



Giving Railway Machinery a Second Life



We Refurbish Your Railway Machinery

and not only!

Refurbishment

Maintenance

Pre-owned Machines

Repowering

Technologies

Training



Premium Refurbishment

Cut costs, save time, boost efficiency: Rethink your machines with Avantgarde

We proudly specialize in refurbishing railway machinery, giving it a second life through innovation and expertise. Our refurbishment services not only bring your machines up to date with the latest technologies and safety standards but also enhance their performance and reliability. From repairs to retrofits, we offer a wide range of refurbishment solutions tailored to your specific needs.

Benefits of Avantgarde Refurbishment

Fast Delivery

Ready within 12 months — or less, based on your needs.

Cost-Effective

Much more affordable than new machines, with top market value.

Fully Customizable

From gauge changes to cabin redesigns — tailored to your specifics.

Innovative

Latest technologies integrated into older machines for top performance.

Eco-Friendly

Circular process that cuts waste and reduces environmental impact.





Maintenance everywhere in the world

We provide tailor-made maintenance services, guaranteeing the best performance of your equipment.

We provide tailor-made maintenance services, both ordinary and extraordinary, strictly following the manufacturer's prescribed regimes. Our technicians provide support globally, ensuring a timely and efficient response either on-site or remotely, through cutting-edge technology, ensuring maintenance solutions with extreme precision.

Pre-owned railway machinery for sale

Avantgarde offers a comprehensive selection of rolling stock available for sale either fully operational or completely refurbished.

Our machines are customized to meet your specific technical and budgetary requirements, upholding the highest standards of quality, safety, and reliability.

Machineries available on request include:

- **TRACK MACHINERIES**
- **LOCOMOTIVES**
- **PASSENGER WAGONS**
- **FREIGHT WAGONS**

Our sales team will guide you through our up-to-date inventory, or you can reach out directly at enquiry@avantgardesrl.net to discover more.

