EIM Position Paper

Brussels July 2026

European Commission's Call for Evidence on Single Basic Act for European Joint Undertakings (Horizon Europe)

1. Strategic context and EIM core message

EIM welcomes the European Commission's public consultation on a new Single Basic Act (SBA) to place the next generation of Joint Undertakings (JUs) on a coherent legal basis and to revise them in view of the whole innovation-to-investment journey, and of the link with the European Competitiveness Fund (ECF) that supports the market uptake of innovative technologies. Further improvements to JUs should focus on simplifying implementation and on strengthening both scientific excellence and readiness for market uptake, in order to increase the EU's competitiveness, autonomy and sovereignty.

EIM is strongly convinced that the SBA must explicitly enable and include a strengthened, dedicated Rail Joint Undertaking for the 2028–2034 Multiannual Financial Framework, covering both the new research required and the pre-deployment needed for continued innovation. Rather than fracturing research ecosystems or merging rail into disconnected thematic clusters, the EU should streamline and reinforce this proven partnership model.

The cost of inaction far exceeds the investment required. Measured against the targets set out in the EIM **High-Level Paper for a renewed Rail Joint Undertaking**[1] — system-cost savings, near-complete cross-border interoperability and, decisively, EU supplier leadership in the global rail market — the programme is best understood not as expenditure but as **the strategic investment that keeps a globally leading European industry in Europe**. The opportunity is the mirror image of the risk: resilience, intensifying global competition, decarbonisation, digitalisation and automation can be met together, once, and at scale — an opportunity bounded by the 2028–2034 financial framework and realised through the creation of a strengthened Rail JU.

This ambition is fully aligned with the Commission's own Communication "Connecting Europe through High-Speed Rail"[2], which calls on the rail supply industry, infrastructure managers and railway companies to continue joint research under Horizon Europe 2028–2034 and the proposed ECF in order to bring harmonised digital and automation technologies — automatic train operation, modern ERTMS signalling, the Future Railway Mobile Communication System (FRMCS) and traffic-management systems, and protection against

[1] High-Level Paper "A Future Policy-Based Public-Private Partnership for Rail", endorsed by EU-Rail Governing Board Decisions 06/2025 and 02/2026: https://rail-research.europa.eu/latest-news/draft-paper-a-future-policy-based-public-private-partnership-for-rail-2/

[2] European Commission Communication, "Connecting Europe through High-Speed Rail" (2025): https://transport.ec.europa.eu/document/download/774e79c9-1ece-4514-8f16-a2b98049c82e_en

disruption and cyberattack — to market. FRMCS, the successor to GSM-R, is a case in point: recognised in the Draghi report as a key technological enabler for European rail, it is a genuinely rail-specific system that Europe's Rail already steers through a dedicated sub-group of its High-Level Deployment Group — precisely the kind of enabler that only a dedicated rail partnership can carry from specification to coordinated, network-wide deployment.

2. Why a dedicated Rail JU: the macroeconomic and competitiveness reality

Rail is strategically important to the European economy and to security and is the greenest mass transport mode. The EU railway value chain contributes €143 billion to EU GDP and employs 2.3 million people — including 659,000 jobs and €102 billion in the rail supply industry — with a gross-value-added multiplier of 3.7, while accounting for only 2% of transport's external costs.[3] Key headline figures:

- **Economic scale.** €143 billion contributed to Union GDP and 2.3 million jobs supported across the value chain.
- **Industrial leadership.** The rail supply industry alone accounts for 659,000 jobs and €102 billion in revenue — one of the few high-tech sectors where the Union retains genuine global technical leadership.
- **High multiplier, low externalities.** A gross-value-added multiplier of 3.7, while accounting for a mere 2% of transport's total external environmental and social costs.
- **Urban and territorial cohesion.** Regional, suburban, light-rail and metro networks together carry over 30 billion passengers annually, ensuring vital daily connectivity across European cities and regions.

