

Moving Europe towards a sustainable and
safe railway system without frontiers.

ERA ICT Strategy 2026-2030:

A People-Centric Digital Transformation for moving Europe towards a Sustainable and Safe European Railway System

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Executive Summary

The European Union Agency for Railways (ERA) is at a critical juncture. The confluence of structural resource constraints, high staff workload, and an impending loss of expertise has created an unsustainable operational environment. Incremental changes are no longer sufficient to meet the demands of our mission to build a Single European Rail Area.

This strategy repositions Information and Communication Technology (ICT) as the core enabler of the Agency's future success. It outlines a bold, people-centric approach to digital transformation designed to multiply our impact, enhance resilience, and secure our long-term effectiveness.

Our Vision: To empower ERA staff, railway stakeholders and citizens (passengers) through intelligent, secure, and seamless digital solutions, transforming the Agency into the data-centric leader that accelerates the creation of the Single European Rail Area (SERA).

Digital Autonomy & EU First are considered to ensure that we remain independent in managing key digital assets and prioritize European solutions to support the EU's ICT industry, and **EU Inter-institutional Collaboration**, which commits us to adopt shared solutions and foster partnerships across EU agencies wherever possible.

Our Plan: We will achieve this vision by focusing on five interconnected strategic objectives:

1. **Fostering a People-Centric Digital Culture:** We will equip staff with AI-powered tools to act as personal assistants, automating routine and/or mundane tasks and freeing our experts to focus on high-value work requiring human appreciation or judgement.
2. **Driving Business Transformation:** We will systematically digitise and automate the core business processes and the backbone IT systems established under our legal framework, including key registers and databases, to increase efficiency, transparency, and consistency across the Agency.
3. **Delivering a Seamless Stakeholder Experience:** We will provide modern, intuitive, and intelligent digital services to our external partners, making it easier to interact with the Agency and consume our data. Achieving a mature level of resilience to cyberattacks is a shared responsibility, built on the security awareness of all parties interacting within this digital ecosystem.
4. **Accelerate Railway System Improvements:** We will transform safety and interoperability into truly data-driven domains. By using advanced analytics for proactive risk management and moving step-by-step towards "law as code" for automated compliance, we will streamline authorisations and remove the technical barriers hindering a seamless Single European Rail Area.
5. **Guaranteeing a Green, Secure, and Resilient Infrastructure:** We will maintain a robust, risk based, secure-by-design technological foundation that enables innovation while protecting our critical assets. To ensure a coordinated response to major cyber events, we will establish a crisis management and business continuity plan that covers both asset preservation and communication to relevant stakeholders and end-users.

The Impact: This strategy is more than a technology roadmap. It is the Agency's plan for sustainability and future relevance. Its successful implementation requires sustained leadership

commitment and strategic investment to empower our people, optimise our processes, and ultimately deliver on our mandate for a safer and more integrated European railway system.

Glossary

Data Informed	A decision-making philosophy that uses data as a crucial input but balances it with human experience, professional judgment, intuition, and qualitative factors. In this model, data provides critical insights and context, but the final decision remains with human experts who weigh the data against other business considerations.
Data Driven	A decision-making methodology where actions are determined primarily by objective data analysis and metrics. This approach seeks to minimize human bias and intuition, relying instead on statistical evidence and automated processes to optimize outcomes and guide operational choices. Decisions are a direct consequence of what the data indicates.
Data centric	An architectural and strategic approach where data is treated as the central and most critical asset of the organization. The IT infrastructure, applications, and processes are designed around a unified, high-quality data core, ensuring data is consistent, secure, and readily accessible across the entire enterprise. This approach prioritizes the long-term value and integrity of the data itself. When the Agency refers to data centric in this document, this concept implies Data Informed and Data Driven.
FaaS	Function as a Service - a serverless cloud computing model where developers deploy individual functions or pieces of code that run in response to events, without managing the underlying infrastructure like servers, operating systems, or web servers.
Cloud	A global network of remote servers and data centres that provide on-demand access to computing resources like storage, databases, and software over the internet.
AI	Artificial Intelligence - A broad field of computer science focused on creating systems that can perform tasks that typically require human intelligence. This includes capabilities such as learning from experience, understanding natural language, recognizing patterns, making decisions, and solving complex problems.
Law As Code	The term “Law As Code” describes the systematic implementation of laws and regulations in a structured form that can be understood by machines. This involves not only the digitalisation of documents, but also the transformation of legal standards into executable algorithms and computer-aided decision-making processes.

