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Ingenuity for life



TrainIT

Platform to be Always Connected!

TrainIT is a modular, fully integrated system for IT applications in rail vehicles. It includes standard hardware with standard IT interfaces as well as the associated software to provide a wide range of solutions for train attendants and passengers. These include passenger information systems, CCTV systems, passenger counting system, entertainment systems, diagnostics, maintenance and much more. It also offers a standardized train/ground interface, via which, for example, the current position and speed of the train is made known to ground-based systems and can be used again in other applications such as fleet monitoring. This standardization also enables extensive expandability and scalability.

Rigorously separating the train control level, which is subject to homologation from the train operator / passenger level enables IT standards to be implemented for hardware and software on the train for the train IT level. As a result, costs can be significantly reduced, not only for the initial equipment but also throughout the entire lifecycle of the train. Furthermore, innovations and extensions can be incorporated with the usual IT innovation cycles, which had previously been prevented by the lack of standardization, but above all by the laborious homologation procedure at the train control level.

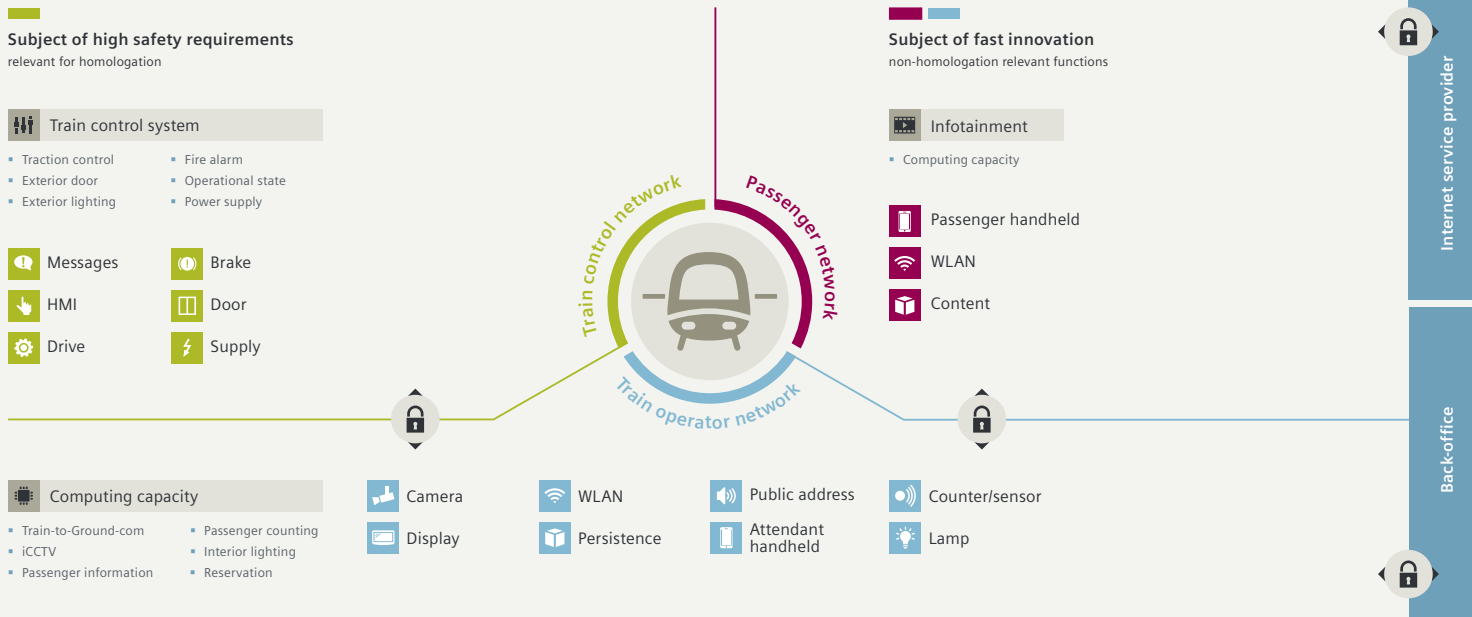
TrainIT Application

TrainIT.CCTV

- Enhanced passenger security
- Quicker prosecution of vandalism
- Continuous tamper-resistant recording of video streams and associated meta data
- Incident based alarm recording of video streams with event sensitive recording quality
- Display of cameras in drivers cab, conductors compartment or on a mobile device
- Automatic incident based display of cameras

TrainIT.PCS

- Bi-directional passenger counting at defined borders
- Central recording of the data from the counters



Key Features

- Extendable and flexible due to application of standard IT principles
- Cost efficient due to fully integrated modular concept allowing utilization of components by different application
- Easier to innovate due to clear separation from safety relevant train systems
- Easier obsolescence management due to application of industrial components with standard interfaces
- Secure do to a comprehensive IT security concept with intrusion protection and detections systems
- Wifi connectivity for train attendants and passengers
- Connectivity via LTE, CDMA, WLAN and satellite
- Secure and reliable train-to-ground communication due to Siemens Com@RL

Data collected and transmitted to land-side:

- Train ride counter table
- Train stops counter table
- Measured values table
- Including all process values (e.g. location, time stamps), aggregated and raw values as well as the results of the quality validation

TrainIT.ioB

- High performance Wifi infrastructure (backbone, access points)
- MIMO router for maximum connectivity
- Capable to bundle various providers

TrainIT Common Services

TrainIT.Train2Ground

- **Downlink:** train-side initiated data transfer to land-side (e.g. download of diagnosis data)
- **Alarm:** train-side initiated data transfer to land-side, triggered by an event (e.g. error messages)

- **On Demand Download:** train-side initiated data transfer (e.g. CCTV video sequences)
- **On Demand Upload:** land-side initiated upload to train (e.g. updated passenger information)
- **Video Live Streaming:** streaming of CCTV from train to ground
- **Data Transfer is encrypted** (VPN-Tunnel) and transaction secured
- A **Back-Office-Interface** enables 3rd-party applications to exchange data with the trains
- A **Web Interface** provides access: fleets status, data up- and download, etc.
- **Fleet overview:** Graphical overview of fleet status and position

Published by
Siemens AG 2016

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Article No. MOML-T10027-00-7600
Printed in Germany
TH 166-160808 DA 08160.5

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