Rail is also the only transport mode in which the Union retains genuine global technical and industrial leadership built over decades within the internal market and reflected in a positive trade balance. That position is not assured. State-subsidised competitors, notably China, are investing in research and deployment at a scale the Union does not match[4] and are entering the European market, while Asian patent applications in rail technologies are rising and increasingly drawing talent away from Europe. Sustaining European leadership is therefore a matter of the Union's competitiveness, autonomy and sovereignty.

A Joint Undertaking is unique: it is the only framework that brings the Union, Member States, infrastructure managers, operators, industry, research organisations and academia together within a single multiannual programme with shared governance, shared risk and long-term commitments. **The experience of Shift2Rail and Europe's Rail is not a cost for Europe but a generator of competitiveness**, mobilising investment, aligning the sector around common priorities, pooling expertise across the value chain, accelerating innovation and standardisation, reducing fragmentation and delivering interoperable solutions. Anchored in a confirmed commitment by all **30+ chief executives** of the current private members to match EU investment euro-for-euro, and supported by **400+ participating entities** including

[3] Sector figures: The Transition Pathway for the EU Mobility Industrial Ecosystem (European Commission, 2024); Europe's Rail Blueprint: https://ec.europa.eu/docsroom/documents/57674

[4] Reported 2023 R&D spend: CRRC ≈ US$2 bn; China Railway Group ≈ US$4.1 bn; China Railway Construction Corporation ≈ US$3.7 bn.

adjacent sectors, start-ups and universities, it drives a unique discipline: developing solutions once and deploying them across the Union in a coordinated, harmonised manner.

3. EIM responses to the Commission's five identified key problem areas of JUs

EIM acknowledges the five problem areas set out in the Call for Evidence. Experience confirms that a well-designed, dedicated Rail JU under the SBA is the right vehicle to address each of them. EIM's response to each is set out below .

(i) EU steering and alignment with the EU's evolving strategic vision

The Commission notes that the existing portfolio is insufficiently aligned with the current and long-term EU strategic agenda, and that limited EU steering and circumscribed flexibility leave little room to adapt to rapidly changing priorities.

EIM response. Europe's Rail Joint Undertaking is already an essential instrument for channelling the EU's strategic vision in the sector: with 50% of the voting rights the EU is the keystone decision-maker, and the areas of strategic focus (for example cross-border interoperability and cost reduction) are driven by overall European priorities. **A strengthened Rail JU - aligned with ERA's regulatory roadmap, with clear targets to 2035 and an explicit focus on competitiveness - would enable impactful research and innovation fully in line with European policy priorities, including completion of SERA and the TEN-T network, the High-Speed Rail Plan to 2040, military mobility and climate resilience.** Far from being a niche theme to be diluted within a broad cluster, rail is foundational infrastructure that simultaneously underpins several Union flagship objectives.

(ii) Deployment deficit — uptake of new technologies and the "valley of death"

*The Commission notes that current JUs allocate limited funding to high "Technology Readiness Level (**TRL**)" activities, and that the links between JUs and EU deployment programmes are not strong enough.*

EIM response. In rail, infrastructure managers carry the largest trackside investment burden, with automated and digital ERTMS deployment alone estimated at €74–111 billion. **By focusing not only on demonstration but also on integration into European law and standards, Europe's Rail has already begun to strengthen the link between research, innovation and deployment through flagship projects and deployment-oriented investigations.** EIM supports transforming the current Europe's Rail Deployment Group into a fully-fledged pre-deployment Pillar with dedicated funding and direct links to higher-TRL support and the ECF. This would provide a qualitatively new European capability, not a body that replaces deployment actors, regulators or funding authorities, but an institutional mechanism connecting innovation, system architecture, validation, pre-deployment, market readiness and feedback from implementation, with real-life cross-border pilots and risk-sharing with early adopters. This is a gamechanger that fundamentally accelerates realisation of the Single European Railway Area and the competitiveness of EU industry (see also EIM's White Paper on the economic burden of non-standardisation).

(iii) Investment leverage and private co-funding

The Commission notes that private co-funding varies strongly across the JU landscape and relies heavily on in-kind rather than cash contributions.

