

DB ESG Overview



DB ESG | 2026



**Our People
Your Experts**

World-class experts. Cutting-edge solutions.

DB ESG, established in 1995, is a leading specialist provider of rolling stock engineering solutions for the UK rail industry. As part of DB Systemtechnik, we form one of the largest rolling stock consultancies in Europe. Our world-class experts and solutions add value to both our customers and the UK rail sector.

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About us



DB Group

DB ESG, DB Systemtechnik



Circa £10 million

revenue in 2025



DB ESG 65 employees with
multiple open vacancies

DBST 1,100 employees



Our USP

DB ESG is a subsidiary of DB
Systemtechnik, Europe's
largest rolling stock
technology consultancy.



Accredited test laboratories

1 UK & 13 European

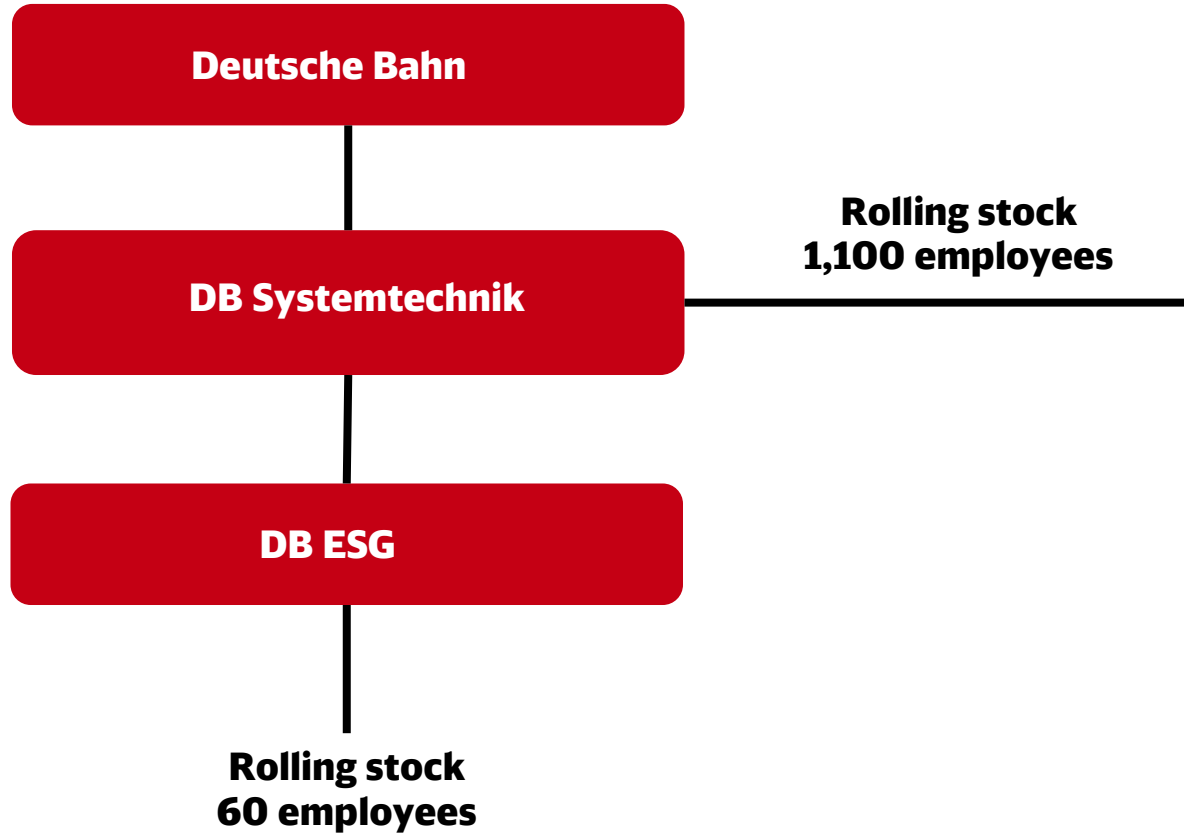


Locations

in the UK, Germany,
France, Poland & China



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Collectively the most comprehensive rolling stock consultancy organisation in Europe



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Our Services



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Our Services – DB ESG Overview



Global railway expertise tailored for the UK



Technical Consultancy

- Technical rolling stock expertise.
- Comprehensive portfolio of rolling stock services.

Technology Integration/Projects

- Full turnkey project capability.
- Integration & development of new technologies onto rolling stock.
- Project Services to provide our customers with added value, the commitment to support our products.