Foreword

This document outlines the European Union Agency for Railways (ERA) Information and Communication Technology (ICT) Strategy for the period 2026-2030. It has been drafted to align with the Agency's core mission of moving Europe towards a sustainable and safe railway system without frontiers. It integrates concrete, identified needs for process improvement through digitalisation, automation, and AI.

1. Introduction & Strategic Context

The Agency's primary objective is to foster the development and effective operation of a Single European Rail Area (SERA) by ensuring high levels of safety and interoperability. Achieving this in the modern era is inextricably linked to **becoming a digitally-oriented organisation**. The strategic context is defined by significant internal and external pressures. Internally, the Agency operates under persistent resource constraints, resulting in high workloads and stress as well as the gradual loss of expertise as experienced staff approach retirement. Externally, the European railway sector is still on its journey towards comprehensive digitalisation. In the face of these challenges, a reactive or incremental approach to technology is insufficient. The confluence of these pressures creates a situation where traditional solutions—such as increasing headcount or simply asking staff to work harder—are no longer viable. The Agency has reached a critical juncture where a bold and strategic embrace of technology is the only viable path forward. Information and Communication Technology (ICT) is no longer a support function, it is the core enabler that will allow the Agency to multiply its impact. It is the mechanism by which we can enhance our operational capacity, reduce the administrative burden, improve motivation and operational excellence, and capture and democratize the expertise of our most experienced staff. Crucially, while AI will automate routine tasks, it is not expected to result in resource reductions. Instead, it will allow us to provide much deeper and more effective services, amplifying the Agency's expertise and stakeholder value without compromising our resource foundation.

This strategy, therefore, is not just a plan for IT, it is the Agency's plan for resilience, sustainability, and future success. To achieve this, the strategy places a focus on three interconnected pillars:

1. **Empowering Our Staff:** True empowerment goes beyond simply providing standard hardware and office software. It is about fundamentally transforming the daily work experience to allow our staff to focus on high-value, uniquely human tasks. This also requires an evolution in our approach to security and access. In the past, a well-intentioned but restrictive security posture has sometimes limited access to innovative tools, including modern AI platforms. This has occasionally been a source of frustration and was not always preceded by a formal, communicated policy, highlighting the need for the more transparent, policy-driven approach we are now adopting. Under this strategy, we will move to a principle of **"secure enablement"**. Our **cybersecurity posture will be a strategic partner to the business**, not a barrier. Access restrictions will be a measure of last resort, applied only when other risk mitigation measures—such as **secure sandboxed environments, user training, and clear acceptable-use policies**—are insufficient to reduce risks to an acceptable level. A key component of this will be the implementation of a **clear information classification policy**, ranking assets from publicly available to highly sensitive. This will provide staff with

straightforward guidance on what data can be safely used with public AI tools and what must remain within our secure environment.

Crucially, going forward, **communicated policy will always precede technical implementation**. This transparent, policy-driven approach is essential to building a culture of trust and empowering our experts to responsibly use the best available tools. By integrating intelligent tools as a personal assistant—helping i.a. analyze application files, drafting documents, and retrieving information—we will automate the routine and/or mundane tasks and free our staff to apply their critical judgment, creativity, and strategic thinking to the complex challenges at the heart of the Agency's mission. This fosters a true sense of mastery, autonomy, and job satisfaction.