EIM response. The rail sector is an exemplary model of financial discipline: chief executives from over 30 private members are committed to matching EU funding euro-for-euro. Europe's Rail and Shift2Rail already demonstrate leverage of Union funds well beyond the reported figures, exceeding the initial SBA expectations. In this way, **pre-deployment activities unlock the continued investment journey through additional contributions from the private sector and from Member States that wish to validate R&I results within their own networks**. The private members are ready to continue matching Union investment and to co-invest substantially in pre-deployment to renew the 200,000 km network over the coming decades.

(iv) Cross-fertilisation and knowledge dissemination

The Commission notes that cross-fertilisation and knowledge dissemination are low, that JUs tend to work in silos, and that the absence of a portfolio-management approach makes cross-cutting initiatives difficult to accommodate.

EIM response. Historically, uncoordinated national innovation paths in rail produced incompatible systems, complex national technical rules and more than 150 ETCS compatibility types that slow cross-border transport. **As a single entry point for the rail innovation ecosystem, Europe's Rail already enables synergies with other Joint Undertakings — through joint calls with SNS, Clean Hydrogen and SESAR — facilitating the transfer of knowledge and the harmonised application of cross-sector solutions** such as artificial intelligence, digital twins, cybersecurity, advanced telecommunications (FRMCS) and clean energy into a harmonised operational environment. This role can be further strengthened and extended across future ECF and FP10 policy windows to reduce fragmentation and maximise EU-wide impact.

(v) Access, openness and lock-in risk

The Commission notes that the JU landscape is complex to enter and navigate, with fragmentation and overlaps, and a relatively low level of openness towards new members and participants.

EIM response. **Europe's Rail has created a European ecosystem that did not exist before. Rail is a network, and its scale is Europe: no national or regional actor could bring together 28 countries, more than 100 research centres, around 60 SMEs, more than 400 entities and over 30 private members across the value chain**. A consolidated, sector-specific Rail JU is inherently simpler to enter and navigate than a rail effort fragmented across several thematic clusters. The sector supports simpler governance and open specifications to ensure accessibility, competition and SME participation without lock-in, covering the full innovation spectrum (starting from academic research but with a deployment-oriented mindset) so that SME and start-up innovations are effectively matured, validated and taken up by integrators and end-users, while fully preserving ERA's regulatory independence.

4. The infrastructure managers' perspective

As the association of Europe's rail infrastructure managers, EIM speaks to the part of the system that carries the heaviest investment burden. **Infrastructure managers bear the largest trackside costs for ERTMS, FRMCS and future digitalisation, often assuming costs and risks long before network-wide benefits materialise.** With ERTMS deployment estimated at €74–111 billion, the sector has reached a clear consensus that the status quo is unsustainable. **The next Rail JU must therefore continue to harmonise the system, develop new solutions and support infrastructure managers to test and validate harmonised solutions once and reuse them across Europe — avoiding the duplication, repeated authorisation and stranded investment that fragmentation imposes today.**

EIM's position is fully aligned with, and forms part of, a broad sector consensus. Railway undertakings, the supply industry, academia and research centres, rail freight companies, lessors and new entrants, and passenger representatives all converge on the same conclusion: a strengthened, dedicated Rail Joint Undertaking is essential to deliver the Single European Railway Area, sustain Europe's industrial leadership and ensure that innovation reaches day-to-day operations across the Union.

5. Choices ahead: policy options and risks to consider

The future Rail JU's work programme should be structured around focussed innovation streams covering:

1. Cost reduction and harmonisation of signalling, traffic management and communications systems with adaptor solutions for legacy infrastructure;
2. Digitalises freight operations through automation and intelligent capacity management;
3. Innovation that builds resilience against climate disruption, cybersecurity threats and geopolitical risks through integrated on-board and trackside solutions with dual-use capability;
4. Innovative High-Speed Corridors, with next-generation rolling stock and infrastructure technologies under real operating conditions via harmonised pre-deployment corridors co-funded through the ECF.

