

Engineering Europe's Defence Readiness: Dual-Use Infrastructure and Military Mobility

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The European Federation of Engineering Consultancy Associations (EFCA) has member associations in 27 countries, representing more than 10,000 companies from the European engineering consultancy industry and related fields. Based in Brussels, EFCA is committed to facilitating constructive dialogue with European Institutions on issues impacting our industry; and engaging with international stakeholders on shared interests.

EFCA's position in brief

The Military Mobility Package and the Preparedness Union Strategy mark a decisive shift towards a resilient, dual-use Europe, but their success will be decided on construction sites, in design offices and on corridor upgrades, not only in legislative texts. EFCA calls on the EU institutions to involve consulting engineers from design through delivery of the EU-wide military mobility area, ensuring that upgraded bridges, tunnels, ports, railways and energy links genuinely meet the load, gauge, and resilience standards required for dual civilian-military use.

Regulatory streamlining, including the proposed maximum three-day processing time for cross-border movements and the emergency EMERS framework, must be matched by realistic, engineering-informed corridor readiness assessments, so that faster paperwork is not outpaced by infrastructure that cannot physically bear the traffic.

Preparedness must be built into infrastructure by design: resilience-by-design and dual-use engineering criteria should apply to all new and upgraded transport, energy and digital assets, with priority retrofit of ageing networks identified as bottlenecks.

Early warning, structural health monitoring, digital twins and an interoperable Military Mobility Digital Information System should be scaled up with consulting engineers' technical input to secure situational awareness across transport, energy and communications infrastructure.

Investment must move from ad hoc national projects to a coordinated, multiannual pipeline, using high-quality, best-value procurement rather than lowest-cost criteria, with funding models that include SMEs and give engineering consultancies a genuine role in shaping project pipelines under the Connecting Europe Facility Military Mobility strand and related defence and preparedness instruments.

Cybersecurity and physical protection of dual-use infrastructure must be engineered in from the outset, in line with the NIS2 and Critical Entities Resilience Directives.

Summary of Key Recommendations

- 1. Launch corridor-by-corridor engineering assessments to identify bridges, tunnels, ports and rail links needing reinforcement for dual civilian-military use. Target investment at genuine bottlenecks identified through this technical mapping.*
- 2. Match the three-day cross-border processing time and EMERS emergency framework with engineering-led corridor certification. Avoid a gap between administrative speed and physical infrastructure readiness.*
- 3. Translate the Preparedness Union Strategy's 30 key actions into concrete, sector-specific technical standards developed with the engineering profession. Apply resilience-by-design criteria across transport, energy, water and digital infrastructure.*
- 4. Extend the Military Mobility Digital Information System to structural health monitoring of priority corridors. Use IoT sensors, digital twins and predictive maintenance, ensuring interoperability with existing national asset-management systems.*
- 5. Build a coordinated, multiannual investment pipeline under the Connecting Europe Facility Military Mobility strand and related instruments. Apply best-value, quality-based procurement and keep funding accessible to SMEs and specialist engineering firms*
- 6. Engineer cybersecurity and physical protection into dual-use assets from the design stage, in line with the NIS2 and Critical Entities Resilience Directives, rather than retrofitting security after deployment.*
- 7. Invest in growing engineering capacity through faster cross-border recognition of qualifications and targeted training in dual-use and resilience engineering. Strengthen cooperation between public authorities and consulting engineers.*
- 8. Give consulting engineers and their representative associations a formal consultative role in the Military Mobility Transport Group and other preparedness and defence-readiness governance structures.*

Introduction

The European Federation of Engineering Consultancy Associations (EFCA) welcomes the European Commission's Military Mobility Package, presented jointly with the High Representative for Foreign Affairs and Security Policy in November 2025, and the Preparedness Union Strategy adopted in March 2025. Read together, these two initiatives set out an ambitious agenda: an EU-wide military mobility area allowing troops, equipment and military assets to move swiftly and safely across the Union, and a broader whole-of-society approach that embeds a “preparedness by design” culture across all EU policy areas.¹

¹ Joint Communication to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions on the European Preparedness Union Strategy, JOIN(2025) 130 final, 26 March 2025: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52025JC0130>.

Both agendas converge on the same physical reality: resilient, dual-use infrastructure. Corridors, bridges, tunnels, ports, railways, energy networks and digital systems must be upgraded, monitored, protected and, in many cases, rebuilt to withstand both routine civilian use and the exceptional demands of rapid military deployment or crisis response. Delivering this is fundamentally an engineering task, and one that must happen at a pace and scale without precedent in peacetime Europe. EFCA believes that the EU institutions, Member States and the defence and civil protection communities cannot achieve the ambitions set out in these strategies without the systematic involvement of consulting engineers, whose expertise spans structural assessment, multimodal transport design, digital monitoring, cybersecurity-by-design and large-scale infrastructure programme delivery.

