

ANNUAL REPORT



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01.

Introduction

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The ERTMS Users Group (EUG) is the recognised centre of excellence for the European Rail Traffic Management System (ERTMS) in Europe, with a legacy spanning more than 30 years. Its work encompasses building technical competence, developing standards, sharing best practices, and fostering collaboration among key stakeholders. The Brussels office serves as a central hub for learning, coordination, and the structured transfer of ERTMS expertise across Europe.

The governance of the EUG reflects its collaborative and strategic nature. 13 leading Infrastructure Managers guide its work, with the General Assembly convening quarterly to set direction and provide oversight. Complementing this, National Program Managers from each member country meet monthly to exchange knowledge, align practices, and ensure that lessons learned in one country benefit others. This framework guarantees continuity, harmonisation, and the transfer of technical expertise across national borders, strengthening the sector as a whole.

Europe faces significant challenges in railway signalling. As highlighted by Enrico Letta in the European Commission's 2024 report on the future of the Single Market, strengthening Europe's transport systems is critical for sustainability and competitiveness. Fragmented signalling solutions across countries limit cross-border traffic efficiency and increase both implementation and operational costs. ERTMS represents the single European solution to these challeng-

es, yet its deployment has been uneven, with national variants slowing progress. The ERTMS Users Group actively collaborates with EU-Rail Joint Undertaking and the European Union Agency for Railways (ERA) to overcome these barriers and promote the vision of a Single European Railway Area (SERA).

Looking ahead, the ERTMS Users Group remains committed to strengthening collaboration, fostering technical excellence, and supporting the sector in implementing innovative solutions. Through its combined focus on governance, competence building, standardisation, and sector-wide engagement, EUG continues to play a pivotal role in realising the full potential of ERTMS for Europe.



Sverre Kjenne,
Managing Director

Mission of the ERTMS Users Group is to support and accelerate the harmonised and interoperable implementation of ERTMS across Europe by bringing together infrastructure managers and railway undertakings to collaborate, share expertise, and align positions, enabling the sector to speak with one voice, contribute to seamless cross-border train operations, strengthen the competitiveness of the European rail system, and act as a trusted technical and administrative partner in the development of ERTMS and CCS.

EUG Members:

- Administrador de Infraestructuras Ferroviarias (Adif), **Spain**
- Banedanmark (BDK), **Denmark**
- Bane NOR, **Norway**
- Deutsche Bahn AG (DB), **Germany**
- Infrabel, **Belgium**
- Network Rail, **United Kingdom**
- ProRail, **Netherlands**
- Rete Ferroviaria Italiana (RFI), **Italy**
- Schweizerische Bundesbahnen (SBB), **Switzerland**
- SNCF Réseau, **France**
- Správa železnic, **Czech Republic**
- Trafikverket, **Sweden**
- Väylävirasto (FTIA), **Finland**

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02.

30 Years of ERTMS Users Group – from Concept to Deployment

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From its early mission of demonstrating the technical and operational viability of ERTMS, EUG has evolved into a strategic enabler for the efficient and harmonised rollout of the system across Europe. Today, the question is no longer whether ERTMS is viable, but how to achieve a cost-effective, interoperable implementation over its entire lifecycle.

EUG provides a unique platform for infrastructure managers and railway undertakings to share experiences. This collaboration is highly valued and represents significant potential for cost savings when addressing challenges related to ERTMS lines or ETCS onboard systems.

The working groups within EUG define best-practice approaches while also addressing the long-term perspective by actively contributing to the development of standards and strategies for ERTMS and ETCS. As a strategic enabler, EUG works closely with infrastructure managers, railway undertakings, the European Union Agency for Railways, the European Commission, the supply industry, and various industry bodies. EUG is widely recognised as a leading competence centre for ERTMS.



03.

Supporting our Member Countries

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3.1. Role and Added Value of the National Program Managers (NPM) Network

One of the greatest strengths of the NPM Network lies in its ability to foster structured knowledge exchange among Members. Within the EUG framework, each Member Country appoints a National Program Manager (NPM) responsible for overseeing its national European Rail Traffic Management System (ERTMS) implementation plan. Managing ERTMS deployment at the national level is a highly complex and resource-intensive task. However, this responsibility becomes significantly more manageable with the existence of a collaborative, well-organised NPM Network.

The NPMs meet regularly to exchange insights and address common challenges. This peer-to-peer format enables members to:

- Discuss deployment bottlenecks and implementation risks
- Coordinate future rollout strategies
- Explore technological gamechangers
- Identify strategic and cost-effective solutions for both trackside deployment and rolling stock upgrades



By sharing real-world experiences, NPMs benefit from tested solutions and avoid duplicating efforts, accelerating national implementation processes.

EUG actively supports the NPM Network by providing consolidated expertise from European working groups in which it plays a key role. This ensures that NPM discussions are informed by the latest regulatory, technical, and strategic developments at the European level.

The added value of the NPM Network is clearly reflected in the scale of ERTMS deployment achieved across Europe. Through structured coordination and shared

expertise, NPMs have facilitated the rollout of thousands of kilometres of ERTMS Level 2 infrastructure, spanning major European corridors—from the Iron Ore Line in northern Sweden to the Mediterranean Corridor in southern Spain.

This collective effort demonstrates how coordinated national leadership, supported by a strong network, can transform complex technical programs into successful large-scale European implementation.