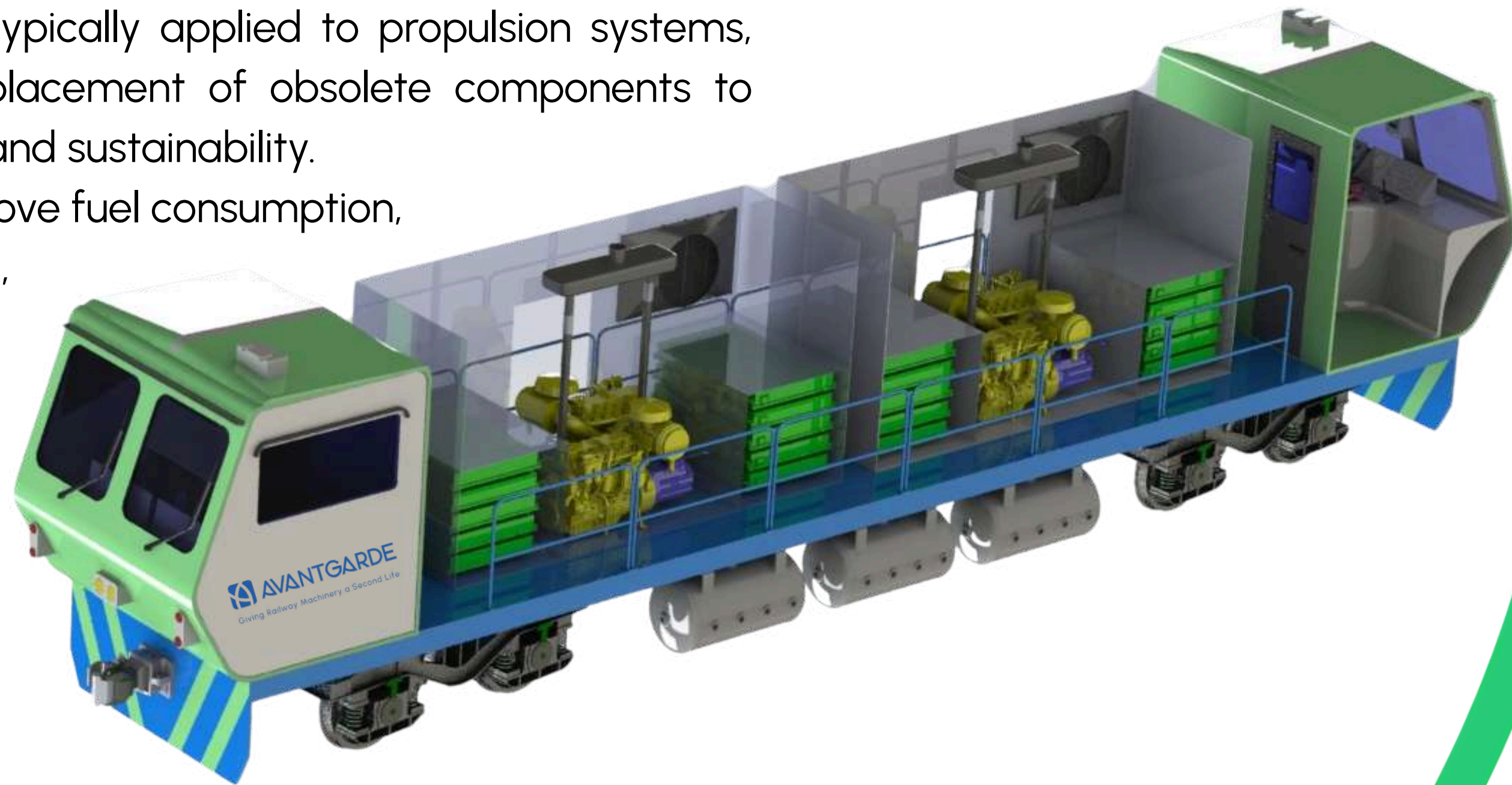


Repowering of diesel-electric locomotives

A sustainable and cost-effective solution to extend the operational lifespan of diesel-electric locomotives through an eco-friendly solution

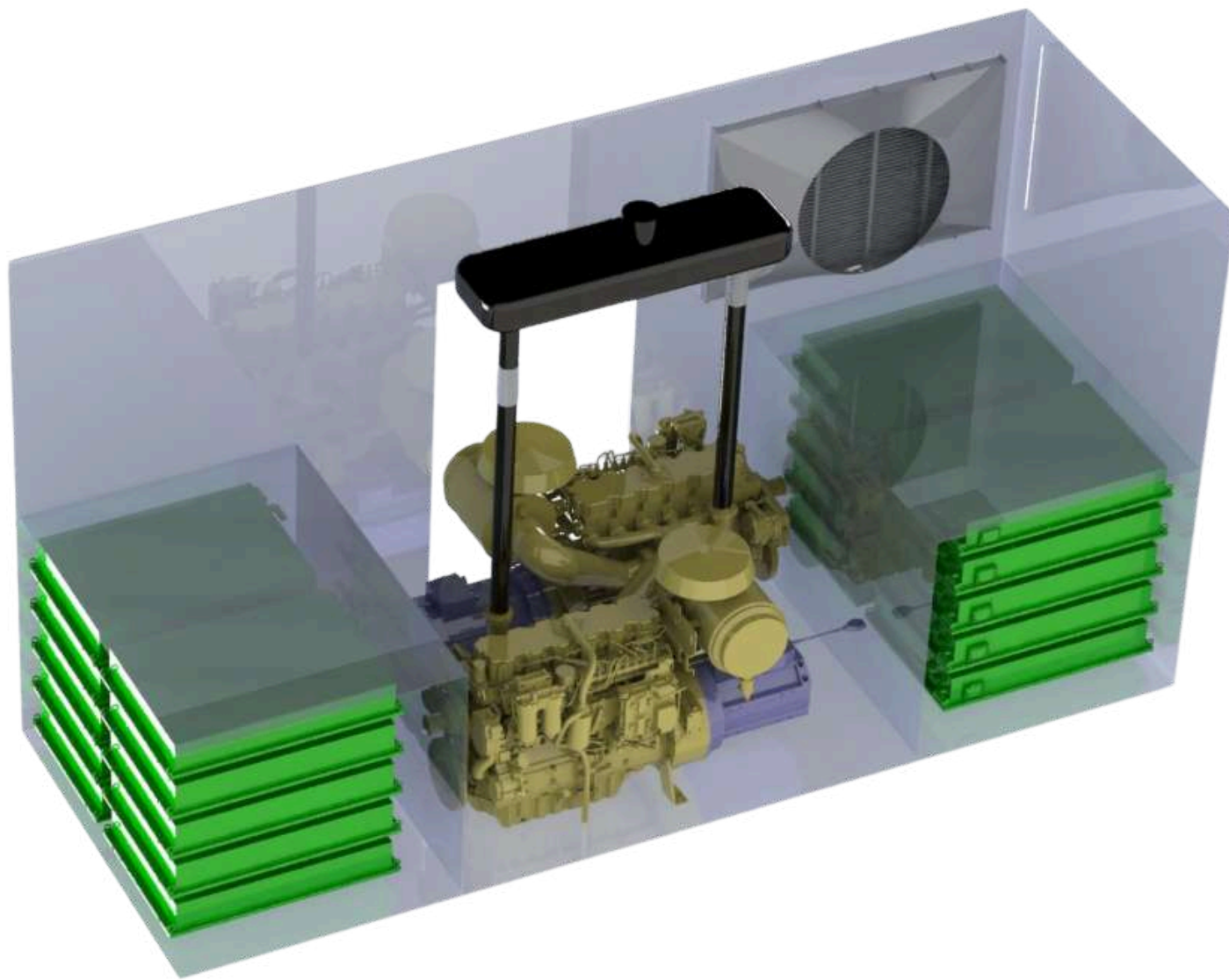
Repowering is a process that is typically applied to propulsion systems, and involves the upgrade or replacement of obsolete components to improve their efficiency, reliability and sustainability.