Delivering resilient dual-use infrastructure

The ambition to create an EU-wide military mobility area, moving Europe closer to a ‘Military Schengen’, depends on upgrading key corridors to dual-use standards capable of carrying heavy military convoys, oversized equipment and rail traffic with appropriate gauge and load-bearing capacity, alongside ordinary civilian and freight use.² Consulting engineers are best placed to carry out the structural assessments, corridor-by-corridor gap analyses and design work that will determine which bridges, tunnels, level crossings and port facilities can already take this traffic, and which require reinforcement or replacement. EFCA recommends that this technical mapping exercise be launched without delay, as part of existing corridor assessments, in close cooperation with national infrastructure managers and engineering consultancies. This will facilitate investment that is prioritised and targeted towards well-defined projects that address genuine bottlenecks and are not spread thinly across the network.

From regulatory streamlining to engineering readiness

EFCA supports the Package's proposal for a harmonised, EU-level authorisation procedure with a maximum three-day processing time for cross-border military movements, and the new European Military Mobility Enhanced Response System (EMERS) for emergency situations.³ However, faster administrative clearance is only useful if the underlying infrastructure can safely absorb the resulting traffic within that timeframe. We caution against a gap opening up between regulatory ambition and physical readiness, and call for engineering-led corridor certification, so that authorities and armed forces know in advance, corridor by corridor, where three-day mobility is realistically achievable today and where phased infrastructure upgrades are still required.

Preparedness by design across critical infrastructure

The Preparedness Union Strategy's call for a “preparedness by design culture” across all EU policies, and its focus on the resilience of vital societal functions across the critical sectors identified under the NIS2 and Critical Entities Resilience Directives, gives engineering practice a central role.⁴

² European Commission, Commission takes steps to modernise European defence and improve military mobility, 19 November 2025: https://commission.europa.eu/news-and-media/news/commission-takes-steps-modernise-european-defence-and-improve-military-mobility-2025-11-19_en.

³ Ibid., European Commission, 19 November 2025 press release on military mobility.

⁴ Ibid., Joint Communication on the European Preparedness Union Strategy, JOIN(2025) 130 final.

Consulting engineers already apply resilience, redundancy and stress-testing principles when designing energy, water, transport and digital infrastructure; EFCA recommends that the Commission and Member States translate the Strategy's 30 key actions into concrete, sector-specific technical standards and design codes, developed in consultation with the engineering profession, rather than leaving “resilience by design” as a general policy aspiration.

Early warning, monitoring and digital tools

Effective military mobility and civil preparedness alike depend on knowing, in real time, the condition of critical assets. EFCA supports the development of an interoperable Military Mobility Digital Information System⁵ and encourages its extension, where relevant, to structural health monitoring of bridges and tunnels along priority corridors, using IoT sensors, digital twins and predictive maintenance analytics. Consulting engineers have direct experience designing and operating such systems and should be engaged early to ensure that new digital tools for military mobility are interoperable with the asset-management systems already used by national infrastructure managers and civil protection authorities. Common data standards, digital assurance frameworks and interoperable information architecture should accompany the deployment of such systems to facilitate secure cross-border information exchange and asset management. Governance of these systems should include identification of clear responsibilities for data quality and upkeep, as well as rules on access rights, data sovereignty, the protection of classified information and liability. Consulting engineering firms and infrastructure operators should help shape the technical requirements for these systems.

Investment, financing and procurement

Delivering dual-use corridors and preparedness measures across 27 Member States requires a coordinated, multiannual investment pipeline supported by predictable long-term funding at EU and national level. Such co-ordination will avoid the risk of a series of disconnected national projects. EFCA welcomes the increased resources channelled through the Connecting Europe Facility's Military Mobility strand and broader defence readiness instruments. To ensure the best use of these funds, engineering consultancies should be involved in shaping the project pipeline itself, given their expertise in identifying and packaging technically sound, deliverable projects that are ready to be commissioned. Their involvement can also be extended to strategic infrastructure planning, programme definition, investment prioritisation and project preparation in order to improve project maturity, resilience and efficient allocation of public funding. As in other infrastructure sectors, EFCA stresses that public procurement for military mobility and preparedness works should be based on best-value and quality criteria rather than lowest cost alone, and that funding mechanisms should remain accessible to SMEs and specialist engineering firms, not only large prime contractors. Where bidders are required to produce substantive project-specific design work as part of a tender, that work should be appropriately remunerated. Finally, requirements for bidders' qualifications, experience on comparable projects and liability should be proportionate to the scope of each contract. In particular, unlimited liability should never be a condition of the contract.