3.2. Key achievements for Members in 2025

Správa železnic

The year 2025 was a major milestone for Správa železnic, the Czech railway infrastructure manager, in the implementation of the ERTMS/ETCS programme. Správa železnic already operates more than **1,200 km** of ETCS-fitted railway lines, of which **622 km** have been in **ETCS-only operation** since January 2025. These are mainly backbone sections of the TEN-T network with high traffic intensity, on which **43 %** of all transport performance on Czech Republic's railway network is carried out. In terms of transport volume, approximately **2,300** trains per day are now being operated in ETCS-only mode.

In addition to sections of regional lines with the **ETCS Regional** technical variant known as **ETCS STOP**, the first ETCS Level 1 section using the **Limited Supervision** operating mode was successfully put into operation at the end of 2025. A total of **2,660 km** of railway lines is already covered by the GSM-R signal. According to statistical evaluations, the availability of the ETCS system on lines with ETCS-only operation was over **99.5 %** at the end of 2025.

In the coming years, the intention is to continue deploying ETCS-only operations on other lines, in line with the ERTMS National Implementation Plan, which sets out ETCS deployment for **2021–2040**. The aim is to deploy ETCS not only on backbone and other main lines, but also on regional lines where no train control system has been in operation so far.

Správa železnic actively shares its experience with ETCS-only operation within the EU formal structures, through the ERTMS Users Group and various expert working groups, among other things, to jointly address identified issues and stabilise and harmonise TSI specifications.



Infrabel

Infrabel successfully completed the Belgian ETCS Masterplan on **14 December 2025**, including **2.503 km equipped with ETCS Level 2**, delivered through a decade-long rollout to meet EU interoperability and safety requirements ahead of the European deadline. With this milestone, the **entire Belgian network** is now equipped with ETCS at Level 1 and Level 2, with the sole exception of the **TVM-430-equipped high-speed line toward Lille/Paris**.

The next phase foresees a **progressive migration toward a fully ETCS Level 2 network**, involving the gradual phase-out of ETCS Level 1 Limited Supervision and, later, Level 1 Full Supervision. Building on the maturity of the current L2 deployment, **two ETCS Level 2 pilot lines without lineside signalling are planned for 2028**, representing the first operational step toward full removal of conventional signals.

By **2030**, the **high-speed line to Lille/Paris is scheduled for conversion to ETCS Level 2, ensuring compliance with TEN-T interoperability requirements and achieving end-to-end** harmonisation across Belgium's international corridors.

DB InfraGO (DB AG subsidiary)

The year 2025 marked an important political transition in Germany and a renewed strategic focus on rail transport. With the presentation of the “Agenda to Boost Rail Customer Satisfaction” in September, the Federal Ministry of Transport highlighted the key role of the digitalisation of signalling and train control systems in building a high-performance and future-proof railway infrastructure. For DB InfraGO, which operates as the infrastructure-focused subsidiary of Deutsche Bahn AG, this strategic direction clearly confirms the ongoing modernisation of Germany's rail network.

The successful nationwide rollout of the European Train Control System (ETCS) requires both a robust, standardised digital basic infrastructure and modern interlocking and control technologies. Together, these elements form the technological backbone of railway digitalisation, even though they remain largely invisible to passengers in everyday operations.

At the same time, the transition to ETCS requires the gradual equipping of vehicle fleets to enable operations without conventional signalling. Central coordi-

nation and reliable funding mechanisms – as outlined in the “Agenda to Boost Rail Customer Satisfaction” and supported by the Federal Government – remain essential for ensuring a smooth transition.

In 2025, DB InfraGO put into operation approximately 160 km of ETCS infrastructure, marking further progress in the national rollout. Furthermore, ETCS Level 1 Limited Supervision for cross-border operations with Switzerland was approved and successfully introduced. The first projects awarded under the volume contract also laid the foundation for accelerating the rollout of ETCS in the coming years.

The objective remains a reliable, interoperable and future-proof railway system that meets European requirements and strengthens rail transport in the long term.

Adif

Adif continued advancing the deployment and operational consolidation of ERTMS throughout 2025. With over **3,000 km already in service** and more than **two decades of operational experience**, ensuring **interoperability and backward compatibility** in the evolution of the CCS TSI remains a key priority, particularly in a network characterised by multiple suppliers for both trackside and onboard subsystems.

During 2025, Adif actively contributed to the work of the EUG, notably within the **Technical Steering Group (TSG)** and the **Engineering Support Group (ESG)**, supporting the analysis of change requests to the CCS TSI and the development of engineering guidelines. In 2025, Adif formalised its **incorporation into EULYNX**, further strengthening its commitment to harmonisation and standardisation across the European rail system.

Operational support to existing ERTMS lines—high-speed, conventional and commuter lines—continued throughout 2025, along with the modifications required by ongoing infrastructure works. Progress was also achieved under the **ERTMS National Implementation Plan**, including ERTMS infrastructure testing in projects reaching the final stages of deployment.

Adif also advanced work related to the **ETCS/FRMCS and cybersecurity roadmap strategies**. These ele-

ments remain under assessment for future contractual integration. In parallel, **ERTMS innovation activities** continued with the launch of testing of a new ERTMS application designed for **low-density lines**, implemented on the metre-gauge section between La Asunción Universidad (León) and Guardo.



BaneNOR

In the course of 2025, Bane NOR has worked to optimise operations on the Gjøvik Line, which entered service with EULYNX-compliant ERTMS Level 2 in 2024. The Gjøvik Line has proven to be highly stable, with minimal faults and operational disruptions. This has resulted in very good punctuality performance on the line.

During the first year of operation, cyber security on the Gjøvik Line has been strengthened through the introduction of certificate-based authentication for all devices. This enhances security and reduces vulnerability to cyberattacks. In addition, the interface with the traffic management system (TMS) has been updated.

