

Dates: 25 and 26 June, 2025



2025

INESC Brussels HUB

Summer Meeting Final Report

Strategic Autonomy & Dual-Use
R&I: Coherence, Capabilities &
Europe's Future

Venue:

BIP Meeting Centre, Brussels



About this Report

This report summarizes the key discussions, conclusions, and policy reflections from the **2025 INESC Brussels HUB Summer Meeting**, held in Brussels on June 25–26, 2025. The meeting was organized by INESC Brussels HUB as a high-level policy and strategy forum, bringing together over 200 participants—including senior representatives from the European Commission, European Parliament, national authorities, research-performing organizations, and industry.

Structured around five thematic pillars, the event addressed Europe's most urgent research and innovation (R&I) policy challenges, including strategic autonomy, dual-use innovation, knowledge security, and the design of Framework Programme 10 (FP10). The format combined plenary sessions, technical breakout discussions, and foresight dialogue—creating a space for both political alignment and technical depth.

The report reflects both the strategic intent and analytical takeaways of the meeting. It is intended to support ongoing policy design processes at European and national levels, and to serve as a contribution to wider discussions on the future of EU R&I governance, technological sovereignty, and systemic coherence. INESC Brussels HUB is solely responsible for the content of this report.

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Publication Date: 9, July, 2025

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1 .Executive Summary

The final report of the 2025 INESC Brussels HUB Summer Meeting captures the key proceedings, themes, and takeaways from this high-level event, held in Brussels on June 25–26, both in person and online. The meeting generated strong momentum, bringing together high-level speakers and over 200 in-person participants to address one of Europe’s most urgent strategic challenges: how to develop a coherent and forward-looking research and innovation (R&I) system capable of safeguarding European sovereignty amid growing geopolitical and technological uncertainties.

The report is structured as follows: First it gives insights into strategic context and objectives. It begins by outlining the strategic context and goals of the meeting, firmly anchored in critical EU policy directions. Second explains the meeting architecture.

It then provides an overview of the event’s design, which combined strategic plenary sessions, technical break-out discussions, and informal networking opportunities—creating space for both high-level policy reflection and in-depth technical exchange. Finally, the core of the report analyses the discussions held over the two days.

Plenary Sessions: Key takeaways are presented in response to each guiding question posed to the audience, along with the policy implications for EU decision-makers and the broader R&I community. **Break-Out Sessions:** These are summarised through highlights of presentations focused on concrete applications—often with dual-use potential—that revealed the strategic underpinnings of each topic.

Together, these elements provide a comprehensive overview of the meeting’s contributions to shaping a resilient, strategic, and future-oriented European R&I ecosystem.

Disclaimer: This report is based on all the preparatory work made for the conference, as well as the author’s interpretation of the conference discussions, presentations, and all the excellent quality information exchanged during the INESC Brussels HUB Summer Meeting 2025. All text, information, interpretations, and conclusions are, therefore, of the exclusive responsibility of the report’s authors and do not, in any way, implicate the views of any other entity, namely of the participating speakers, supporting organisations to the event, the INESC institutes, or any other.

2.Strategic Context and Objectives

The 2025 INESC Brussels HUB Summer Meeting unfolded against the backdrop of deepening geopolitical complexity, accelerated technological disruption, and mounting pressure on Europe to assert its strategic autonomy. The forum was conceived not as a sectoral event, but as a system-level intervention—designed to confront a singular policy challenge: how can Europe design research and innovation strategies that are resilient, integrated, and capable of securing both prosperity and security in an era of uncertainty?

Policy drivers

The meeting was framed by the convergence of four critical EU policy trajectories:

Strategic policy trajectory	Key reference
Future of the Framework Programme (FP10)	Ongoing consultations and FP10 orientation papers
Scaling the European Defence Fund (EDF2) and EDIS	EDF Work Programme 2025; EC Defence White Paper
Advancing Knowledge Security and Technological Sovereignty	EC Guidelines; ProtectEU Strategy; ESIR and Dual-Use Expert Reports
Strengthening Regional and Distributed Innovation Capabilities	Smart Specialisation Strategies; Widening Participation agenda

Objectives of the 2025 Summer Meeting

The meeting set out to address the following core goals:

1.Map and Strengthen the Role of RPOs in Dual-Use R&I

Highlighting the institutional and technological capacities of RPOs, the meeting sought to reposition them as pivotal actors in Europe’s defence and security innovation agenda—bridging public mission, ethical responsibility, and industrial relevance.

