

LEADER Driver Assistant



Applications

- Freight Cars
- High-Speed Trains
- Light Rail Vehicles
- Locomotives
- Metros
- Passenger Trains

Advanced Driver Assistant System

Designed to improve train handling and proven in operation to yield significant energy savings.

LEADER is an advanced driver assistant system that helps train drivers operate their trains in a smooth and energy-efficient manner. The system offers on-board advice and comes with a back-office application with sophisticated analysis functionality.

For every trip in freight and passenger operations there is a fuel-optimal run that largely depends – besides other parameters – on the variation between actual and scheduled timing. As the performance of the train driver varies according to experience and train-handling techniques, the LEADER system presents ongoing advice to all drivers in a standardized format. The information is continuously adjusted in real time and ensures that the driver is supplied with the best possible advice for punctual arrival with minimal energy consumption. LEADER is available as a stand-alone system or as part of a closed loop solution including a back-office application and an interface to simulator-based driver training.

ADVANTAGES

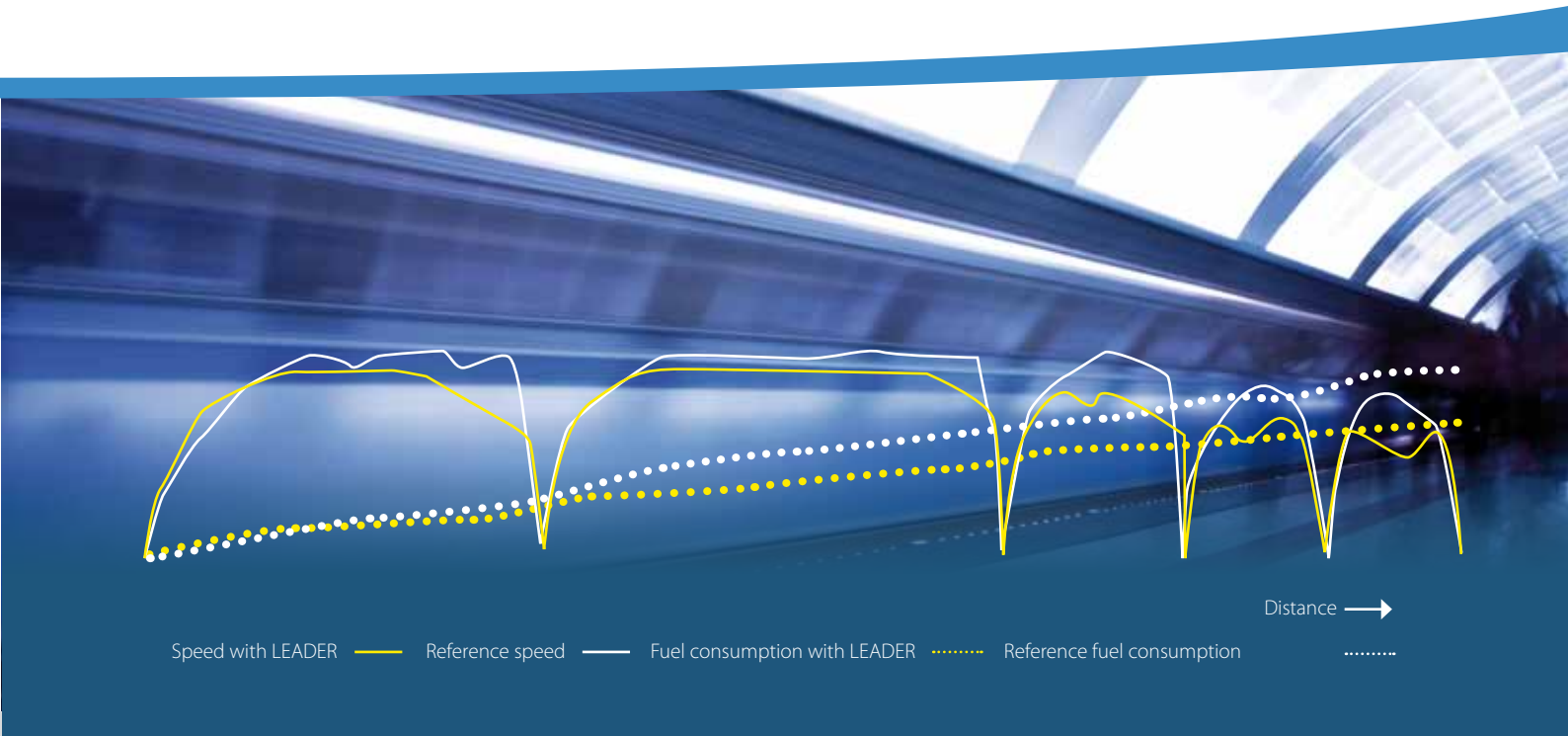
- Energy savings
- Increased punctuality
- Reduces wear and tear
- Improves driver skills
- Increased customer satisfaction

ENERGY SAVINGS

- Traction recommendations for running engine with maximum efficiency
- Recommendations of reduced top speed to avoid unnecessary buildup of kinetic energy and minimize speed-dependent factors (e.g. air resistance)
- Early coasting suggestions to cut off traction power consumption

LEADER calculates optimum speed profiles in real time and continuously displays speed recommendations as well as information on the train's current position and upcoming stations.

By following LEADER's recommendations, train drivers can actively reduce energy consumption during their trip. In addition to this core driver assistant function, the LEADER product family also includes data administration, performance analysis, and driver training. Knorr-Bremse's extensive expertise in the rail sector, combined with more than ten years' practical experience of driver assistant operations, has resulted in a state-of-the-art product portfolio that meets individual customer needs. A certified product development process and railway-compliant hardware guarantee maximum performance and high reliability.



A comparison with or without LEADER shows a huge saving potential



LEADER ON-BOARD

The intuitive display layout provides drivers with all the important information without distracting them.

Different sections offer the driver:

- Clear recommendations on required actions
- Most important track information, such as mileposts and gradients, as well as upcoming stations with estimated arrival time



BACK OFFICE

The LEADER back-office solution combines real-time database and upload functions with advanced analysis features.

Real-time dynamic data is available, as are comprehensive statistical reports. The back-office function is capable of managing bidirectional data flows between a single central server terminal and an entire train fleet. The connection to the on-board unit is via WiFi or other communication standards.



SIMULATOR

As part of the Knorr-Bremse Group, Sydac offers a wide range of highly sophisticated simulators for driver training.

Simulators can be combined with the LEADER system:

- Before the latter is introduced into a fleet, to facilitate workshops defining the layout and functions of the driver assistant system
- During series application, with the LEADER system being used to rerun critical and exemplary trips that have been identified by back-office evaluation

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