This process typically aims to improve fuel consumption, extend the life of the entire system, improve its overall performance and keeps operating costs low.



Repowering: The PowerPack

The PowerPACK is designed with a modular approach, utilizing one or more modules to meet the required performance.



The Repowering is implemented through the installation of Power Packs (power units installed into an ISO-standard container composed by combustion engines, alternator, cabinets, battery packs and cooling system). The Power Packs generate and manage the power output required by the locomotive with a modern Train Control System to ensure long-term performances and high reliability. Each unit includes an engine, alternator, lithium batteries, and cooling system, all managed by a modern Train Control System. PowerPACKs are scalable (500HP–3,000HP), customizable, and quick to install — delivering high performance at a competitive cost.

Cutting-edge solutions for your machinery

Our technologies enable to increase efficiency and performance while working with greater convenience and safety.

AVRecorDATA

Real-time data analysis event recorder, used for vehicle monitoring and diagnostic in compliance with EN 62625 & EN 14033/1-2 standards

wRails 2.0

For theoretical track geometry data input and measuring/recording of track geometry parameters

Customized Softwares

We develop customized software solutions tailored to your specific needs



Training programs

Invest in knowledge. Choose Avantgarde Training

Skill Enhancement

Training program designed to familiarize trainees with any kind of railway machinery

Training for New Personnel

Learning programme to ensure incoming staff members are well-skilled in the operation and safety protocols related to any railway machine

Transferring Expertise in Refurbishment

Our expert technicians share their in-depth knowledge and best practices in refurbishment activities on track machinery, locomotives and passenger cars, allowing trainees to undertake such projects with confidence



Certified Excellence in Railway Solutions

Avantgarde is certified by leading bodies such as RINA and IMQ, confirming our commitment to safety, quality, and sustainability in railway maintenance worldwide.



ISO 9001 – Quality Management

Our certified quality system guarantees high standards, efficiency, and customer satisfaction.



ISO 14001 – Environmental Management

We manage our environmental impact through a certified system focused on sustainability and pollution prevention.



ISO 45001 – Health & Safety Management

We promote a safe workplace through certified systems that prevent risks and protect our team.



ISO 3834-2 – Welding Quality

Certified welding processes ensure safety and reliability in all structural components.



ECM Certification – Reg. (EU) 2019/779

Certified by CERTIFER as an Entity in Charge of Maintenance, ensuring compliance with EU safety standards for railway vehicle maintenance.



RFI Authorized Maintenance Workshop

Officially recognized by RFI to perform certified maintenance on track machines, meeting national infrastructure standards.



We are a team of innovators

Our mission is to rethink the present and prove that the future of railway can renew from the past, without waste.

20+

years in the industry

85

refurbished track machineries

25

countries worldwide

40+

employees and collaborators

We refurbish and upgrade railway machinery, extending its lifespan, reducing costs, and minimizing environmental impact, helping businesses worldwide embrace a smarter and more sustainable mobility.