2.Promote Policy and Programme Coherence

By convening institutional leads from the Commission, EDA, MS authorities, and industry, the meeting served as a strategic dialogue platform to align fragmented instruments—across defence (EDF, EDIS), digital (DEP), and research (FP10).

3 . Reinforce Europe's Innovation Sovereignty

In light of growing dependencies on foreign technologies and fractured value chains, discussions focused on how to build integrated, agile, and demand-driven R&I ecosystems to underpin European autonomy and competitiveness.

4. Foster Anticipatory Innovation Governance

By integrating perspectives from foresight bodies (e.g., JRC, PlanAPP), think tanks, and institutional planners, the event explored how anticipatory methods can inform strategic funding and institutional reforms for FP10 and beyond.

Systemic relevance

The next Multiannual Financial Framework (2028–2034) and FP10 design will determine whether Europe remains merely reactive, or whether it can build institutional and technological foresight into its policy architecture. The INESC Brussels HUB Summer Meeting thus positioned itself as a strategic rehearsal for that decision: bringing key players into a room, testing assumptions, and advancing proposals that treat innovation not as a technical exercise, but as a core strategic function of European sovereignty.



- Map and Strengthen the Role of RPOs in Dual-Use R&I
- Promote Policy and Programme Coherence
- Reinforce Europe's Innovation Sovereignty
- Foster Anticipatory Innovation Governance

3 .Structure of the Meeting

The 2025 INESC Brussels HUB Summer Meeting was structured as a multi-format, two-day dialogue space combining high-level policy reflection with grounded technical showcases and interactive breakout sessions. The aim was to inform and to constructively challenge current assumptions about the European R&I ecosystem, particularly regarding its ability to deliver strategic autonomy, resilience, and dual-use innovation.

Meeting architecture

The programme was built around five interrelated thematic pillars, each addressing a systemic challenge:

Pillar	Key Questions
Strategic Coherence	Can we align FP10, EDF2, EDIS, DEP and national instruments around a common strategic compass?
Role of RPOs and Distributed Capabilities	How do we mobilise Europe's research infrastructure and institutional diversity in security-relevant R&I?
Dual-Use Innovation	What reforms and tools are needed to operationalise dual-use as a design principle in EU programmes?
Knowledge Security	How can Europe safeguard critical knowledge flows while upholding open science and academic freedom?
Foresight and Innovation Governance	What foresight capacities are needed to make EU innovation anticipatory, not reactive?

Two days, three modes of engagement

1 .Strategic Dialogue (Plenaries I-IV)

A high-level, plenary setting explored the geopolitical, policy, and institutional contexts shaping the future of European R&I.

- Speakers included Commission representatives, national authorities, RTOs, universities, and foresight experts.
- Sessions combined scene-setting interventions with multi-stakeholder debates.

2 .Technical Deep Dives (Breakouts A1-B2)

Four concurrent breakout sessions provided in-depth discussions anchored in specific challenges (e.g., distributed innovation, knowledge security, dual-use health and cyber, critical tech for defence).

- Each session was guided by a curated set of firestarter presentations and expert moderators.
- Participants were invited to contribute through open dialogue and scenario-based questions.

3 .Cross-cutting – Networking and Informal Diplomacy

Informal spaces, including the high-level conference dinner, co-hosted with ADRA, facilitated relationship-building and candid exchanges under the Chatham House Rule.

- A focused dinner debate explored the AI Super-Integrator concept as a model for mission-oriented, dual-use innovation ecosystems.



4 .Key Themes and Highlights from Plenaries

The four plenary sessions of the 2025 INESC Brussels HUB Summer Meeting constituted structured interventions into some of the most critical policy design questions currently facing the European R&I system. Held at a juncture marked by intensified geopolitical tension, accelerating dual-use technological convergence, and the emergence of defence as a cross-cutting public policy priority, the plenaries served to share perspectives and to articulate an evolving agenda for anticipatory governance. Each session brought together high-level representatives from EU institutions, national foresight bodies, research-performing organisations (RPOs), and industry to advance a shared understanding of the governance, funding, and institutional reforms needed to support Europe's technological sovereignty.