Digital Engineering

- Digital manufacturing, including additive manufacturing (3D printing) and 3D scanning.

Future Technologies

- Looking to drive advancements in our sector with new technologies and innovations.

**Access to the expertise and capabilities of
our sister organisations in Deutsche Bahn**



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Our Services – Technical Consultancy



Our Services – Technical consultancy; driving advancements in rolling stock



Electrical & systems engineering - traction & auxiliary systems, doors, train control and safety systems.

Technical investigations and feasibility studies – vehicle performance, braking and pneumatic system.

Brake performance optimisation using our WSPER laboratory.

Mechanical design, structural analysis & welding expertise.

Vehicle interiors, compliance, human factors and fire performance.

Developing approaches to **Remote Condition Monitoring (RCM)** and **Condition Based Maintenance (CBM)**.

Engineering consultancy services for all types of rolling stock



Wheel Slide Protection Evaluation Rig - WSPER

Globally recognised centre of excellence for rail safety.

Low adhesion braking performance of train braking systems.

Effectiveness of adhesion enhancement equipment.



WSPER analysis suite



WSPER – immediate visualisation of results



Our Services – Technology Integration/Projects



Our Services – Technology Integration/Projects - Specialists at incorporating new technologies

- Full turnkey capability – design, materials, installation, approvals & product support.
- Electrical and electronic systems integration capability.
- Mechanical designs & full structural analyses.
- Human Factors considerations, maintainability & ergonomics, materials & fire performance.
- Safety assessments, Hazid, FMECA & Risk Assessments.
- Compliance reports and submission packs.



Examples

PPOS – TfL

ETCS – Siemens

Infrastructure Monitoring – Network Rail

Our Services – Project Services

Vehicle surveys and condition assessments, to determine engineering requirements.

On-train installation of vehicle modifications and technology enhancements.

Product support, investigation of faults and equipment maintenance.

Warranty investigations, analysis, root cause evaluations and rectification.

Management of facilities, tooling and calibration.

Procurement of materials, kitting of parts and sourcing replacement items.



Our Integration Projects delivers full turnkey introduction of technologies & enhancements to rolling stock

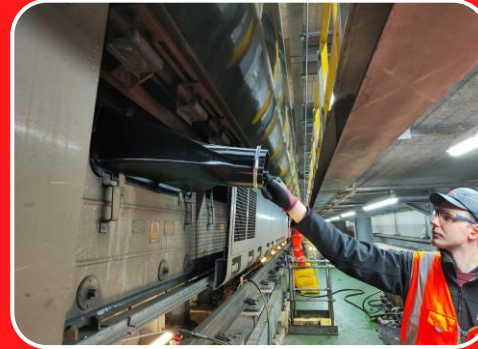
Our Services – Digital Engineering





Obsolescence Management

A holistic approach to tackling the root cause of part and component obsolescence – solving supply issues for the long term.



Performance Improvement

Combining engineering expertise with digital solutions to improve vehicle availability, reduce downtime and maximise efficiency of maintenance tasks and depot operations.



3D Scanning

Rapid digitalisation of data to inform engineering decisions – with greater accuracy & speed, and lower cost



Our Services – Future Technologies



Future Technologies Team

- Aiming to deliver new technological advancements to our sector and customers.
- Looking for sustainable, time-saving and cost-effective innovations by conducting:
 - Initial investigations & market research.
 - Business case & proof of concepts.
 - Prototyping.
 - Commercialisation.
- Key Focus Areas:
 - Decarbonisation – e.g. Hydrogen-powered Carbon cleaning project trials and battery box developments.
 - Digitalisation - e.g. expanding our Digital Engineering Service.
 - Data – investigating advanced analytics for decision-making, predictive maintenance & operations.



Customers are at the heart of everything that we do!



Some of our customers



Operated by West Midlands Trains



Our Customers



“Very impressed with the professionalism presented by your employees.”



“Thanks for a fast, efficient service.”



“DB ESG employs excellent engineers who consistently provide Porterbrook with outstanding service.”



“Met the scope and timeline as stated at the beginning of the project and communicated well.”



“On this occasion, the DB ESG team provided us with excellent value for money.”