Avantgarde changes its look, but not its essence

The world is moving fast and so are we

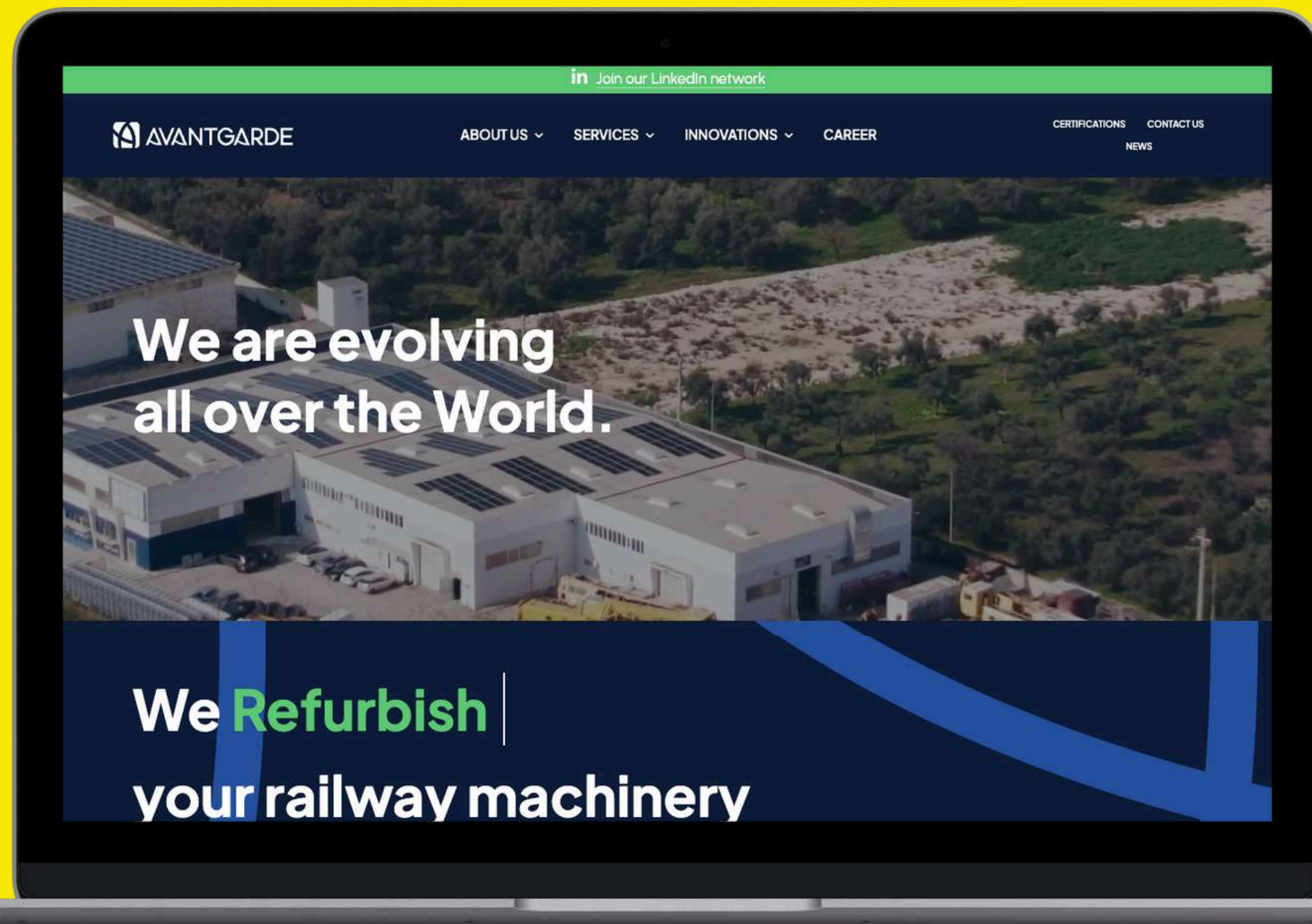
We are still the same company, with the same people, values, and long-term vision — but we are evolving. Our new visual identity is the natural result of a deeper transformation, driven by innovation, ambition, and a growing global presence.

Our new logo is more than a graphic mark — it's a symbol of innovation. The design reflects two of our core pillars: **international scope** and **railway expertise**. Inspired by the lines of railway tracks, the logo expresses a sense of motion, direction, and technological advancement.



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Discover More



SCAN ME



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Giving Railway Machinery a Second Life

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