Throughout 2025, Bane NOR has actively shared its experience from the Gjøvik Line with other infrastructure managers across Europe.

A significant part of the 2025 effort has also been dedicated to planning the commissioning of EULYNX-compliant ERTMS Level 2 on the Vestfold Line. In this context, the interface between the signalling system and the TMS has been updated to support new functionalities. Test runs with trains on the Vestfold Line have produced strong results and have been carried out efficiently using the Switch-over Facility, which allows Bane NOR to alternate between the conventional signalling system and ERTMS from a single location.





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Building a
**high-performance and
future-proof** railway
infrastructure.

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04.



Building Competence and Expertise across Europe

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4.1. Lead Engineers

EUG provides lead engineers from its member countries with the opportunity to gain first-hand experience of working at the European level and to understand how railway organisations collaborate across countries and institutions. Through this engagement, engineers deepen their knowledge of interoperability and gain practical insight into how common European specifications are interpreted and implemented in real projects.

Working alongside peers from other European railways exposes engineers to initiatives and technical developments that may not always be visible within a single national system, broadening both technical and strategic understanding of the sector.

Participation in EUG activities also strengthens stakeholder management capabilities by enabling collaboration with infrastructure managers, operators, suppliers, and European organisations. It helps build an international professional network of trusted contacts and allows engineers to compare practices across rail networks, identify proven approaches and consider how they might be applied within their own organisations.

Overall, working in a multinational environment accelerates professional development and equips engineers with the experience and perspective needed to lead effectively in an increasingly interconnected European rail system.

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Working in a **multinational environment** accelerates **professional development** and equips engineers to lead in **Europe's rail system.**

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4.2. Building Competence through ERTMS Training Program

As a centre of ERTMS knowledge and expertise, the ERTMS Users Group (EUG) continued to deliver its renowned ERTMS Specialist Training in 2025. Nearly 100 participants attended the course in Brussels, strengthening their expertise as trackside engineers, project managers and technical specialists. In addition, a further 70 participants joined the online edition, bringing the total number of trained professionals to around 170 in one year.

The intensive four-day programme covers the core principles of ETCS, including train positioning, modes and level transitions, system version management, braking curves and RBC handovers. Experts from the

European Union Agency for Railways (ERA) also contribute sessions on the legal framework of the CCS TSI. The course concludes with a practical case study that enables participants to apply their knowledge to real-life trackside engineering challenges.

In 2026, EUG will further enhance Specialist Training and continue strengthening ERTMS competence across Europe.





4.3. Developing best practices

Train Positioning

In 2018, EUG established the **Localisation Working Group (LWG)** to define common railway requirements for localisation systems in ERTMS and EU Rail CCS, addressing current challenges, future needs, and cost-effective innovative solutions.

LWG activities are carried out incrementally: first, enhancing on-board ETCS odometry, then developing a dedicated vehicle locator for multiple safety and non-safety applications, and finally, adding perception modules capable of locating mobile objects and personnel along the track.

Since the EU Rail System Pillar introduced the concept of the **Advanced Safe Train Positioning (ASTP)** system, LWG has served as its technical mirror group, representing the railways' perspective on train odometry and localisation, and contributing to ASTP standardisation within the Train Control and Supervision domain.

With several LWG members also engaged in the Innovation Pillar, the group bridges System and Innovation Pillars, promoting alignment and convergence on railway localisation solutions. Leveraging this expertise, LWG now leads a task in the **EGNOS4Rail (E4R)** project under Innovation Pillar Flagship Project 2. This task focuses on defining interoperable interfaces and architecture for delivering EGNOS GNSS augmentation data from track to train, supporting safety-relevant train positioning and odometry recalibration.

Hybrid Train Detection

The **Hybrid Train Detection** concept developed by EUG offers infrastructure managers the opportunity to reduce trackside detection assets—cutting costs—while also improving line capacity. Version 1 of the concept has been available for nearly 10 years and attracted interest from multiple railways. Following feedback from railway and industry stakeholders, EUG has now published an updated Version 2, which is available on the EUG website: <https://ertms.be/activities/hybrid-train-detection>

Engineering Support Group (ESG)

The **Engineering Support Group (ESG)** provides a forum for EUG members to share experiences, questions, and best practices, enabling safer, more cost-effective, and higher-performing ETCS implementations across Europe. Best practices are captured in the **Engineering Guidelines**, publicly available on the EUG website, while internal questions are documented for members, and issues requiring external input are raised through **Calls for Clarifications (CFCs)**. ESG also hosts an annual technical visit, providing hands-on knowledge exchange.

In 2025, ESG continued updating the guidelines, including changes for ERTMS Baseline 4 implementations and an updated version of **Guideline 81** dealing with the extension of key request function for Key Management Centres. The guidelines also underpin ERA's Topical Working Group (TWG) on Engineering Rules, supporting operational harmonisation in collaboration with UNISIG and ERA. ESG contributed updates to the engineering rules for harmonised Marker Boards, which are included in the updated TSI CCS. The annual technical visit in Prague highlighted contrasting approaches between new and legacy implementations, providing valuable learning for members.



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Automatic Train Operation (ATO)

EUG actively develops and defines specifications for ATO over ETCS, promoting interoperable, high-capacity, and energy-efficient rail operations. Their work, integrated into the 2023 TSI CCS release, ensures standardised automated train operation across Europe, from GoA1 to future GoA4 levels.