Project references – Technical Consultancy



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Digital Manufacturing - Example Projects

**Cab Power Brake Controller
Cover, Multiple Joined FDM
Printed Parts using Ultem™
9085, R1 Fire Compliance
part and Coating - For
Chiltern Class 165 Vehicles**



**Brake Box Cover, Ultem™
9085 FDM 3D Print, R1
Fire Compliance, Impact
Resistant Polyurethane
Coating - for EMR Class
156 Vehicles**

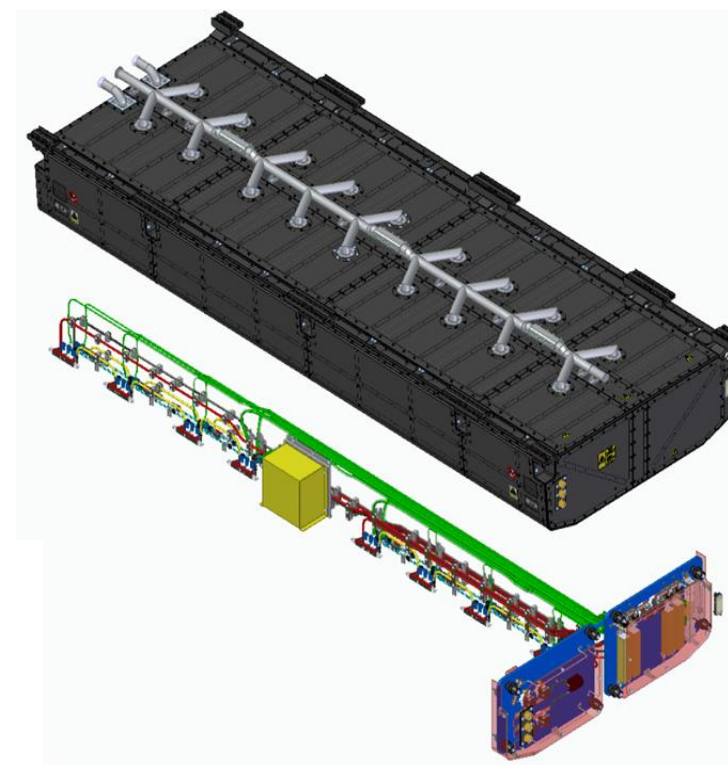


**Yaw Damper Bracket, Additive
Casting (3D Printed Mould) -
For EMR Class 158 Vehicles**



Traction Battery Enclosure

DB ESG are supporting Hitachi in the development of a prototype traction battery system. DB ESG designed the enclosure incorporating sixteen high-capacity batteries.



Hitachi traction battery package



Project references – Technology Intergration



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Physical Prevention of Over Speeding Device (PPOS) - TfL

A device that can stop a Croydon Tram from **travelling at excessive speeds within a pre-defined area.**

DB ESG has developed, supplied, installing and commissioning a **physical prevention of over speeding (PPOS) device.**

DB ESG sub-contracted Sella Controls to provide the equipment necessary for the PPOS system.



Tram Safety Improvement Programme – TfGM



Deployment of a Tram Overspeed Protection System (TOPS) and a Driver Vigilance Device (DVD).

The largest and most complex light rail network in the UK.

Extensive Human Factors engagement with key stakeholders such as Drivers.

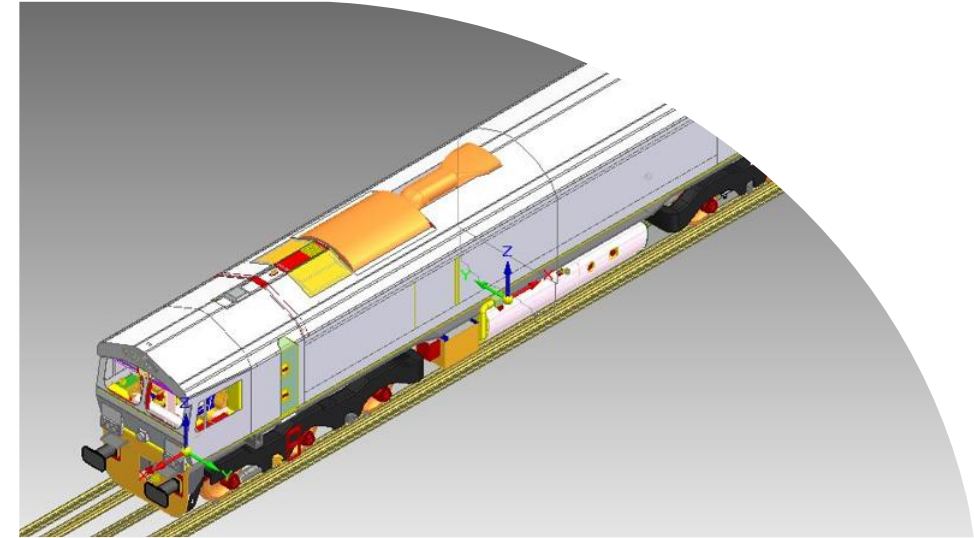
Contract was awarded in 2023, with a contract value of circa £11m, with a project duration of just over two years.

