

## First infrastructure digital inspection for the Madrid Light train network

### Rail tracks inspection are now more reliable and faster

**10 September 2020** – During the summer, Alstom teams have carried out an innovative project in Spain to digitalise track inspections for Madrid Light train network. The project was performed jointly with the MLO (Madrid Metro Oeste) operator as part of the Services agreement both companies have maintained during the last thirteen years to offer the best service to users through maintenance and systems and infrastructures innovation.

This latest digitalization project consisted in the inspection light train lines connecting the west Madrid municipalities with the suburban train stations. The 21-kilometres-track was inspected using TrackTracer technology, Alstom's innovative track monitoring tool, integrated in a special vehicle that measures the infrastructure automatically. This is the first commercial project of its kind in Spain, after the tests carried out with TMB last year and the R&D projects performed jointly with national infrastructure operator Adif.

#### KEY TAKEAWAYS

- 21-km track
- 4 optical units
- 4.000 measurements per kilometre
- 0,02 mm resolution

The vehicle, equipped with four optical units, camera, lasers and an inertial navigation system, analyses various track parameters (such as rail width, levelling, track twist radius, alignment, banking and warping). These measurements are critical for safety operations as track anomalies can cause derailments if not detected and corrected in time. This information can be integrated within the HealthHub platform, also facilitating prediction of future defects to anticipate maintenance tasks.

Traditionally, rail inspection is performed manually, with the process being slower, less reliable and less cost-effective. WINFRAM and TrackTracer technology allows up to 4,000 measurements per kilometre at an average speed of 20 km/h with a resolution of up to 0.02 mm to catch a maximum of details and accuracy.

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