ATO serves as the main platform for Railway Undertakings (RUs) and Infrastructure Managers (IMs) to consolidate positions, coordinate EU-level activities, and facilitate standardisation. Building on the 2023 TSI CCS release—which introduced the first interoperable ATO solutions (GoA1 with C-DAS and GoA2 with a driver in the cab)—the ATO WG supports maintaining existing specifications and developing future GoA3/GoA4 levels.

In 2024, EUG formalised the ATO WG as the **Mirror Group** for the EU-Rail System Pillar's ATO Coordinator (ARC domain), providing a structured channel for the “voice” of RUs and IMs and enhancing transparency and alignment across EU-Rail activities. The group consolidates positions on responsibility allocation, planning interfaces, and standardisation priorities, working closely with ERA, UNISIG, CER, EIM, and UIC.

The ATO WG operates based on the **Standardisation and TSI Input Plan (STIP)** for GoA1–GoA4, reviewing gaps, monitoring alignment with EU-Rail work, and, where needed, proposing initial concepts for critical specifications. Meeting monthly and holding additional workshops as required, the group produces meeting minutes, Change Requests (CRs), structured review comments, and initial specification proposals. In 2025, multiple CRs were raised to enhance and clarify ATO specifications, supporting a harmonised and interoperable rollout across European rail networks.

4.4. Rail Security Expert Group

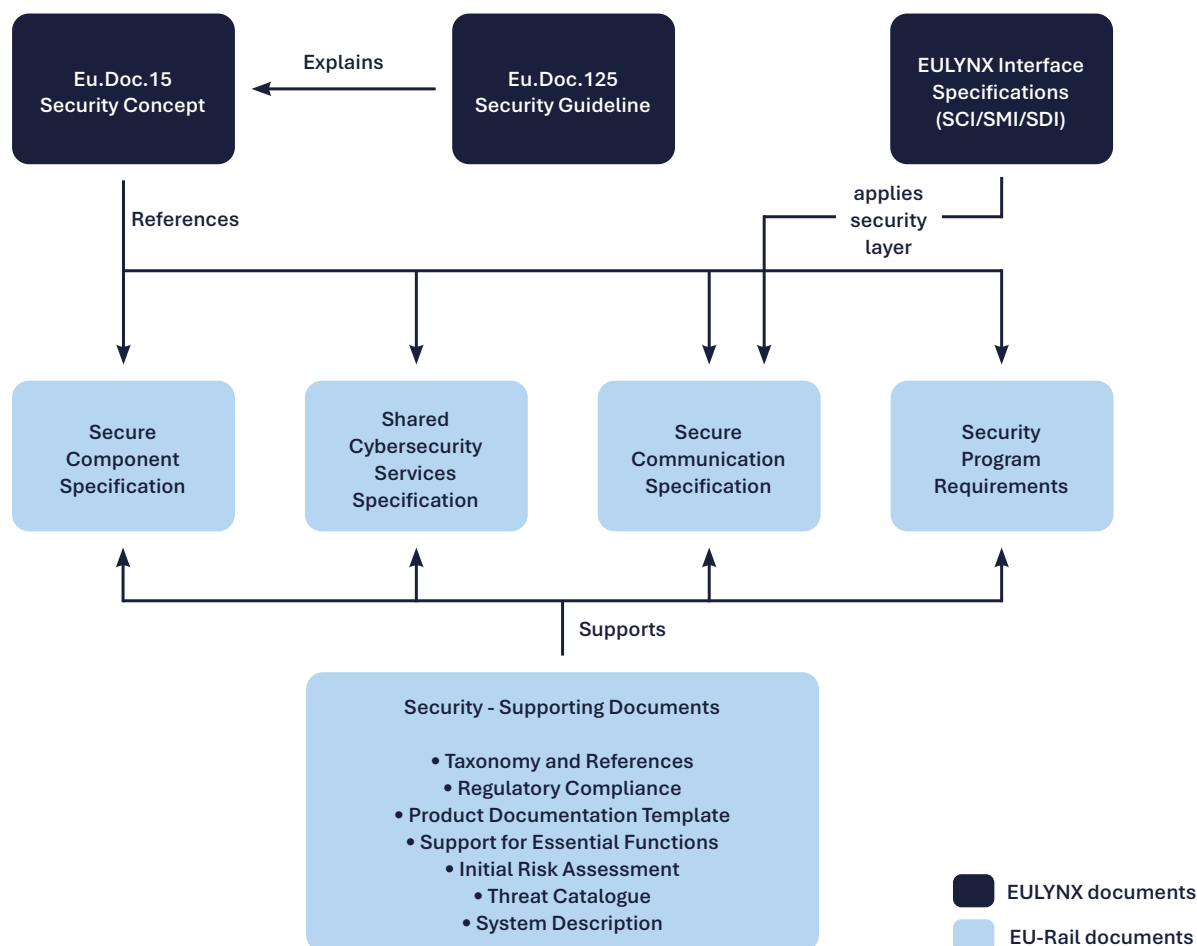
The Rail Security Expert Group (RSEG) brings together leading experts from infrastructure managers and railway undertakings to enhance the security, resilience and future readiness of Europe's rail system. As a strategic forum, it promotes harmonised security approaches and anticipates emerging cyber-physical threats to critical rail operations.

A major achievement has been the definition of forward-looking security foundations for the next generation of ERTMS, ensuring robust, interoperable and resilient system architectures. The resulting guidelines support practical implementation across the sector. RSEG also acts as a mirror group to the Europe's Rail Joint Undertaking System Pillar, providing coordinated input to the CCS TSI and overall CCS architecture and ensuring that security requirements are embedded early in European specifications. In addition, the group supports compliance with key EU legislation, including NIS 2, CER and CRA.