⁵ EEAS, Military Mobility: https://www.eeas.europa.eu/eeas/what-is-military-mobility_en

Although military mobility is a priority acknowledged by EFCA and the sector, the necessary investment must not override other investment in essential repairs and upgrades to other civilian infrastructure such as that needed for energy and logistics hubs. Nor should it jeopardise additional investment in defence facilities, emergency and crisis-response facilities.

Cybersecurity and physical security of dual-use assets

As transport, energy and digital infrastructure become more interconnected and more central to defence readiness, they also become more attractive targets. EFCA supports the Package's resilience toolbox for protecting strategic infrastructure, and stresses that cybersecurity and physical security must be engineered into dual-use assets from the design stage, in line with the requirements of the NIS2 and Critical Entities Resilience Directives, rather than added retroactively.⁶ Consulting engineers, who increasingly work at the interface of operational technology, control systems and civil infrastructure, are well placed to support operators and public authorities in meeting these requirements.

Skills, capacity and engineering workforce

The scale and pace of the ambitions set out in the Military Mobility Package and the Preparedness Union Strategy, including the target of an operational EU-wide military mobility area and agreement on the Regulation by co-legislators, will require a significant expansion of skilled engineering capacity across Member States.⁷ EFCA calls on the EU and Member States to invest in growing this workforce, including through faster mutual recognition of engineering qualifications across borders and targeted training in dual-use and resilience engineering. The latter should be developed through closer cooperation between public authorities and the private engineering consultancy sector, which already provides much of the specialist capacity used for large infrastructure programmes.

Governance and coordination

EFCA welcomes the proposal to establish a Military Mobility Transport Group bringing together Member States, the EEAS, the European Commission and the European Defence Agency, and the wider whole-of-government approach promoted by both strategies.⁸ To ensure that governance structures are matched by technical delivery capacity, EFCA recommends that consulting engineers and their representative associations be given a formal consultative role in this and other relevant preparedness and defence-readiness governance bodies, so that infrastructure decisions are grounded from the outset in sound engineering advice.

Conclusion

Military mobility and preparedness are, at their core, infrastructure challenges. EFCA believes that consulting engineers are essential partners in translating the Military Mobility Package and the

⁶ Ibid., European Commission, 19 November 2025 press release on military mobility.

⁷ Council of the EU, Strengthening military mobility in the EU, including the Council's negotiating mandate of 17 June 2026: <https://www.consilium.europa.eu/en/policies/military-mobility/>

⁸ Ibid., EEAS, Military Mobility.

Preparedness Union Strategy from political agreement into resilient bridges, corridors, energy links and digital systems that serve both Europe's defence readiness and the everyday safety of its citizens. They should be involved not only in project design and delivery but also in strategic infrastructure planning, investment prioritisation, project preparation and programme definition. Through technical leadership and constructive engagement with the EU institutions and Member States, EFCA and its member associations stand ready to help deliver a genuinely resilient and prepared Europe.

Recommendations by Section	
Resilient dual-use infrastructure	Launch corridor-by-corridor engineering assessments to identify bridges, tunnels, ports and rail links needing reinforcement for dual civilian-military use. Target investment at genuine bottlenecks identified through this technical mapping.
Regulatory streamlining and engineering readiness	Match the three-day cross-border processing time and EMERS emergency framework with engineering-led corridor certification. Avoid a gap between administrative speed and physical infrastructure readiness.
Preparedness by design	Translate the Preparedness Union Strategy's 30 key actions into concrete, sector-specific technical standards developed with the engineering profession. Apply resilience-by-design criteria across transport, energy, water and digital infrastructure.
Early warning and digital tools	Extend the Military Mobility Digital Information System to structural health monitoring of priority corridors. Use IoT sensors, digital twins and predictive maintenance, ensuring interoperability with existing national asset-management systems.
Investment and procurement	Build a coordinated, multiannual investment pipeline under the Connecting Europe Facility Military Mobility strand and related instruments. Apply best-value, quality-based procurement and keep funding accessible to SMEs and specialist engineering firms.
Cybersecurity and physical security	Engineer cybersecurity and physical protection into dual-use assets from the design stage, in line with the NIS2 and Critical Entities Resilience Directives, rather than retrofitting security after deployment.
Skills and workforce	Invest in growing engineering capacity through faster cross-border recognition of qualifications and targeted training in dual-use and resilience engineering. Strengthen cooperation between public authorities and consulting engineers.
Governance and coordination	Give consulting engineers and their representative associations a formal consultative role in the Military Mobility Transport Group and other preparedness and defence-readiness governance structures.

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