ETCS – Siemens Rail Automation Freight Locomotives

- Vehicle installation design for a European Train Control System (ETCS) to go onto freight locomotives Classes 47, 57, 59, 60 & 66.
- Forms part of Network Rail's ERTMS Freight Train Fitment Programme.
- Scope includes mechanical and electrical vehicle installation design and first-in-class support of all on-board systems



Class survey photograph



Initial 3D vehicle model

TfWR – Class 67 & MkIV Compatibility Modifications

Turnkey project to enable MkIV coaching stock to safely operate with Class 67 locomotives and DVT vehicles.

Scope of work included **movement of vehicles to site, concept designs, detailed designs, modification, testing, technical file and approvals.**

Additional work included **reconfiguration of CCTV and Passenger Information System** to ensure ongoing compatibility.



Vehicle survey photograph

Vehicle Test References

Testing IEP for Hitachi Rail Europe:

- Project management.
- Provision of generic equipment.
- Running dynamicsRide comfort.
- Brake and WSP tests.
- Pantograph contact force tests and catenary uplift tests.
- Internal pressure and aerodynamic tests.

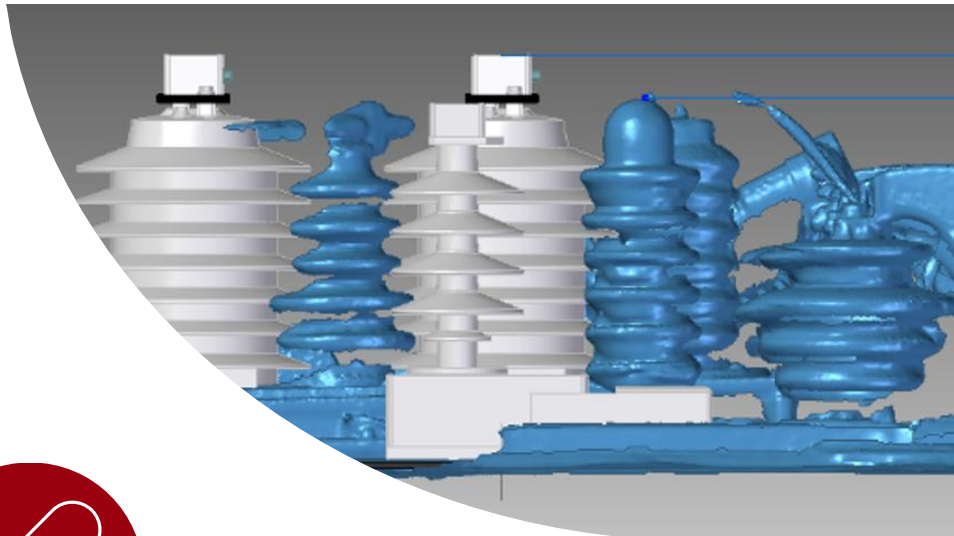
Testing ASR for Hitachi Rail Europe:

- Project management.
- Efficient testing approach in the UK, Germany and Czech Republic.
- Provision of generic equipment.
- Running dynamics.
- Ride comfort.
- Traction tests.
- Brake and WSP tests.
- Internal pressure and aerodynamic tests.
- Internal and external noise tests.



OHL – Network Rail Monitoring Systems

- DB ESG has delivered DB Systemtechnik's (DBST) overhead line monitoring equipment to Network Rail.
- System fitted to Mentor recording coach and a Class 390 – Pendolino unit.
- Proven system used by Deutsche Bahn and other operators across the world for over 20 years.



Initial 3D vehicle survey scan



Instrumented Pantograph

- Equipment similar to that already used by DB ST and DB ESG for the testing and commissioning of new train fleets.
- System can measure interface attributes, e.g. contact wire height and stagger (lateral alignment).

CTM2.0 – Network Rail Monitoring Systems

- DB ESG contracted by Network Rail to trial DB ST's proven CTM2.0 track monitoring system.
- CTM2.0 was installed on a MkIII DVT owned by Deutsche Bahn and operated by Chiltern Railways.



CTM2.0 Installation



On-board CTM2.0 system

- System provided information on track condition on the Chiltern Mainline between Birmingham and London Marylebone.
- Measurements included longitudinal level, track twist, dynamic alignment, cyclic top, ride comfort and vehicles motion response.
- Data provided in near real-time to a cloud-based database.

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