Closely linked to the ERTMS Users Group (EUG), RSEG builds on EUG's operational and technical expertise to ensure that security considerations are fully integrated into ERTMS deployment. Through targeted working streams and cross-border knowledge exchange, both groups strengthen the sector's collective preparedness and contribute to a secure and resilient European railway system.



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05.

Standardisation and Harmonisation

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5.1. Contribution to TSI, EECT and Change Request Management

EUG supports its members in interpreting CCS TSI specifications during ETCS deployment. Issues are first addressed internally, and if needed, escalated through the ERA CCM process with ERA and UNISIG experts. This can lead to clarifications or updates in the official TSI documents. Throughout, EUG ensures that solutions reflect the best interests of the railways.

EUG also supports the ERA CCM process for assessing and resolving enhancement proposals to the current TSI. Proposals for enhancements may come from various sources and are then processed in the EECT.

5.2. Development of Guidelines

Harmonisation of rules is widely recognised by the sector as an effective way to address some of the most significant ERTMS cost drivers. Among these, the European Commission and ERA have highlighted standardisation of trackside subsystem engineering as a priority, leading to the creation of a dedicated Technical Working Group (TWG) led by ERA, with EUG and UNISIG as active contributors.

To support railways in applying ERTMS/ETCS in a harmonised and interoperable way, EUG had already established an internal **Engineering Support Group (ESG)** – see also the relevant paragraph inside the chapter 4.3) before the TWG’s creation. The added value of ESG lies in providing a technical platform for railway peers to share experiences, develop unified solutions, and speak with one voice to external stakeholders. Its main outputs—publicly available guidelines—have been widely used and form the basis for the TWG’s ongoing work.



06.

Supporting the Rail Sector through Collaboration with the EU-Rail System Pillar

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EUG remains actively engaged in the EU-Rail System Pillar, a key component of ERJU alongside the Innovation Pillar. The System Pillar provides governance, resources, and coordinated outputs to drive a coherent and unified evolution of the European rail system and its architecture.

Historically, railway systems have followed national or regional approaches, creating a fragmented European landscape. This fragmentation makes innovation costly and complex, limiting competitiveness and efficiency. The System Pillar addresses these challenges by fostering a common EU railway system view, based on shared operational visions and a layered functional architecture. Its aim is to enable harmonised, innovative solutions that enhance service quality, efficiency, and cost-effectiveness, supporting the strategic goal of the Single European Railway Area (SERA).

A key focus of the System Pillar is shaping the future of the Control Command and Signalling (CCS) system, including architecture definition (trackside and onboard), Change Request management, and operational procedure development. The ERTMS Users Group oversees the System Pillar Consortium and provides resources to its various domains, including Operational Design, Traffic Control & Supervision, and Train Control & Supervision.

Operational Design (OD)

A key achievement in 2025 was the development of harmonised operational processes for common scenarios such as Start of Mission, Moving from A to B, and passenger stops. These processes form the basis for future ETCS Level 2 operations without overlay signalling. Work also began on a coherent operational concept defining principles and design decisions, scheduled for completion in mid-2026. OD outputs serve as the foundation for the technical design work in Traffic CS.

Traffic Control & Supervision (Traffic CS)

In Traffic CS, the Traffic CS System Concept was approved by the System Pillar Steering Group as the framework for future specifications. It defines a streamlined ETCS L2-based architecture with three modular, exchangeable subsystems: Plan Execution System (PES), European Trackside Protection System (ETPS), and ATO Trackside (ATO-TS). This structure promotes harmonisation while allowing industry flexibility, competition, and scalability.

The concept is supported by a set of Major Design Decisions, refined through extensive reviews and mirror-group engagement, covering rule-based train authorisation, concentration of safety-critical functions, sensor-fusion-based determination of safe train extent, and efficient configuration management. These outputs provide a robust, solution-neutral basis for system and interface specifications.

By closely integrating Traffic CS with Operational Design, operational processes, system behaviour, and safety analyses evolve together. Traffic CS specifications now provide the technical foundation for all subsystems in the System Concept, supporting pilot implementations in the coming years.

Train Control & Supervision (Train CS)

In 2025, the Train CS domain published its Train CS Architecture document, defining the path for the future: Target “1”, “2” and “A” were defined, respectively to be achieved in the next TSI (2028), the following TSI (2032) and the far future.

This allows the sector to have a clear compass for the future On-board CCS architecture and defines the steps in between.

Examples of these steps are: the CCS Consist Network, which will be the ethernet-based backbone of the train; the improvement of the odometry system (robustness and precision) or the Multi-Display System, allowing to reduce the number of screens in a cab by sharing the hardware screen to display information coming from several systems (ETCS, ATO, TCMS, etc.)





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Fostering a **common EU railway system view**, enabling **harmonised solutions** that enhance efficiency and support the **Single European Railway Area**.

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07.

ERTMS Users Group and EULYNX Consortium Collaboration

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The EULYNX Consortium and the ERTMS Users Group collaborate closely to strengthen a single, coherent sector voice on Control, Command and Signalling (CCS) and to accelerate interoperable deployment across Europe. Both organisations represent different but complementary parts of the CCS system landscape: EULYNX focuses on standardised interfaces and system architecture for railway signalling sub-systems, while the ERTMS Users Group provides the operator and infrastructure manager perspective to guide ERTMS evolution, deployment priorities, and operational requirements. This collaboration helps ensure that CCS solutions are not only technically robust and standardised, but also deployable at scale, operationally fit-for-purpose, and aligned with European objectives.



