Telia Smart Public Transport

Telia Vehicle Health

Keep track of your vehicles wear and tear for predictive maintenance

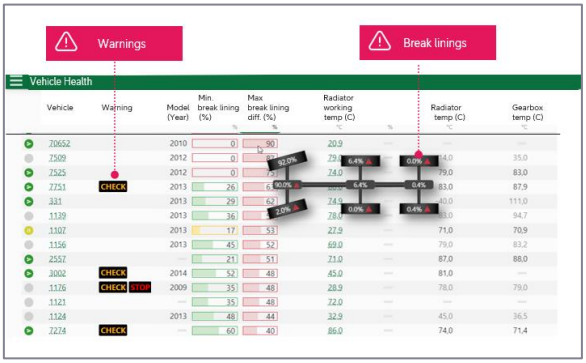
Detect discrepancies and predict errors in your vehicle fleet for predictive maintenance to avoid unplanned downtime and minimize the cost for vehicle maintenance.

Oversee the maintenance life cycle
Many vehicles are driven despite of dashboard warning signs. With Telia's Vehicle Health you can keep track of all your vehicles' health status through a web-based portal. Giving a deeper understanding of the vehicle's real-time and future health. This empowers your organization for systematic proactive maintenance.

Act before it faults – save costs
As assets can fail at the worst time, this will affect utilization as well as maintenance budget. An early detection and prediction let you schedule maintenance at the most convenient time prior to failure. For example: in 80% of cases, abrupt deviations are detected over 72 hours before turned into serious faults - thus removing the need for unexpected operational disturbance. This will reduce downtime and maximize fleet reliability as well as profitability.

Key benefits

- Vehicle independent
- Predict and remedy faults before they occur
- Increase utilization
- Improved maintenance planning
- In-depth insights of vehicle's real-time health
- Reduce unnecessary and unplanned maintenance



Identify discrepancies in your vehicle fleet for predictive maintenance and avoiding unplanned downtime.

How does Vehicle Health work

Vehicle Health is a service in Telia's Smart Public Transport ecosystem. A Telia IoT Edge, MIIPS and a CAN Bridge with CAN sensor are installed in the vehicle. The Bridge registers, interprets and processes vehicle CAN data, and the MIIPS-unit sends the data to the cloud - through which the customer can access the data at the web-based customer portal.

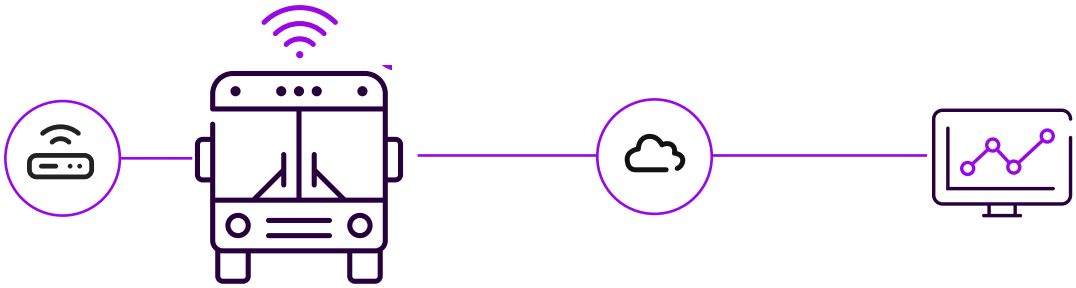
Sensors and other self-monitoring tools collect status- and usage data from the vehicle. Data is combined for a diagnostic and prognostics analysis that provides ongoing trends, early detection as well as failure prediction.

Each individual vehicle in the fleet is monitored. Upon detection of faults a warning can be sent to responsible mechanic who can act accordingly.

Vehicle independent solution

Regardless of energy type, vehicle manufacturer or model, all collected and analyzed data is visualized in the customer portal in a uniform appearance. This provides you with a vast overview in real time of total wear and tear throughout the whole fleet, where you can oversee e.g.:

- Temperature of engine and gearbox
- Breaks, failure and wear
- Soot level
- Fuel level/State of charge
- Weight
- Oil pressure
- Lights
- Errors and warnings on dashboard
- And much more*



Onboard:
- Telia IoT Edge
- CAN Bridge units

Telia Smart Public Transport portal and ecosystem

Telia Vehicle Health data visualized for analytics and follow-up

End-to-end security, reliability & support

Consolidate your IT systems to one open platform

Telia IoT Edge is a powerful onboard computer and edge processor and communication gateway - and the heart of Telia's Smart Public Transport solution ecosystem. It is retrofittable and connects onboard systems and devices to the cloud. This makes it possible to download vehicle data, control, survey, update and configure IT-systems in the vehicle remotely. Telia IoT Edge combines robust, maintenance-free design with reliable and open software and application.

With an open platform, APIs and standards; you can easily integrate your own services – or add third party applications. So you can make the most of whatever the future brings.

Technical components: Telia Vehicle Health

Onboard units	Telia IoT Edge (MIIPS) CAN Bridge
Customer Portal	Telia Vehicle Health portal

Want to learn more? Let's talk!
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