2. **Optimizing Our Processes:** Staff empowerment can only be fully realized when it is built upon a foundation of streamlined and efficient business processes. This strategy prioritizes the systematic **digitization and automation of our core workflows**. We will move away from fragmented, manual processes and towards integrated, transparent, and resilient digital systems. This involves creating digital workflows that automate the flow of information and tasks across the organization, from the intake of requests to the final delivery of services. By digitizing process execution and automating repetitive steps, we increase efficiency, ensure consistency, improve traceability, and reduce the likelihood of errors, creating a more predictable and manageable operational environment for everyone.
3. **Serving Our Stakeholders and End-Users:** By treating **data as a core strategic asset**, the Agency will deliver modern, **user-centric** digital products that accelerate the creation of the Single European Rail Area (SERA). The key digital solutions established under our legal framework, such as the European registers, will be engineered to be intuitive and intelligent, making it easier for stakeholders to submit, manage, and consume information. Following the 'once-only principle,' applications for Authority tasks will be optimized so that applicants need to submit information and documents only once—streamlining their experience and preventing data duplication within the Agency. This includes leveraging AI to create tools like chatbots for instant support, thereby reducing the service desk workload and improving user satisfaction.

2. Vision

To empower ERA staff and railway stakeholders through intelligent, secure, and seamless digital solutions, transforming the Agency into the data-centric leader that accelerates the creation of the Single European Rail Area (SERA).

A Vision for a Data-Centric Railway

To make this vision real, consider the future we are building—a future where data flows seamlessly across borders, systems, and organizations, all orchestrated to make European railways safer and more efficient. In this future, every actor in the railway ecosystem is empowered with precisely the reliable information they need, when they need it, through systems that are fully interoperable and accessible via natural human language.

An Outward-Looking Example: Imagine a train planner for a cross-border freight service. She starts her day not by manually checking a dozen different systems, but by asking her AI assistant, which is connected to an interoperable network of data including ERA's core registers (e.g., ERADIS, RINF, ERATV): *"What is the readiness status for our 08:00 freight service from Antwerp to Duisburg?"* The intelligent system instantly queries multiple databases and provides a consolidated, actionable report detailing everything from vehicle compatibility to driver readiness and predictive operational forecasts.

An Inward-Looking Example: This data-driven vision extends inward, fundamentally changing how the Agency itself operates and makes decisions at the highest level. Imagine our Executive Director is preparing to speak at a key industry conference. Instead of tasking multiple teams with urgent data calls, she asks the Agency's internal AI assistant: *"Generate a briefing note on the primary obstacles to seamless cross-border rail operations in the EU. Include an overview of ERA's relevant programmes, our strategic approach, their current implementation status, key risks, and budget utilization."* The AI agent instantly processes a vast array of internal data: programme documentation, monthly progress reports, planning data from project management tools, resource and competency databases, and financial systems showing budget implementation. It understands the interdependencies between programmes and flags dependencies on external stakeholders. Within minutes, it produces a coherent, up-to-date briefing note. The note not only summarizes the strategic approach but also provides data-driven insights on the root causes of persisting issues, backed by analytics from interconnected railway databases. It highlights the progress of each programme against its KPIs and transparently lists the risks and challenges being encountered. This capability empowers leadership with instant, holistic insights while freeing experts from ad-hoc reporting to focus on their core implementation and oversight tasks. The note is then sent to the Head of Cabinet for a final human-in-the-loop review, ensuring strategic alignment and quality. In this unified vision, the complexity of both external railway data and internal corporate information is made manageable.

This entire ecosystem is underpinned by a **robust data governance framework**, ensuring **cybersecurity-by-design, role-based access control, high standards for data provenance and quality**, availability and **full GDPR compliance**. Information is no longer static data in siloed systems. It is active intelligence that drives safer cross-border operations and more effective internal governance, making the Single European Rail Area (SERA) a daily operational reality.

To make this vision a reality, our systems must speak a common language. This will be achieved by building our digital ecosystem upon a **common data model (ontology)**, which provides a single, shared understanding of all key information, from operational railway data to internal corporate knowledge. This model is the technical and semantic foundation for the interoperability, data quality, and advanced analytics described.

3. Driving Principles

Our approach to digital transformation is guided by core principles that underpin every initiative.