Anchored in real-time reflections on the forthcoming FP10, the European Defence Industrial Strategy (EDIS), the evolving logic of the European Defence Fund (EDF), and the role of knowledge security, the plenaries helped crystallise a conceptual shift. This shift moves away from fragmented, programme-centric approaches toward a more integrated, mission-oriented ecosystem for dual-use innovation that reconciles Europe's normative foundations with its need for strategic preparedness. Collectively, the sessions built a shared language to address four interrelated priorities:

- (1)** aligning EU and national instruments for systemic impact;
- (2)** reconfiguring the role of RPOs in dual-use ecosystems;
- (3)** embedding responsible and ethically grounded innovation pathways in defence-related domains; and
- (4)** equipping Europe's foresight and strategic planning mechanisms to anticipate disruptions and shape long-term investment strategies.

Plenary I: Strategic Coherence
for European R&I – Towards an
Integrated Policy

Plenary II: The Role of Research
Performing Organisations (RPOs) in
Strategic Autonomy and Dual-Use R&I

Plenary III: Dual Use R&I

Plenary IV: The Road Ahead – Towards
a Strategic, Coherent, and Mission-
Oriented FP10

Plenary I: Strategic Coherence for European R&I – Towards an Integrated Policy Framework

Plenary I opened the 2025 INESC Brussels HUB Summer Meeting by confronting a core paradox in the EU's current R&I governance architecture: while strategic autonomy and technological sovereignty have emerged as shared policy imperatives across multiple EU frameworks, ranging from FP10 and EDF2 to Digital Europe and the Strategic Technologies for Europe Platform (STEP), the operational reality remains fragmented. The session asked: what would it take to construct an integrated policy framework capable of bridging civil and defence R&I, reducing redundancies, and fostering greater coherence across instruments, institutions, and Member States?

Key Takeaways

1 .The need for a mission-oriented framework

Institutions including DG RTD, EDA, and prominent RTOs argued for a pivot towards mission-based logic. Such logic, already nascent in EU programmes like the Missions under Horizon Europe, must be scaled to address technological sovereignty and critical infrastructure protection. Strategic coherence, it was argued, does not mean full harmonisation but aligning around shared missions with distributed roles.

2 .Aligning Instruments through common objectives

A central proposition emerged around synchronising the timelines, TRL logic, and objectives of instruments such as FP10, EDF, and Digital Europe. This would entail not merely coordination between work programmes, but the use of joint foresight, shared strategic roadmaps, and interoperable metrics of impact.

3 .Reconsidering the role of the European Commission

Multiple speakers reflected on the Commission's evolving role, not only as a funding body, but as a systems orchestrator. This implies a more proactive posture in facilitating inter-DG collaboration (e.g., between DG RTD, DG DEFIS, DG CNECT, but also other thematic DGs, such as Energy, Health, Agri, among others), shaping value chains, and anchoring innovation in regulatory foresight.

4 .The role of Member States and subsidiarity

Coherence must also be designed with subsidiarity in mind. National research agendas, defence industrial strategies, and S3 (Smart Specialisation) frameworks must be seen as building blocks of a European strategic ecosystem, not as separate domains. The case of PlanAPP in Portugal and DLR in Germany were cited as models for embedding foresight into national R&I strategies.

5 .Political economy of coherence

Participants acknowledged the political friction that coherence entails, particularly between net contributor and net recipient Member States, or between defence and civilian research communities. Nevertheless, strategic autonomy was framed as a collective good, where interdependence must be actively designed, not assumed.

Theme	Key reference	Supporting Insight / Implication
Mission-Oriented Logic	A shift towards mission-driven frameworks is necessary to align civil and defence R&I around shared strategic goals.	Coherence does not mean uniformity, but coordinated alignment of diverse efforts across sectors and levels of governance.
Instrument Synchronisation	There is a need to synchronise FP10, EDF, Digital Europe, etc., through shared objectives, roadmaps, and timelines.	A call for operational interoperability, especially across TRL chains and strategic technology priorities.
Commission as System Orchestrator	The European Commission must act beyond funder role, facilitating cross-DG coordination and enabling systemic innovation.	Emphasis on breaking silos between DG RTD, DEFIS, CNECT; integrating regulation, innovation, and industrial strategy.
National–EU Ecosystem Alignment	Coherence must respect subsidiarity; national foresight (e.g. PlanAPP) and S3 strategies must feed into a broader EU architecture.	Co-designed models needed to embed national priorities into EU-level missions and ensure two-way policy translation.
Political Economy of Coherence	Strategic coherence requires political negotiation—especially across Member States with different capacities and R&I cultures.	Highlighted risks of fragmentation, but also the benefits of co-investment models and shared strategic autonomy as a European public good.

