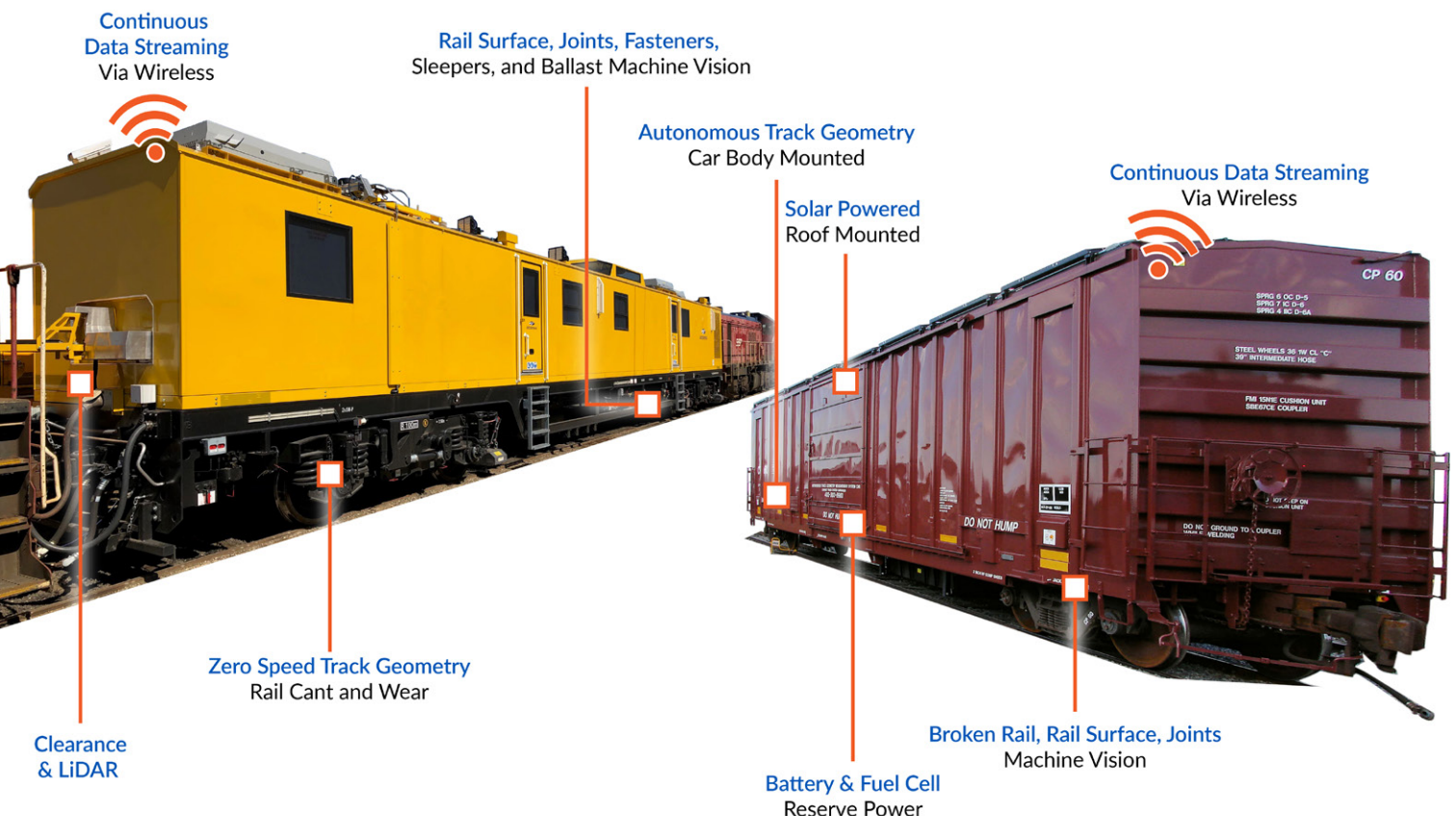🏠 **Directory**

< **Data & Information**

ENSCO Rail

Keeping the Rails Moving Safely and Efficiently

The railway industry is entering a new era of next-generation track defect detection and software analysis capabilities that optimise railway maintenance and renewal planning, reduce risks through earlier identification of track defects, and improve rail network safety.

Continuous Data Streaming Via Wireless

Rail Surface, Joints, Fasteners, Sleepers, and Ballast Machine Vision

Autonomous Track Geometry Car Body Mounted

Solar Powered Roof Mounted

Continuous Data Streaming Via Wireless

Zero Speed Track Geometry Rail Cant and Wear

Clearance & LiDAR

Broken Rail, Rail Surface, Joints Machine Vision

Battery & Fuel Cell Reserve Power

Data Collection: Autonomous Systems Offer a Highly Efficient Solution

Today, autonomous inspection systems provide reliable, fully autonomous inspection installed on passenger or freight cars used in revenue service.

One of the most significant advantages of autonomous inspection technology is that every movement of the host train offers an opportunity to evaluate the track, allowing for more frequent inspections without track time being consumed by dedicated inspection vehicles.

The ENSCO Rail Autonomous Track Geometry Measurement System (ATGMS) uses the latest fully digital, non-contact measurement technology employed by traditional manned track geometry systems. Measurements are performed every 250mm, up to the maximum speed of the vehicle, and can be performed in either direction. The ATGMS provides real-time transmission of continuous metre-by-metre measurement data, as well as exception processing in accordance with the automatically determined class of track.

More Reliable Detection through Artificial Intelligence

One inherent challenge faced by traditional autonomous track measurement systems is that certain conditions or track features can mimic defects, when in fact, track conditions are normal.