- **Digital Empowerment:** We will equip our staff with the adequate skills and tools necessary to thrive in a digital workplace. This includes harnessing AI as a personal assistant to

automate routine tasks, analyse complex information and vast datasets, and support data-driven decision-making, assessing with a risk based approach the need and scope for maintaining a "human-in-the-loop" for oversight and critical judgment.

- **Business-Driven & Human-Centric:** Digitalisation efforts will be steered by the Agency's business needs and priorities. Every new tool (incl. improvement of existing tools) and process will be designed with the end-user—be it a staff member or an external stakeholder—at the centre of the experience. This work will be covered by a **dedicated IT workgroup** covering representativeness of the relevant stakeholders and end-users. Through its decisions and clear communication, the workgroup will build a **trust-based approach**, ensuring staff gain and end-user trust and confidence in the Agency's ICT steering and decision-making.
- **Application of Semantics:** We will seek to apply a semantic layer not only to our data but also to our standards so that we can exploit the benefits of “law as code”, machine readable and understandable TSIs that enables linking across TSIs, national rules and wider legislation. Developments of existing or new IT systems will not create a new data model but will reuse and/or propose an extension for the ERA common data model, The ERA ontology.
- **Foster a Culture of Adaptation:** We recognise that technological transformation is also a human transformation. We will proactively manage the process of change by fostering continuous learning, encouraging experimentation, and providing robust support to our staff throughout this journey.
- **Digital Interaction First:** Digital channels are our preferred method for internal and external communication. We will strive to offer a seamless, user-centric experience through accessible and responsive digital solutions.
- **Digital Autonomy & EU First:** The Agency shall remain independent in managing its key digital assets and favour EU solutions to support the development of the EU ICT industry and avoid, as much as possible, non-EU solutions.
- **EU inter-institutional collaboration:** In line with the EC Digital Strategy, we will prioritize the adoption of ready-to-use EC solutions and promote inter-Agency collaboration.
- **Secure by Design:** Cybersecurity is a critical foundation of our digital ecosystem. We will implement robust security measures in line with the Cybersecurity Regulation (EU) 2023/2841, balancing risk with the critical need to implement the Agency's mandate, work in an efficient way, innovate and leverage new technologies.
- **Data is a trusted Strategic Asset:** The Agency will advance its data-centric initiatives by applying best practices in data governance and data quality management. We will put in place a formal governance framework to ensure our data meets the highest standards of accuracy, completeness, consistency, timeliness, and validity. This will strengthen confidence in the Agency's data for both internal, external stakeholders and end-users, driving better day-to-day operations and strategic decisions, while laying the foundation for responsible AI deployments.

4. Strategic Objectives

To realize our vision, we will focus on four strategic objectives.

SO 1: Foster a People-Centric Digital Culture

The goal is to empower all staff with the necessary skills and tools to reduce administrative burdens and focus on high-impact work.

- **AI as a Staff Assistant:** We will progressively integrate AI tools to act as assistants for our staff. Our adoption of these tools will be pragmatic and value-driven, starting with well-defined use cases while carefully managing potential risks such as data privacy, ethical implications, and the reliability of outputs. This is a direct response to the high workload and will allow staff to concentrate on their core expertise.
 - **Document Analysis & Drafting:** e.g. Use AI to support the analysis of large technical documents submitted for vehicle authorisation and safety certification. Generative AI will be employed to assist in drafting reports, minutes, and administrative documents.
 - **Regulatory Compliance:** Adopt Regulatory Technology solutions to automate and streamline the comparison of provided documentation against legal requirements. The results generated by these tools on a risk-based approach will provide sufficient confidence to allow for decision making.
- **Internal Knowledge Hub:** We will build an integrated knowledge base to capture and centralize the Agency's collective expertise. This repository will include all key information assets relevant to our mission—from regulatory and technical files to programme documentation and internal reports—making institutional knowledge accessible across all workstreams. This system will allow for natural language querying, enabling any staff member to quickly understand the status of a project or topic (e.g., with a goal to reduce time spent searching for documents by 30%).
- **Pioneering an Innovation Sandbox:** We will identify a group of volunteer "early adopters" from various units to test and provide feedback on new, innovative solutions within a safe, controlled sandbox environment. This approach will create a community of digital champions, accelerate the adoption of beneficial technologies, and ensure the Agency keeps pace with the rapidly evolving IT landscape.
- **Digital Skills Development:** A continuous cycle of training will be implemented to ensure all staff can confidently and effectively use new digital tools, improving their autonomy, agility, and productivity. This development goes beyond just tool proficiency; it also includes i.a. fostering a strong sense of cybersecurity and AI risks awareness. We will empower our staff with the knowledge and critical view necessary to act as the Agency's first line of defense, enabling them to identify and mitigate security risks as a natural part of their daily work. This training will cover all key corporate technologies, including proficiency in our Multi-cloud environments, ensuring our technical teams can manage our infrastructure resiliently.