Policy implications

- Develop inter-programme roadmaps (e.g. EDF–FP10–Digital Europe) anchored in common missions.
- Formalise a ‘coherence mandate’ within the European Commission that transcends DG silos.
- Establish a permanent foresight mechanism feeding into programme design and updates.
- Explore new governance models for cross-sectoral, cross-instrument coordination (e.g., hybrid R&I councils, mission authorities).
- Incentivise national alignment through co-funding schemes tied to European missions.



Plenary II: The Role of Research Performing Organisations (RPOs) in Strategic Autonomy and Dual-Use R&I.

This session tackled one of the structural paradoxes in Europe's dual-use R&I ecosystem: while RPOs, public research institutes, technology organisations, and universities, are central to Europe's scientific and technological base, their engagement in defence and dual-use domains remains peripheral and uneven. The discussion interrogated both the policy frameworks and institutional cultures that underpin this disconnect, as well as explored potential pathways to mobilise RPOs more effectively for strategic capability development.

Key points of orientation included:

- Evolving definitions of strategic autonomy and what that implies for research institutions as contributors to both innovation and resilience.
- The legacy of “civilian-only” mandates in many universities and public labs, and the ethical and operational challenges this creates.
- Examples of successful RPO engagement in defence-related projects, often through indirect routes (e.g., cybersecurity, AI, robotics, health resilience).
- The importance of capacity-building across the EU27 to avoid a “dual-use divide” between Member States.

The session was about reframing the role of RPOs as integral to Europe's capacity to develop and govern critical technologies across their life cycle, from lab to operational deployment.



RPOs as Strategic Enablers of Dual-Use Innovation

This session addressed a critical fault line in Europe's science-policy interface: the ambiguous and often marginal role played by Research Performing Organisations (RPOs) in the development of technologies with dual-use potential. As geopolitical tensions and systemic risks grow, the expectation that RPOs contribute more directly to Europe's strategic autonomy has gained traction. Yet this transition is neither culturally straightforward nor institutionally frictionless.

The discussion began by framing the dual-use paradigm not as a deviation from civilian missions, but rather as a necessary expansion of the social contract between science and society. Speakers challenged the legacy of post-war scientific exceptionalism that has insulated many public research institutions from security-oriented missions. In its place, they advocated for a reconceptualisation of RPOs as “sovereignty infrastructures”, institutions capable of advancing frontier knowledge and also anchoring Europe's capacity to develop and govern mission-critical technologies.

Key tensions were explored:

- **Institutional mandates:** Many universities and RTOs continue to operate under governance frameworks that prohibit or limit participation in defence-linked activities. These constraints, though grounded in legitimate ethical concerns, now risk undermining Europe's ability to shape the trajectory of sensitive technologies such as AI, quantum, space, and cybersecurity.
- **Capability asymmetries:** The current dual-use R&I landscape is highly fragmented. A small subset of RPOs in certain Member States have developed expertise in navigating both civilian and defence ecosystems, while others remain structurally excluded or under-resourced. This creates a “capability gap” with long-term implications for EU cohesion and resilience.
- **Policy incoherence:** Although instruments like Horizon Europe, the European Defence Fund (EDF), Digital Europe, and EU4Health each support elements of the dual-use agenda, they often do so in isolation. RPOs lack incentives, guidance, and interoperable pathways to bridge these programmes effectively.

- Speakers also pointed to emerging institutional models, hybrid labs, public-private technology accelerators, cross-sector doctoral programmes, that could serve as transitional mechanisms for more deliberate RPO involvement. Some participants emphasised the importance of establishing protected, transparent frameworks to ensure that increased participation does not erode academic freedom or public trust.

Ultimately, the session reinforced that if Europe wishes to assert technological sovereignty, it must move beyond siloed and reactive strategies. RPOs must be reimagined not merely as knowledge producers but as architects and stewards of sovereign capabilities, provided they are supported by the right policy mix, governance flexibility, and cultural shifts.

