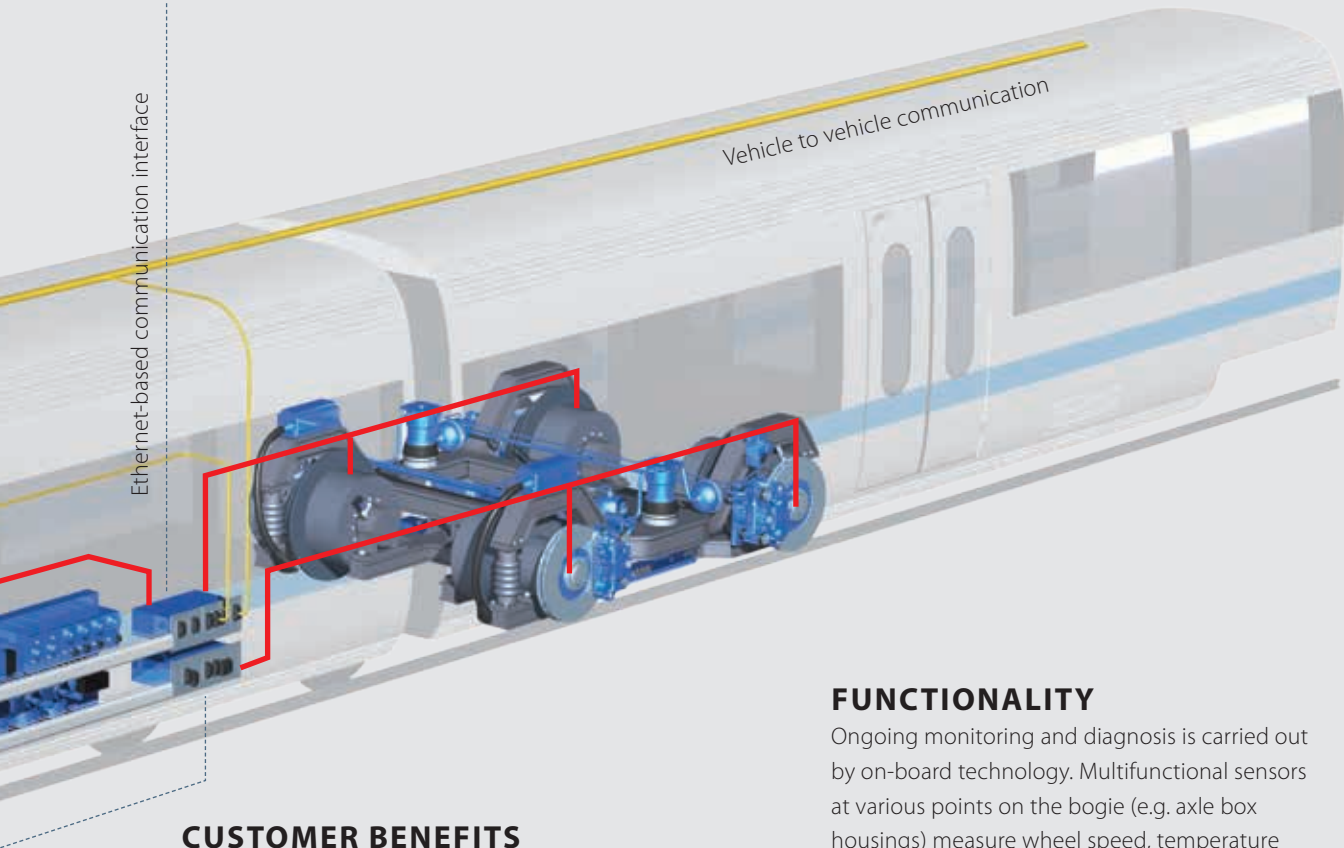


COMORAN® RAIL VEHICLE SYSTEMS



Ethernet-based communication interface

Vehicle to vehicle communication



CUSTOMER BENEFITS

- Early identification of defects and wear
- Enhanced safety through detection of critical conditions
- Easy integration into the brake control unit
- Introduction of condition-based maintenance
- Extended operating life for components
- Reduction of life-cycle costs
- Extended train availability
- On-board information
- Meets all statutory requirements and regulations

PERFORMANCE

SAFETY-CRITICAL MONITORING FUNCTIONS ACCORDING TO TSI HIGH SPEED FOR:

- Hot axle box detection
- Detection of non-rotating axles
- Derailment detection
- Bogie hunting

FUNCTIONALITY

Ongoing monitoring and diagnosis is carried out by on-board technology. Multifunctional sensors at various points on the bogie (e.g. axle box housings) measure wheel speed, temperature and acceleration. The signals are then processed in an electronic unit, which is integrated in the Knorr-Bremse brake control unit and analyzed in real time. Results are displayed on both on and off-board: on-board for immediate driver or system interaction if required, off-board via train-to-ground communication for extensive trend analysis and maintenance operation.

NON-SAFETY RELEVANT CONDITION MONITORING FOR:

- Wheelset bearings
- Wheel treads and flats
- Wheelset guidance
- Track monitoring

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