SO 2: Drive Business Transformation through Intelligent Digitalisation

The aim is to enhance the business's leading role in steering the ICT ecosystem to ensure performance, optimisation, and efficiency by redesigning processes with technology (e.g., aiming to automate 5 key administrative workflows by 2027).

- **Process Automation & Digitalisation:** We will accelerate the automation and digitalisation of core and support processes.
 - **Digital Workflows:** Create and expand digital workflows using tools like ARES, ClearQuest and other platforms to digitize process execution.
 - **Resource Planning:** Implement automated, real-time resource planning and allocation systems to support workforce management.
 - **Data Management:** Automate checks for data validity and data collection processes to reduce manual steps.
 - **Information management :** *Following the 'once-only principle,' applications for Authority tasks will be optimized so that applicants need to submit information only once—streamlining their experience and preventing data duplication within the Agency.*
- **Innovative Technologies:** Our approach to innovation extends beyond a single focus. We will establish a continuous technology watch function to monitor, assess, and pilot a broader range of emerging technologies relevant to our mission. This includes evaluating the potential of new technologies such as the Internet of Things (IoT) (e.g. for enhancing real-time safety monitoring) and Blockchain (e.g. for improving the integrity and traceability of data in our key registers). The adoption (excl. pilots, PoC, prototyping) of any new technology will be driven by a clear business case including cost/benefit analysis for all concerned categories of stakeholders and its alignment with our strategic goals.
- Adopt a balanced and **pragmatic approach to technology selection**, a best for needs approach, ensuring solutions align with business needs, leverage market innovations, and **strategically favour off-the-shelf products** over custom development to maximize value and sustainability.

SO 3: Deliver a Seamless and Intelligent Digital Environment for Stakeholders

The goal is to foster innovation to efficiently manage the Agency's portfolio of IT systems and provide high-value, easy-to-use digital services to our external railway stakeholders.

- **AI-Powered Stakeholder Support:** To improve responsiveness and reduce the workload on our support teams, we will:
 - **Develop Chatbots:** Create chatbots to manage basic stakeholder requests and provide instant answers to common questions.
 - **Automate Responses:** Use AI to provide automated responses to both internal and external stakeholders where appropriate.
- **AI-by-Design in All New Systems:** All new systems and major upgrades will be developed with AI integration as a built-in, foundational concept where relevant. This will be exemplified in the development of the new **Information Sharing System (ISS)**, where AI will be leveraged to proactively support ISS users in their tasks and analyze safety level and performance data in line with the CSM ASLP.

- **Data as a Service:** We will continue the transition to a data-centric paradigm, making data from ERA's registers and information systems easily accessible and usable for stakeholders, thereby supporting the broader digital ecosystem of the European mobility sector.

SO 4: Accelerate Railway System Improvements

This objective translates ERA's digital transformation into tangible, measurable improvements in railway safety and interoperability. By connecting data, automating evidence-based processes, and strengthening collaboration with stakeholders, we will shorten the time from emerging risk to informed action, accelerate and harmonise authorisations, and reduce the technical and administrative barriers that still hinder seamless cross-border rail operations.