Key Takeaways

Key Domain	Takeaways
RPOs as System Integrators	RPOs must embrace a dual function: not only conducting cutting-edge research but orchestrating ecosystems that integrate SMEs, industry, and security actors.
Bridging Civil and Defence Silos	The legacy divide between civil and defence R&I is increasingly untenable; RPOs are uniquely positioned to act as ‘boundary agents’ across domains.
Governance and Accountability	With expanded roles in dual-use ecosystems, RPOs require new governance models that ensure transparency, ethical compliance, and long-term mission alignment.
Investment and Infrastructure Gaps	Sustained investment is needed in enabling technologies and shared infrastructures, especially testbeds, standards labs, and trusted data spaces.
Workforce and Skills Development	RPOs should co-lead talent development initiatives targeting dual-use skills, particularly in AI, quantum, semiconductors, cybersecurity and other strategic tech.
New Funding Logics for RPOs	Calls for hybrid funding instruments that reflect the duality of missions (civil-defence), offer long-term support, and reward collaborative technology transfer.
Geopolitical Responsiveness	RPOs must build strategic intelligence capabilities to navigate regulatory uncertainty, partner selection, and knowledge security risks.

Policy implications

- 1 .Institutional recognition in strategic frameworks: European and national policy frameworks—particularly FP10 and EDF2—should explicitly recognise RPOs as systemic actors in dual-use innovation ecosystems. This involves tailored eligibility criteria, new participation modalities, and appropriate co-funding models.
- 2 .Development of Mission-Oriented RPO clusters: Incentivise the formation of transnational RPO consortia focused on specific mission areas (e.g., AI for resilience, quantum-enabled security), underpinned by long-term strategic grants and dedicated infrastructure investments.
- 3 .Dual-Use skills and talent strategies: Embed dual-use training modules in Horizon Europe and Digital Europe education schemes, and support dedicated talent pipelines for RPOs and public labs working on critical technologies.
- 4 .Mapping and benchmarking tools: Fund European-level initiatives to map RPO competencies in dual-use areas, benchmark them against international counterparts, and identify under-utilised capacities for scaling up.

Plenary III: Dual Use R&I

This session confronted the structural and cultural fault lines in Europe's fragmented approach to dual-use research and innovation. With perspectives spanning security policy, RPOs, and industrial practitioners, the panel dissected how Europe's institutional frameworks, public funding instruments, and innovation cultures still treat civil and defence R&I as parallel rather than integrated domains. The discussion was anchored in recent policy efforts, including the Commission's dual-use innovation white papers and the evolving rationale behind FP10 and EDF2. While the policy signals are increasingly clear, Europe must mobilise its civil R&I base for strategic autonomy, but practical implementation remains nascent. Multiple speakers highlighted persistent uncertainty about definitions, ownership, risk management, and the ethical governance of dual-use technologies.

One critical theme was the need to evolve from a “duality of use” framing to one of “design for duality,” emphasising co-creation between civil and defence stakeholders from the start of the R&I pipeline. This would require not only technical interoperability, but also a transformation in mindsets, incentives, and institutional capabilities. The debate also addressed enabling conditions: regulatory certainty, mission-oriented procurement, ethical oversight, and transnational governance structures that respect subsidiarity while delivering coherence. RPOs were positioned as knowledge suppliers AND as system integrators with responsibility for safeguarding democratic values and ensuring technology translation.

From concept to capability

Plenary III confronted the systemic fragmentation that currently characterises the European dual-use research and innovation (R&I) landscape. The discussion illuminated the tension between growing political recognition of dual-use technologies as strategic enablers of sovereignty and resilience, and the persistent structural, normative, and institutional barriers that inhibit their seamless integration across policy and practice. Participants critically examined the limitations of Europe's prevailing governance architecture, arguing that while instruments such as the EDF and the forthcoming FP10 increasingly reference dual-use logics, the lack of a consolidated and coherent policy framework, spanning funding, regulation, ethics, and procurement, continues to generate legal ambiguity, siloed implementation, and strategic underperformance. This institutional fragmentation is exacerbated by inter-DG coordination gaps at the European Commission level, divergent national interpretations of dual-use ethics and security, and an absence of shared metrics for assessing impact.

A core analytical strand in the panel was the interrogation of Europe's "bifurcated innovation paradigm", a legacy structure in which civil and defence R&I operate on distinct tracks, shaped by historical path dependencies, epistemic divides, and sector-specific funding ecosystems. Speakers argued that this separation is not merely administrative but epistemological, reinforcing divergent innovation cultures, risk assessments, and accountability regimes. To overcome this, the panel advocated a deliberate shift from "dual-use by consequence" to "dual-use by design": embedding interoperability, agility, and security-responsiveness into technology development pipelines from inception, with appropriate foresight and ethical governance mechanisms co-developed by funders and performers.