To remedy this, ENSCO Rail developed advanced artificial intelligence algorithms that recognise and filter out these false exceptions. The algorithms are based on human data editors from thousands of miles of actual survey data, from which the ENSCO Rail algorithms learned to edit out false exceptions for real-time reporting.

Big-Data Analytics Offers Condition Trending and Data-drive Maintenance Planning

Maintenance is a necessary and significant expenditure by railway personnel. Taking a proactive approach to maintenance and asset planning can yield significant savings by reducing manual condition data analysis and unnecessary maintenance expenditures.

New asset condition technology that relies on artificial intelligence, machine learning and data analysis offers the potential for significant reductions in maintenance costs every year while increasing operational capacity through accurate application of maintenance tasks.

The ENSCO Rail Automated Maintenance Advisor (AMA) automatically identifies areas of poor track performance, determines trends in track condition deterioration and translates that data into prescriptive maintenance tasks, resulting in proactive and data-driven track maintenance planning and sound, efficient maintenance decisions.

Fully automated and cloud-based, the AMA is flexible and configurable to railway customer deterioration trending needs. It operates automatically, routinely assessing track condition data and recommending maintenance tasks based on a specified maintenance strategy. Asset management plans include rail grinding, rail replacement, ballast renewal, tamping and turnout maintenance requirements.

Visit **www.ensco.com/rail** and follow us on **LinkedIn** to stay up-to-date on the latest innovations in rail safety from ENSCO Rail.
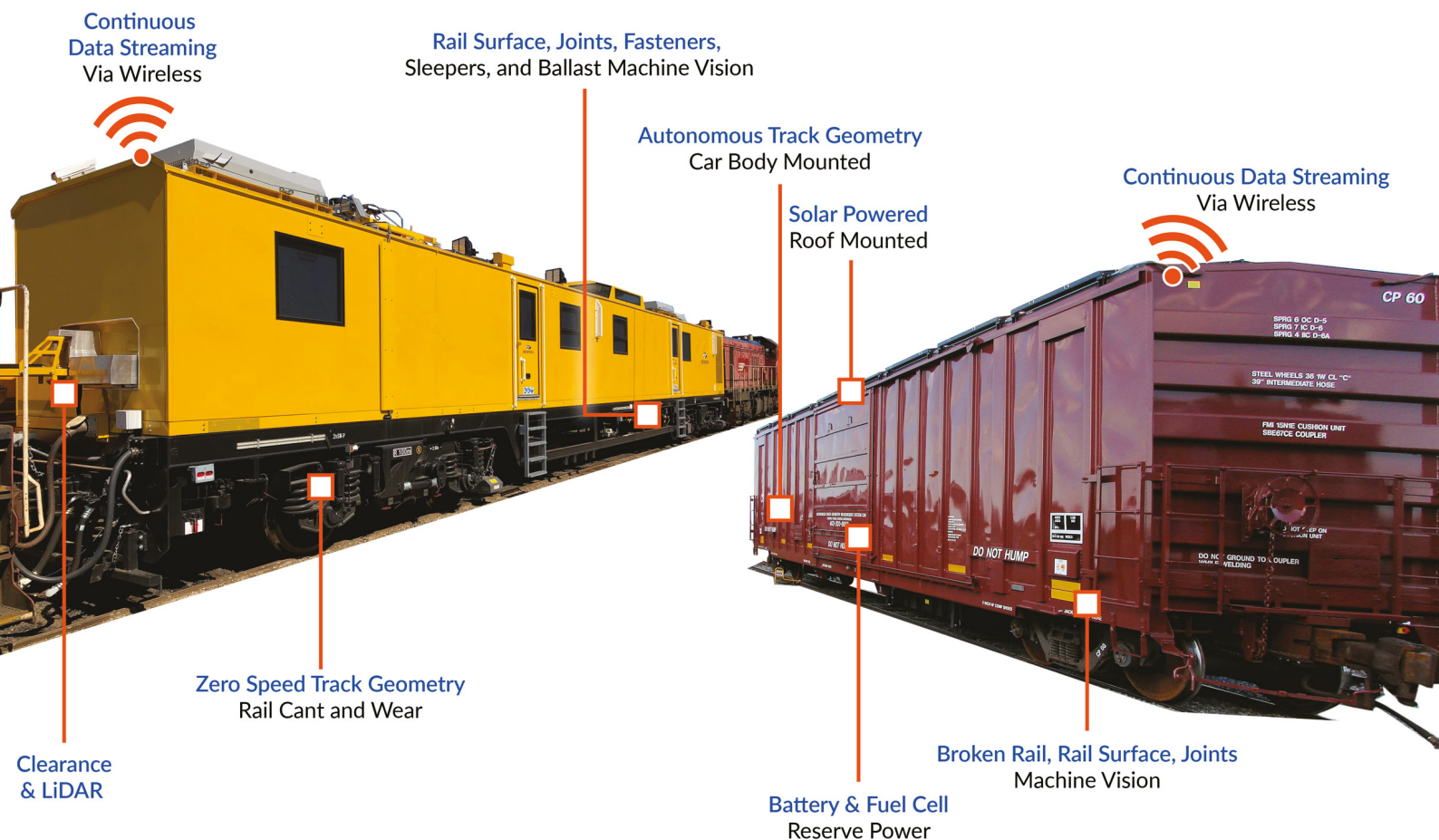
#ENSCOInnovation
#ENSCOExpertise
#RailSafety

Check out this short video to learn more about ENSCO Rail autonomous inspection.

Autonomous Track Inspection

Decreased derailment risk. Increased efficiency. Lower costs.

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ENSCO Rail is the premier provider of autonomous inspection systems that identify defects early and improve rail network safety — at the lowest cost per inspection.

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