- On the **safety** side, the Information Sharing System (ISS) will become the digital backbone of a proactive, data-driven safety management approach. All safety level/performance data and reports will flow into a single, governed pipeline aligned with the CSM ASLP. Advanced analytics will detect precursors, reveal trends and generate early-warning alerts, allowing hazards to be identified and mitigated earlier and on a stronger factual basis. Insights from the ISS will guide targeted, risk-based oversight by focusing audits, inspections and recommendations where they deliver the greatest impact, while continuous monitoring will track how effectively those recommendations are implemented.
Standardised electronic evidence packages will allow machine-assisted quality and consistency checks, with clear audit trails that make decisions faster, more reproducible and easier to review. Over time, the Agency will evolve into a true learning system: lessons from incidents, near-misses and assurance activities will be systematically captured, analysed and translated into improved guidance, rules, also supporting the assessment of Single Safety Certificates, and technical specifications—reducing the recurrence of known hazards and continuously raising the safety baseline.
- For **interoperability**, the same digital foundations will allow authority tasks—such as Vehicle Authorisations and Trackage Approvals—to become fully data-driven. Applicants will submit structured digital conformance packages that reference a common data model and the Agency's key registers. Information will be submitted once, validated automatically where possible, and reused across procedures, cutting administrative effort and ensuring coherence between national and cross-border cases.
At the regulatory level, the transformation will extend to the regulatory framework itself. By expressing relevant requirements from the Technical Specifications for Interoperability (TSIs) and related legislation in a machine-readable, semantic format, “law as code” will enable automated pre-validation and objective compliance checking. This will enhance consistency, transparency and global recognition across the European network.

SO 5: Guarantee a Green, Secure, and Resilient Infrastructure

This objective is the foundation for all other digital activities, ensuring our infrastructure is reliable, secure, environmentally conscious, and fit for purpose.

- **Pragmatic and Robust Cybersecurity:** Given the Agency's critical resourcing situation, strategically leveraging new technologies is an operational imperative. Our cybersecurity approach will therefore be one of a strategic enabler, balancing risks with opportunities. This

includes establishing a formal information asset classification system to apply proportionate security controls and to guide the safe use of innovative technologies. We will put in place all necessary resources to respect the milestones identified by the Cybersecurity Regulation. To ensure a coordinated response to major cyber events, we will establish a crisis management and business continuity plan that covers both asset preservation and communication to relevant stakeholders and end-users.

- **Strategic Multi-Cloud Approach and Modern Workplace:** The Agency will pursue a strategic Multi-cloud approach, to host its digital services. This multi-provider model is a cornerstone of our business continuity strategy, intended to enhance resilience and mitigate single-vendor dependency. In parallel, and guided by our 'Europe First' principle, the Agency will actively investigate and benchmark European cloud providers. We recognize that the Multi-Cloud approach introduces management complexity. To mitigate this, our strategy will focus on using modern architectures, such as **container-based architectures, FaaS or other serverless approaches** to ensure our applications can run consistently and be moved between different cloud providers. Therefore, the Agency will re-evaluate this policy after a two-year testing period by conducting a thorough cost-benefit analysis to determine its long-term viability. In parallel, we will continue to provide staff with fit-for-purpose end-user devices and a high-performance corporate network to enable a secure and productive modern workplace.
- **IT Greening:** The Agency will optimise its digital services to minimise their environmental footprint, applying policies for the proper management of IT services and adhering to green public procurement principles.

5. Enablers

The success of this strategy depends on key organisational enablers.

- **Digital Leadership:** The ERA Management Team must continue to "think digital," driving the cultural change necessary to support this strategy.
- **IT Governance:** The Agency will continue to further strengthen its IT governance for both strategic and operational decision-making, adapting it to support more flexible and iterative development cycles suited for the integration and adoption of innovative technologies.
- **Roles and Competencies:** Clear roles and responsibilities will continue to be allocated amongst ERA entities to ensure accountability and efficiency.
- **Strategic Resourcing:** Achieving these ambitious objectives requires a clear-eyed assessment of our resources. The implementation of this strategy will be accompanied by a detailed resource plan that identifies necessary budgetary allocations (both CAPEX and OPEX), potential efficiency savings, and the upskilling or acquisition of key competencies. This plan will be a key component of the initial ICT Action Plan.