RPOs, including technical universities, research and technology organisations (RTOs), and independent institutes, emerged as both crucial actors and institutional blind spots. Multiple interventions underscored that these entities are strategically positioned to mediate between national and European policy agendas, civil and military end-users, and societal values and security imperatives. However, to play this role effectively, RPOs require not only dedicated funding streams and talent pipelines but also clarity in export control obligations, ethical mandates tailored for dual-use contexts, and inclusion in structured dialogues with defence authorities.

Operational challenges were addressed in granular terms, including the inadequacy of traditional procurement models to support mission-driven dual-use innovation, the need for ethics-by-design approaches that go beyond compliance checklists, and the strategic imperative to design funding instruments that allow iterative testing and co-development across use cases.

Case studies from both civil and defence-facing projects illustrated that success hinges less on technological maturity and more on the quality of governance: access to lead customers, aligned incentives across the innovation chain, and trust-based cross-sectoral partnerships.

The session marked a conceptual inflection point from a precautionary framing of dual-use innovation as a risk management problem to a sovereign capability paradigm where dual-use is foundational to achieving technological non-dependence, democratic resilience, and strategic autonomy. This reframing requires instrument redesign and also an ontological shift in how Europe conceives the role of R&I in shaping its geopolitical agency.

Key takeaways

Key Domain	Takeaways
Governance and Coherence	Europe’s dual-use R&I landscape remains fragmented, lacking an overarching governance structure that bridges civil and defence domains.
Innovation Paradigms	A transition is needed from “dual-use by outcome” to “dual-use by design”, integrating dual-use thinking at the earliest stages of the research lifecycle.
Role of RPOs	Research-performing organisations are pivotal yet underleveraged actors in dual-use innovation, requiring clearer mandates and support mechanisms.
Operational Barriers	Legal ambiguity, ethical tensions, fragmented procurement, and export controls undermine the development and deployment of dual-use technologies.
Ecosystem Enablers	Success hinges on trust-based ecosystems, agile public-private partnerships, and institutional cultures open to cross-domain collaboration.
Strategic Reframing	Dual-use innovation should be viewed as a foundation of European resilience and strategic autonomy—not a niche or reactive concern.

Policy implications

- 1 .Establish a unified governance framework for Dual-Use innovation: The absence of integrated oversight across EU programmes, national strategies, and institutional mandates hampers coherence and operational scale. A European-level governance structure is needed to coordinate policy, funding, and ethical standards in dual-use R&I.
- 2 .Mainstream “Dual-Use by Design” principles: Future EU research programmes (notably FP10 and EDF2) should require dual-use potential to be assessed and embedded from the proposal stage. This includes technical interoperability, ethical foresight, and resilience criteria.
- 3 .Empower RPOs as strategic intermediaries: RTOs and technical universities must be enabled via funding, legal clarity, and institutional incentives to act as trusted custodians of dual-use innovation. This includes dedicated support for compliance, technology transfer, and stakeholder mediation.
- 4 .Reform procurement and export control systems: Agile procurement mechanisms and updated export control frameworks are critical to accelerating uptake and cross-domain diffusion of dual-use tech. These should be tailored to SMEs, start-ups, and collaborative consortia.
- 5 .Invest in cultural change and incentive alignment: To overcome resistance within academia and civil research institutions, EU and national actors should promote responsible dual-use engagement through targeted funding, training, and revised academic recognition systems.
- 6 .Pilot cross-domain programmes with shared metrics: Demonstrator programmes should be launched that link civil, defence, and security needs under common missions, evaluation criteria, and foresight mechanisms, thereby generating evidence for systemic scale-up.

Plenary IV: The Road Ahead – Towards a Strategic, Coherent, and Mission-Oriented FP10

The concluding plenary of the INESC Brussels HUB Summer Meeting 2025 served as a capstone for the conference's broader deliberations, turning the collective intelligence of the event toward the future of the European research and innovation system, namely, the upcoming FP10. The session centred on one core question: how can FP10 become a transformative instrument that enhances European resilience, sovereignty, and competitiveness?