The collaboration is organised through a joint working approach that connects strategy, specification development, and deployment feedback. Strategic direction and sector positioning are shaped through the CCS Strategy Group, bringing together the perspectives of the ERTMS Users Group and EULYNX, complemented by OCORA for the onboard perspective. The strategic direction is translated into work on specifications and guidelines, supported by coordinated expert work across both organisations, as a joint CCS workbench. The workbench also captures the deployment experience, where lessons from national and cross-border projects, covering ETCS, digital interlockings and related interfaces, are fed back into requirements, implementation guidance, and future work planning. This setup reduces duplication and clarifies responsibilities, and brings the resources of the workbench to the ERJU System Pillar, which acts as the overarching generic system integrator supporting the future Single European Railway Area.

A key focus of the collaboration is improved scalability of ETCS deployments with digital interlockings, enabled by standardised interface, operational, engineering and security specifications, and consistent guidance for procurement and implementation.

Looking ahead, both organisations share a vision to deliver clearer guidance, improved stakeholder alignment, and tangible benefits for infrastructure managers, railway undertakings, suppliers, and ultimately for the railway users across Europe.



Financial Report

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Year 2025

Management Report

The mission of the EEIG ERTMS Users Group (EUG) is “To help the railways in applying ERTMS in a harmonized and interoperable way to enable the free flow of trains and a competitive railway”.

In other words: the ERTMS Users Group supports the European railways (infrastructure managers, fleet owners and train operators) in the deployment of ERTMS, the European standard system for train protection and control.

The EEIG ERTMS Users Group (EUG), incorporated in 1995, has four main lines of action:

- to assist the member railways in the design and implementation of ERTMS and in the definition of their migration strategies, collecting feedback from the existing implementations and proposing harmonised solutions for the problems detected;
- to support the European Union Agency for Railways (ERA) and the European Commission DG-MOVE in the maintenance and upgrading of the ERTMS specifications and in the coordination of the related laboratory and field tests, while defending the interests of the member railways;
- to support the member railways and the members of EULYNX, the representative organisations CER and EIM, the European Commission DG-MOVE, ERA and Europe's Rail Joint Undertaking (ERJU) in the establishment of a System Framework for Command, Control and Signalling Systems (as defined for Task 2 of the System Pillar of ERJU);
- to support the development of the European Transport Corridors by assisting them in the technical and operational field of ERTMS.

In 2013, the EUG set up an RU ERTMS/ETCS platform with the aim to share experiences and ideas among fleet owners with substantial investments (> € 50 million) in ERTMS to obtain and maintain, at lowest costs possible, a fleet which is capable to run on all ETCS equipped parts of the European network. Also, CER, ERFA, AllRail, AERRL and UIC are invited to participate. Other stakeholders (DG-MOVE, ERA, CINEA, UNISIG, etc.) are invited on a case-by-case basis, depending on the need. Discussed are the relevant and practical issues concerning specification, design, certification, installation, authorisation and operation of ETCS On Board Units (OBU's) in rolling stock. EUG

Management participates in these meetings as a liaison between the participants of the platform and the EUG members. In principle, EUG also contributes by providing expertise (system, technical and operational aspects, the Change Control Management process led by ERA and application for EU financing). Three to four workshops with the RU ERTMS/ETCS platform take place every year.

Regarding the cooperation with external organisations and bodies it is important to underline the role which EUG is playing as ERTMS technical advisor for CER, EIM, ERFA, AllRail and AERRL and the European Transport Corridors (formerly called international rail freight corridors). EUG plays an important role in the Change Control Management process of the TSI CCS.

EUG acts by means of a permanent staff, represented by highly qualified personnel seconded from the member railways and independent consultants. These experts coordinate several working groups, which bring together the most qualified railway technicians in the CCS domain. A part of the permanent staff of EUG is composed of young lead engineers who are seconded by the EUG members and spend at least 3 years at EUG to get acquainted with the European ERTMS environment and to develop skills in the field of ERTMS before returning to their company to be involved in the national ERTMS projects. This policy helps to increase the number of experts for the benefit of the deployment of ERTMS.

The technical experts of EUG are working in close cooperation with their colleagues of EULYNX, ERA, UNISIG (Union of the Signalling companies), EAL (the European accredited test laboratories), UNITEL (the group of UNIFE representing the Telecom suppliers of the railways) and UIC. EUG also works together with the space agencies (EUSPA and ESA) for the introduction of GNSS technology in the field of ETCS train positioning.

The EUG has presently two sources of funding:

- the annual fees of the member railways,
- financing by the European Commission (which comes through ERJU) as payment for services performed under framework contracts

The availability of the European financing depends on the funds allocated by the European Union to the

railway sector and on the scope of the projects proposed and carried out by the ERTMS Users Group. The European financing contribution to the running costs of EUG is approximately 25%.

The projects carried out with financial support of the European Commission involve the member railways and external partners which work together (as sub-contractors or fellow consortium members) with EUG. EUG acts as coordinator of all the partners/beneficiaries, for both the management and the technical part.

In 2022, EUG coordinated the setting up of the System Pillar Consortium which successfully tendered for three framework contracts to provide experts and work for the System Pillar of ERJU. EUG acts as the Contract Manager for these three framework contracts and delivers technical expertise for the work in the field of Command, Control and Signalling (CCS). The first framework contract (Lot 1) is about the delivery of experts for the so called 'System Pillar Core Group'. The third specific contract (SC1.3) ended in September 2025, followed by the fourth specific contract (SC1.4) which started in September 2025. The second framework contract (Lot 2) is about the delivery of experts and work for the System Pillar (System

Pillar Tasks). The fourth specific contract (SC2.4) ended in October 2025 and was followed by a fifth specific contract (SC2.6) which started in October 2025. The third framework contract (Lot 3) is about TSI CCS Maintenance activities. The second specific contract (SC 3.2) ended in October 2025. The third specific contract (SC3.3) started in October 2025. In December 2025, the consortium signed a contract SC2.5 for Train Detection.