These initiatives will be complemented by horizontal activities covering standardisation coordination with ERA CEN/CENELEC, ETSI and cross-sector knowledge transfer, all aimed at converting R&I outputs into deployable, interoperable solutions across the Single European Rail Area.

EIM supports simplified governance under the SBA. But rail is a complex, systemic sector that requires a dedicated Rail Joint Undertaking to preserve critical expertise, ensure effective coordination and secure the sector's commitment to match EU investment. **The answer is not to discontinue or absorb rail into a broader cluster, but to streamline and strengthen a proven partnership model that has already demonstrated its value. Non-continuation would fracture European rail research and development, stall the deployment of vital technologies and undermine a strategic export industry.**

Significant new research and innovation remain essential. Not research for its own sake, but the foundation on which deployment depends across digitalisation, automation, control-command and signalling, traffic management, cybersecurity and resilience. A clear priority is research into the migration of the existing network: developing novel adaptor solutions that allow legacy systems and assets to operate in accordance with the newly designed EU target architecture. Because rail assets last for decades, the installed base cannot be replaced at once; **demonstrating the safe coexistence of legacy and target systems and bridging them with standardised adaptors is what makes a brownfield transition affordable,**

avoids stranded investment and lets the network capture the performance gains of the new architecture far sooner. This is a genuine research challenge that only a coordinated European partnership can solve once for the whole network, rather than repeatedly, system by system and country by country.

Recognising the importance of covering the full TRL spectrum within a single Joint Undertaking, EIM supports transforming the current Deployment Group into a fully-fledged pre-deployment Pillar — with dedicated resources and financing links and closer alignment between FP10 and the ECF, alongside stronger Member State involvement — while fully preserving CEF-T and national financing programmes, as well as ERA's regulatory independence.

6. Strategic targets and budgetary requirements (2028–2034)

To support the ECF, finalise the TEN-T Core Network and implement the Commission's vision for connecting Europe through high-speed rail, the SBA must accommodate the following sector-specific parameters:

- **A €18 billion coordinated budget.** EIM calls for a minimum of €3 billion for Research & Innovation, coupled with a robust €15 billion allocation for pre-deployment projects, seamlessly blended across Horizon Europe, the ECF and the Connecting Europe Facility (CEF-T).
- **Inclusive and open governance.** The partnership must lower administrative barriers for start-ups, scale-ups, SMEs and academic institutions so that breakthrough ideas feed directly into the industrial value chain, while fully preserving ERA's regulatory independence.

7. EIM calls on the European Commission to:

1. **Establish a strengthened, dedicated Joint Undertaking for European Rail** under Horizon Europe (2028–2034) within the Single Basic Act, ensuring continuity and enhanced coordination across the rail innovation ecosystem.
2. **Ensure adequate funding** — a minimum of €3 billion for R&I and €15 billion for pre-deployment — programmed in a coordinated way through Horizon Europe and the ECF, reflecting the scale of transformation required.
3. **Maintain inclusive partnerships** bringing together the Commission, ERA, infrastructure managers, railway undertakings, freight and logistics operators, urban transport authorities, the supply industry, research institutions and SMEs.

8. Conclusion

Achieving a climate/security resilient, digitally advanced and integrated European rail network is a prerequisite for the EU's competitive autonomy and sovereignty. To complete the TEN-T network by 2040, infrastructure managers face required capital expenditures reaching an estimated €866 billion. National initiatives alone cannot overcome the systemic innovation challenges required to optimise these costs, sustain Europe's industrial leadership and ensure seamless cross-border mobility.

EIM and its members reaffirm their strong commitment to innovation and to integrate pre-deployment operations within their multi-year programmes. We urge the European Commission to build on the proven success of the current framework by establishing a strengthened, dedicated European Rail Joint Undertaking within the Single Basic Act.

EIM, the association of European Rail Infrastructure Managers, was established in 2002 to promote the interests and views of the independent infrastructure managers in Europe. EIM's primary goal is the growth of rail traffic and the development of an open, sustainable, efficient and customer-oriented rail network in Europe.
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