Rather than a technocratic evolution of existing programmes, the session called for an ambitious redesign of FP10 as a mission-oriented, strategically coherent instrument that aligns public R&I investments with Europe's long-term security, industrial, and societal goals. This vision implies a move beyond traditional programme architectures towards systemic alignment between civilian and defence R&I, national and EU-level investments, and demand- and supply-side instruments. Speakers consistently underscored the urgency of building institutional capacity to implement “integrated R&I policymaking”, breaking silos between funding streams, enhancing agility in programme design, and fostering the emergence of “super-integrator” structures that can orchestrate complex, cross-sectoral innovation missions. They also emphasised the need for robust foresight capabilities, allowing FP10 to anticipate technological trajectories and geopolitical risks, rather than merely react to them.

The session also reinforced the central role of RPOs as ecosystem anchors. These institutions, including RTOs and universities, must be more than passive recipients of funding; they should be positioned as strategic partners in co-defining missions, co-investing in infrastructure, and embedding ethical and democratic values into innovation ecosystems. Importantly, this includes empowering them to navigate the increasingly complex landscape of knowledge security, dual-use dilemmas, and regulatory asymmetries. Participants further highlighted that FP10 must deliver not only excellence and competitiveness but also strategic coherence, resilience, and legitimacy. It must bridge institutional divides, address geographic and thematic imbalances, and inspire confidence from both European citizens and global partners.

In this final session, the tone was simultaneously pragmatic and aspirational: pragmatic in recognising the institutional and political constraints ahead; aspirational in calling for a bold reframing of what European R&I policy can and should accomplish over the next decade.

Key takeaways

Theme	Key Takeaways
Strategic Redesign of FP10	FP10 must move beyond incremental updates to become a mission-oriented, strategically aligned instrument capable of addressing Europe's long-term challenges.
Systemic Coherence	Greater integration between EU and national R&I programmes, civil and defence funding, and supply- and demand-side tools is essential for impact and efficiency.
Super-Integrators and Governance	New governance models—such as independent “super-integrator” entities—are needed to coordinate cross-sectoral missions and manage complexity.
Anticipatory Foresight	FP10 design should be informed by proactive foresight capabilities that anticipate emerging technologies and strategic vulnerabilities.
Empowered RPOs	Research-performing organisations must be involved not just as implementers but as co-designers of missions and custodians of ethical, secure innovation.
Legitimacy and Public Trust	FP10 must address democratic accountability, transparency, and inclusiveness to maintain legitimacy and citizen trust.
Political Commitment	FP10 requires high-level alignment across Member States and institutions.



Policy implications

- 1 .Institutionalise coherence mechanisms across instruments: Establish structured mechanisms to ensure synergy and complementarity between FP10, EDF, EDIS, Digital Europe, and national R&I programmes. This includes aligned roadmaps, joint programming, and interoperable evaluation criteria.
- 2 .Create and empower super-integrator entities: Support the creation of agile, independent “super-integrator” structures capable of managing mission-oriented portfolios with multi-sectoral governance, milestone-based funding, and the authority to pivot or terminate projects.
- 3 .Embed strategic foresight in programme design: Integrate foresight systematically into the programming cycle to guide priority-setting, identify disruptive trends, and assess geopolitical risks and technology trajectories.
- 4 .Elevate the role of RPOs: Redefine the role of research-performing organisations in FP10, empowering them to co-design goals, act as system integrators, and lead innovation that aligns with societal and strategic needs.
- 5 .Strengthen FP10’s Dual-Use capacities: Develop dedicated clusters or horizontal measures in FP10 to support dual-use technologies, responsible internationalisation, and knowledge security frameworks, ensuring alignment with EU security strategies.

Foresight session – How to think the future of defence and dual-use?

The foresight session examined the structural and epistemic gaps that continue to hinder the effective use of foresight within European innovation governance. Rather than merely forecasting technological trajectories, participants emphasised foresight as a strategic and political function, critical for navigating geopolitical uncertainty, systemic interdependence, and accelerated techno-industrial transitions.

Three major bottlenecks were identified. First, foresight remains fragmented and poorly institutionalised across EU and Member State levels. While organisations such as PlanAPP are advancing national foresight ecosystems, there is a lack of coordination, shared methodologies, and common reference scenarios across Europe. Second, foresight is often treated as a retrospective analytical exercise rather than a real-time governance tool.