In 2025, EUG organised 8 ERTMS Specialist Training courses for its members and some representatives of other important stakeholders (e.g. ERA, DG-MOVE, ERJU). These courses were given free of charge.

The Managing Directors confirm to their best knowledge that the accounts for the year 2024 are correct and accurately represent the activities of the EUG in the year 2025.

Brussels, May 11th, 2026

Sverre Kjenne,
Managing Director

Gabriele Ridolfi,
Deputy Managing Director



The EEIG ERTMS Users Group Organisation (31-12-2025)

General Assembly Members

Mr Crafoord	President of the General Assembly and Trafikverket representative
Mr Behnsch	Deutsche Bahn
Mr Delgado Lopez	ADIF
Mr Søndergaard	Banedanmark
Mr Menschaert	Infrabel
Mr Smolders	ProRail
Mr Senesi	RFI
Mr Freson	SNCF-Réseau
Mr Čech	Správa Železnic
Mr Lehtola	Väylä

Cooperative Cooperating Railways Representatives

Mr Nilsen	Bane NOR
Ms Furness	Network Rail
Mr Schmidt	SBB

Directors and other officers

Mr Kjenne	Managing Director
Mr Ridolfi	Deputy Managing Director and Technical Director
Mr Dijkman	Technical Director
Mr Leonardi	Financial Manager
Mr Ykman	Operational Manager
Mr Treydel	Technical Manager

NPM Committee

Ms Garcia	ADIF
Ms Hernandez	Banedanmark
Mr Holter	Bane NOR
Ms Rudolph-Monecke	Deutsche Bahn
Mr Werner	Infrabel
Mr Dobson	Network Rail
Mr van Houten	ProRail
Mr Filippini	RFI
Mr Mosele	SBB
Mr Mosmann	SNCF-Réseau
Mr Konopáč	Správa Železnic
Mr Byström	Trafikverket
Mr Pylvänäinen	Väylä

Independent Auditor

Deloitte Réviseurs d'Entreprises SCCRL

Accountants

Ernst & Young Accountants SCCRL

Profit and loss account (€)

	Year 2025	Year 2024	Change
Income			
<i>Turnover :</i>			
EC grants	11.983.522	9.322.891	2.660.631
<i>Stocks of finished goods and contracts in progress:</i>			
Increase/(decrease) stock SP Lot 1,2 and 3	(1.081.322)	471.829	(1.553.151)
Other Operating Income:			
Annual contribution membership fees	2.340.000	1.950.000	390.000
Other membership fees	1.357.816	1.197.924	159.892
Other income	30.200	5.704	24.496
Turnover and other operating income	14.630.216	12.948.348	1.681.868
Contributions to funds			
(Contribution to)/deduction from EUG members res. funds	115.982	403.141	(287.159)
(Contribution to)/deduction other members reserve funds	(255.643)	(74.595)	(181.048)
EU-Rail funds to Consortium members	(397.139)	(1.263.155)	866.016
Total contribution to funds	(536.800)	(934.609)	397.809
Total operating income	14.093.416	12.013.739	2.079.678
Sundry goods and services			
EUG consultants & railways seconded staff	(2.209.831)	(1.705.512)	(504.319)
Third party & advisory costs	(298.818)	(613.289)	314.470
Office expenses	(474.274)	(418.956)	(55.318)
Subcontracts and Training	(55.825)	(61.138)	5.312
Consortium agreements	(9.726.185)	(8.103.374)	(1.622.811)
Other expenses	(1.332.960)	(1.091.146)	(241.813)
Total sundry goods and services	(14.097.894)	(11.993.415)	(2.104.479)
Other costs			
Depreciation	(12.859)	(11.883)	(976)
Provisions for other liabilities and charges	0	(46)	46
Extraordinary audit revenues/(costs)	19.190	0	19.190
Total other costs	6.331	(11.929)	18.260
Operating result	1.853	8.395	(6.541)
Financial income			
Financial income	13.372	8.316	5.057
Financial charges	(10.639)	(14.331)	3.692
Taxes	(4.586)	(2.379)	(2.207)
Financial result	(1.853)	(8.395)	6.541
Result for the period	0	0	0

Balance sheet (€)

	31.12.2025	31.12.2024	Change
ASSETS			
Fixed Assets			
Intangible assets	184	680	(496)
Tangible assets	39.121	34.479	4.642
Other financial assets	400	400	0
Total fixed assets	39.705	35.559	4.146
Current Assets			
Contracts in progress	3.051.802	4.133.124	(1.081.322)
Due from commercial	446.799	930.684	(483.885)
Other amounts receivable / VAT recoverable	1.528.085	1.484.254	43.831
Deferred charges and accrued income	86.410	168.720	(82.310)
Cash at banks and in hand	9.516.446	7.695.480	1.820.966
Total current assets	14.629.246	14.412.262	217.279
Total Assets	14.669.246	14.447.821	221.425
LIABILITIES			
EUG members / reserve funds	5.724.284	5.840.266	(115.982)
Other members / reserve funds	728.403	472.760	255.643
Financial obligations System Pillar & DAP	5.700.916	5.085.027	615.889
Suppliers	276.579	144.381	132.198
Invoices to be received	562.639	909.461	(346.822)
Advances received on contracts in progress	1.674.745	1.883.203	(208.458)
Taxes, remuneration and social charges	0	0	0
Accrued charges and deferred income	1.681	112.724	(111.043)
Total Liabilities	14.669.246	14.447.821	221.425

