CHECKPOINT

- Integrated, automated system
- Replaces visual train inspections
- Contributes to the reduction of operational costs
- World’s first CheckPoint as a pilot installation at ÖBB
- First commercial deployment in Saudi Arabia with 63 posts, central server and full integration with operation management

FIELD ELEMENTS

FIELDTRAC 6393 CHECKPOINT

- Field experience since 2004
- Deployment in Hungary with 7 posts and central server
- Deployment in Bulgaria with 2 posts, central server and notification for interlocking and train driver
FIELD ELEMENTS

FIELDTRAC 6393 CHECKPOINT

STAND-ALONE OR NETWORK SOLUTION
Thales CheckPoint is the world’s first solution to automate manual train condition supervision – providing precise measurements through to the usage of qualified sensors. This measurement data is analyzed and the results are evaluated either decentralized or centralized (CheckPoint Masternode). Events pre-classified as critical by the operator are sent to operation control and interlocking systems to trigger automated reactions.

Additionally this information transmitted via ETCS to inform the affected train driver. The CheckPoint sensor system is modular, so it can be specially designed and configured for particular sites and operating conditions. The modular design also means that CheckPoint can easily be extended to include new functions. Not only is safety enhanced by combining a number of CheckPoints to create an integrated network, but CheckPoints also increase safety in stand-alone applications at critical points of infrastructure (such as before a tunnel section). The data recorded is highly accurate as the results of the individual sensors are logically linked to each other.

SENSORS DON’T MISS ANYTHING
CheckPoint sensors are designed to deliver accurate results at speeds up to 250 km/h under severe operating and environmental conditions. The CheckPoint technology uses efficient algorithms to minimize processing time – an essential prerequisite for effectively integrating sensors with railway operation management systems and signalling systems. The sensors deliver information about:
- Wheel-, Axle and Wagonweight (also for charging)
- Load distribution and displaced loads
- Derailments
- Dragging Equipment
- Blocked brakes
- Flatspots
- Hot boxes and hot wheels
- Clearance gauge exceedance / Antenna detection
- Identification of wagons by use of RFID Tags

CheckPoint’s gauge monitoring system pays particular attention to extended antennas on cars or trucks being transported on wagons. In addition to automating the monitoring process, a key CheckPoint advantage is its ability to detect deviations from predefined values with greater accuracy than possible with the human eye.

INTEGRATING WITH RAILWAY CONTROL AND SAFETY SYSTEMS
The CheckPoint sensor’s data concentrator compares monitored data with operator-defined limits and tolerances to determine whether to send a warning or alert message. Non-critical messages are sent to the operating control centres for information purposes and, if necessary, with recommendations for further action. Safety critical messages are sent to both the operation personal and the railway control and safety systems, where pre-defined actions are automatically triggered to avoid accidents or damage to rolling stock and infrastructure.

An integrated CheckPoint sensor system improves efficiency by means of data centralization. Data that does not change during a train journey (e.g. train weight) does not need to be re-entered at each checkpoint. Furthermore, trend analyses can be used to help set optimal parameters to detect damage before it creates a safety-critical condition.

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