

HEALTHHUB™ TRAINSCANNER

PRODUCT SHEET



Alstom has created HealthHub™, an innovative approach to condition-based and predictive maintenance for rolling stock, infrastructure and signalling.

TrainScanner, as part of HealthHub™ for rolling stock, monitors the state of assets through various data capture solutions.

GENERAL DESCRIPTION

TrainScanner is Alstom's solution for automatic train check-up which enables condition-based and predictive maintenance for wheels, brake pads and pantograph carbon strips as well as under frame and vehicle side (Train Confidence Check).

Especially suitable for large or dispersed fleets or when high level of service is required, subsystem information is captured as the train passes through the TrainScanner at low speed (5 miles per hour).

After automated inspection by the TrainScanner, the data is transmitted to Alstom's HealthHub™ platform which translates raw data into actionable information, by using rule-based algorithms, leading to the calculation of a **health index for each asset**.

CUSTOMER BENEFITS

Increase availability

TrainScanner is an innovative solution which automatically analyses the data gathered by laser and/or (3D) camera measurement, systems using a diagnostics portal through which the train passes.

It collects information on the condition of assets and allows to **predict their remaining service life**.

Maintenance tasks for each asset are anticipated and optimised thanks to the visualisation tools.

This approach reduces downtimes for maintenance and **increases the availability, reliability and safety of the assets**.

Optimise and secure visualisation of data

The information displayed on the HealthHub™ web platform is adapted for Alstom experts to interact with the system and access all of its functionalities:

- Train maintenance tasks
- Customised reports
- Measures validation
- Alert level management
- System maintenance

Access to the platform is controlled through a secured authentication process.

KEY BENEFITS

- Immediate access to information via the HealthHub™ web platform
- Reduced downtimes through anticipated interventions
- Reduced repetitive failures through reliable troubleshooting
- Lower material consumption and less Service Affecting Failures
- Higher fleet availability
- Multi-fleet capability & experience in data treatment since 2014

IMPROVE MAINTENANCE PROCESS ALONG THE LIFE-CYCLE OF YOUR ASSETS

Alstom's HealthHub™ ecosystem offers a complete range of solutions to monitor and maintain assets. From the TrainScanner inspection tool to our Fleet Support Centre, our HealthHub™ solution improves the maintenance process all along the life-cycle of the assets, using powerful automated data gathering technical and asset-specific algorithms.

Operators, with Alstom support, can set up a Fleet Support Centre which develops a rule engine tailored to their assets, creating algorithms, monitoring results daily and acting as the interface to train operation:

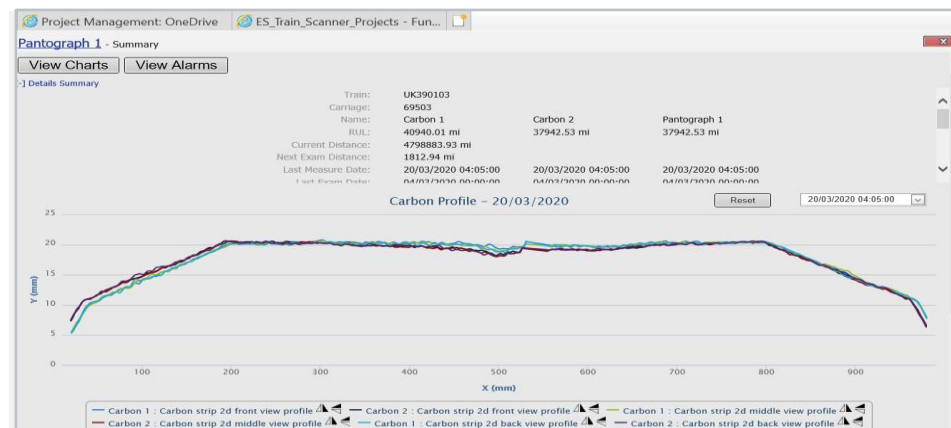
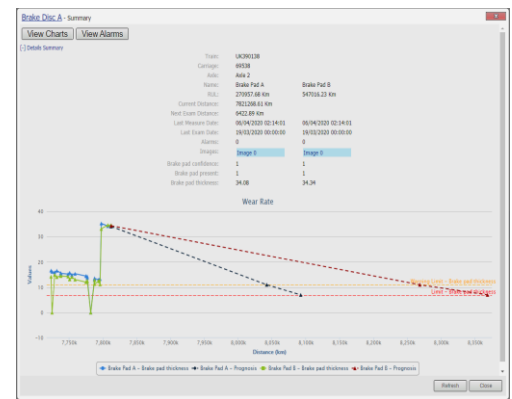
- Failures will be classified. Based on the actual information from the dashboard, Alstom will inform the customer regarding the status and proposed intervention (via service orders).
- Reports on fleet status will be provided to the customers with relevant information using a BI tool. The reports are accessible with a web browser and a log-in. Typical reporting contains fleet status overviews, performance information and specific custom-made reports regarding subsystems of the train.
- Continuous improvement process: thanks to the implemented data rules and algorithms generation, new insights into train status and performance will be created. Alstom will identify optimisation potential on the fleet and maintenance processes in order to increase fleet performance.



TRAINSCANNER AND THE WEST COAST MAINLINE

In 1999, Virgin awarded Alstom a contract to design, build and maintain a new fleet of high-speed tilting Pendolino, 56 Class 390 trains until 2022. Then in 2020, Avanti West Coast renewed our contract and broadened our scope with 13 Hitachi and 10 EMU trains that will be introduced in 2022. Alstom strives to optimise maintenance cost, while increasing fleet performance, using the HealthHub™ solution.

In 2014, Alstom commissioned the first TrainScanner as a data capture solution enabling predictive maintenance for wheels, brake pads and pantograph carbon strips. In 2019, Alstom delivered a second TrainScanner device at Oxley depot near Wolverhampton.



FOR MORE INFORMATION:

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