Statutory auditor's report from Deloitte. to the shareholders' meeting of GEIE des Utilisateurs d'ERTMS

**for the year ended 31 December 2025 -
Annual accounts**

In the context of the statutory audit of the annual accounts of GEIE des Utilisateurs d'ERTMS (the "GEIE"), we hereby submit our statutory audit report. This report includes our report on the annual accounts and the other legal and regulatory requirements. These parts should be considered as integral to the report. We were appointed in our capacity as statutory auditor by the shareholders' meeting of 5 February 2026, in

accordance with the proposal of the board of directors ("bestuursorgaan" / "organe d'administration"). Our mandate will expire on the date of the shareholders' meeting deliberating on the annual accounts for the year ending 31 December 2027. We have performed the statutory audit of the annual accounts of GEIE des Utilisateurs d'ERTMS for 24 consecutive periods.

Report on the annual accounts

Unqualified opinion

We have audited the annual accounts of the company, which comprises the balance sheet as at 31 December 2025 and the income statement for the period ended at that date, as well as the explanatory notes. The annual accounts show total assets of 14 669 (000) EUR and the income statement shows a profit for the year ended of 0 (000) EUR.

In our opinion, the annual accounts give a true and fair view of the company's net equity and financial position as of 31 December 2025 and of its results for the year then ended, in accordance with the financial reporting framework applicable in Belgium.

Basis for the unqualified opinion

We conducted our audit in accordance with International Standards on Auditing (ISA), as applicable in Belgium. In addition, we have applied the International Standards on Auditing approved by the IAASB applicable to the current financial year, but not yet approved at national level. Our responsibilities under those standards are further described in the "Responsibilities of the statutory auditor for the audit of the annual accounts" section of our report. We have complied with all ethical requirements relevant to the statutory audit of the annual accounts in Belgium, including those regarding independence.

We have obtained from the board of directors and the GEIE's officials the explanations and information necessary for performing our audit.

We believe that the audit evidence obtained is sufficient and appropriate to provide a basis for our opinion.

Responsibilities of the board of directors for the preparation of the annual accounts

The board of directors is responsible for the preparation and fair presentation of the annual accounts in accordance with the financial reporting framework applicable in Belgium and for such internal control as the board of directors determines is necessary to enable the preparation of the annual accounts that are free from material misstatement, whether due to fraud or error.

In preparing the annual accounts, the board of directors is responsible for assessing the GEIE's ability to continue as a going concern, disclosing, as applicable, matters to be considered for going concern and using the going concern basis of accounting unless the board of directors either intends to liquidate the GEIE or to cease operations, or has no realistic alternative but to do so. GEIE des Utilisateurs d'ERTMS | 31 December 2025





Responsibilities of the statutory auditor for the audit of the annual accounts

Our objectives are to obtain reasonable assurance about whether the annual accounts as a whole are free from material misstatement, whether due to fraud or error, and to issue a statutory auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISA will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these annual accounts.

During the performance of our audit, we comply with the legal, regulatory and normative framework as applicable to the audit of annual accounts in Belgium. The scope of the audit does not comprise any assurance regarding the future viability of the GEIE nor regarding the efficiency or effectiveness demonstrated by the board of directors in the way that the GEIE's business has been conducted or will be conducted.

As part of an audit in accordance with ISA, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- identify and assess the risks of material misstatement of the annual accounts, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from an error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control;
- obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the GEIE's internal control;
- evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the board of directors;

- conclude on the appropriateness of the use of the going concern basis of accounting by the board of directors and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the GEIE's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our statutory auditor's report to the related disclosures in the annual accounts or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our statutory auditor's report. However, future events or conditions may cause the GEIE to cease to continue as a going concern;

- evaluate the overall presentation, structure and content of the annual accounts, and whether the annual accounts represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with those charged with governance regarding, amongst other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit. GEIE des Utilisateurs d'ERTMS | 31 December 2025

Other legal and regulatory requirements

Responsibilities of the board of directors

The board of directors is responsible for the preparation and the content of the directors' report on the annual accounts, for the documents to be filed according to the legal and regulatory requirements, for maintaining the GEIE's accounting records in compliance with the legal and regulatory requirements applicable in Belgium, as well as for the GEIE's compliance with the Code of companies and associations and the GEIE's articles of association.

Responsibilities of the statutory auditor

As part of our mandate and in accordance with the Belgian standard complementary to the International Standards on Auditing (ISA) as applicable in Belgium, our responsibility is to verify, in all material respects, those documents to be filed according to the legal and regulatory requirements, and compliance with certain obligations referred to in the Code of companies and associations and the articles of association, as well as to report on these matters.

Statements regarding independence

Our audit firm and our network have not performed any prohibited services and our audit firm has remained independent from the GEIE during the performance of our mandate. GEIE des Utilisateurs d'ERTMS | 31 December 2025

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Other statements

- Without prejudice to certain formal aspects of minor importance, the accounting records are maintained in accordance with the legal and regulatory requirements applicable in Belgium.
- The appropriation of results proposed to the general meeting is in accordance with the relevant legal and regulatory requirements.
- We do not have to report any transactions undertaken or decisions taken which may be in violation of the company's articles of association or the Code of companies and associations.

Signed at Liège.

The statutory auditor

Deloitte Bedrijfsrevisoren/
Réviseurs d'Entreprises BV/SRL

Represented by **Carl Laschet**



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