6. Implementation & Monitoring: From Vision to Reality

This strategy sets a long-term direction. To translate this vision into tangible results, a structured yet adaptable implementation and monitoring framework will be established. This framework is designed to ensure accountability, adapt to a changing environment, maintain strategic alignment

across the Agency and ensure a balance between user needs and resource allocation, delivering high value as cost-effectively as possible for the invested budget.

The ICT Action Plan

As the foundational first step, the ICT Action Plan will commence with a comprehensive baseline assessment of the current IT landscape. This will include, a maturity assessment of our existing capabilities, and an inventory of key technological assets and suppliers to establish a clear starting point for measuring progress.

The foundation of the implementation will be a detailed, rolling ICT Action Plan, based on the outcome of a SWOT analysis, derived directly from the strategic objectives. It will contain, for each initiative:

- **Clear Ownership:** Assignment of responsibility to a specific unit or manager.
- **Resource Allocation:** Defined resource levels, including budget (CAPEX/OPEX) and staff (FTEs).
- **Timelines and Milestones:** Clear deadlines and key deliverables.
- **Key Performance Indicators (KPIs):** Measurable indicators to track progress and success. This Action Plan will be supported by a visual, phased strategic roadmap that outlines key initiatives, dependencies, and expected outcomes across the 2025-2030 timeline. It will be formally adopted by the Management Team (MT) and presented to the Management Board (MB) and Executive Board (EB) for endorsement.

Governance and Monitoring Framework

This framework establishes clear decision-making authority to ensure strategic alignment and implementation stability. A foundational concept is the use of formal **gate reviews** at critical milestones for major initiatives. Securing a '**green light**' at these gates provides a clear mandate, confirms resources, and empowers teams to proceed with confidence, preventing the **reopening** of foundational agreements.

Monitoring of this progress will occur at multiple levels:

- **Operational Monitoring:** An ICT Governance Committee will monitor the day-to-day execution of the Action Plan, tracking progress against milestones and budgets.
- **Strategic Monitoring:** The ED and Management Team will conduct the formal **gate reviews** and assess overall progress against the high-level strategic objectives on a bi-annual basis.
- **Board Oversight:** The Management Board and Executive Board will be kept fully informed through regular (at least annual) reporting on the strategy's implementation, ensuring continued alignment with the Agency's overall direction.

Agile Steering through GAP Analysis

To ensure the Action Plan remains effective and responsive, a regular GAP analysis will be performed. This analysis will formally assess the progress made against the long-term vision, identifying the gap between our current reality and our strategic goals. The findings will be used by the Management Team to:

- Steer the Action Plan: Validate or revise priorities.
- Define New Actions: Introduce new initiatives to leverage emerging technologies or address newly identified needs.
- Adapt or Discontinue Actions: Modify or delete initiatives that are no longer relevant or effective.

Risk and Change Management

To ensure a successful transformation, two further elements are critical. First, a formal risk management process will be integrated into the monitoring framework. For each major initiative, potential risks (e.g., budget overruns, cybersecurity threats, disruptions to business continuity, low user adoption, technological obsolescence) will be proactively identified, assessed, and mitigated through a formal risk register. Second, a structured change management and communication plan will be developed to manage the human side of this transformation. This plan will focus on building staff buy-in, managing expectations, providing targeted training and support, and celebrating successes to build momentum and foster a positive culture of continuous improvement.

Long-Term Vision Review

Recognizing that technology and societal needs evolve, the vision itself must not remain static. The entire ICT Strategy and its guiding vision will be formally reviewed on at least a biennial basis with the Executive Board and Management Board. This ensures our long-term direction remains ambitious, relevant, and aligned with the future of the railway sector.