Speakers called for a shift from ‘report-writing’ to anticipatory governance, embedding foresight capacities into programme design, evaluation, and funding cycles. Third, there is a disconnect between foresight communities and those who shape funding, regulation, and capability development, resulting in under-utilisation of foresight outputs in major R&I instruments like Horizon Europe or the European Defence Fund.

The session advocated for a more permanent and interdisciplinary foresight infrastructure at the EU level, capable of linking long-term visions with operational decision-making. Foresight was also framed as a democratic practice: a mechanism to reconcile competing visions of the future and to ensure that public investments in innovation reflect plural societal values. Notably, dual-use R&I emerged as a test case for institutionalised foresight.

Given its ethical complexity and geopolitical sensitivity, dual-use innovation demands scenario-based thinking, societal engagement, and mission-driven orientation—all of which foresight can enable. Institutions like INESC and PlanAPP were positioned as bridging agents, capable of combining technical intelligence with strategic foresight and participatory design.

Overall, the session called for a paradigmatic upgrade, from fragmented to an integrated, systemic and mission-oriented foresight architecture at European scale. This would enhance Europe’s ability to anticipate disruptions, align investments with future threats and opportunities, and cultivate resilience through collective intelligence.

Key takeaways

Theme	Key Insight
Institutionalisation of Foresight	Foresight in the EU remains fragmented and lacks formal integration into R&I governance structures. Participants called for a permanent foresight infrastructure at the EU level.
Operational Integration	Foresight should be embedded in the design and revision cycles of major programmes (e.g., FP10, EDF), not treated as an external or ex-post analysis tool.
Strategic Role of Foresight	Foresight must go beyond technology roadmapping to anticipate geopolitical, societal, and regulatory dynamics that affect innovation and security ecosystems.
Link to Dual-Use Innovation	Dual-use R&I exemplifies the need for anticipatory governance due to its ethical complexity, security implications, and mission-driven nature.
Bridging Institutions	Organisations like INESC and PlanAPP were identified as key enablers, capable of translating foresight into strategic intelligence for both civil and defence agendas.
Democratic Dimension	Foresight should support participatory processes to align innovation trajectories with European values and societal priorities, particularly in sensitive domains.
Transnational Coordination	Greater methodological and scenario alignment is needed across Member States to create a common foresight ecosystem that informs EU-wide R&I policy.
Actionable Foresight	The field must evolve from static reporting to dynamic tools that inform prioritisation, risk management, and capability planning.

Breakout Session A1: Distributed Capability-Building

This session explored how national ecosystems, particularly those with smaller or less centralised defence-industrial bases, can play a meaningful role in Europe's strategic autonomy through distributed innovation and capability-building. The discussion highlighted both the structural challenges and the strategic potential of integrating diverse actors, especially SMEs and regional institutions, into the dual-use and defence R&I landscape.

Anchored by perspectives from Portugal, the session began with Commander Bruno Pica presenting consolidated data on Portuguese participation in the EDF, revealing a clear upward trend in both application and success rates. He also underlined the importance of sustained institutional support mechanisms and the emerging role of national focal points in fostering coherent engagement across ministries, academia, and industry.

The panel then turned to concrete technological use cases. Pedro Lousã (Beyond Vision) and Pedro Petiz (TEKEVER) presented advanced UAV and communication systems, developed with dual-use potential from the outset. Their interventions underscored that scale and agility, not just size, are key determinants of competitiveness in dual-use markets. They also emphasised the value of long-term cooperation with national defence entities, but noted that fragmentation and administrative burden continue to pose barriers to agile co-development.

Lt. Cmdr. Tiago Lopes Monteiro provided a perspective from the Portuguese Navy's Innovation and Transformation Division, highlighting how operational needs increasingly require rapid adaptation and modular integration of new technologies. He called for a paradigm shift in how we define "capability": not as monolithic platforms, but as dynamic, interoperable components developed across ecosystems.

A recurring theme throughout the session was the misalignment between innovation readiness and procurement frameworks. Participants discussed the "valley of death" facing dual-use SMEs who succeed in research funding but lack access to defence procurement pipelines. Several interventions called for more anticipatory procurement strategies at national and EU levels, and for mechanisms that formally recognise regional or smaller-country capabilities within pan-European platforms.

The session also surfaced the need for horizontal instruments that valorise contributions beyond the traditional defence primes, especially in software, sensors, and edge computing domains. There was strong support for expanding “distributed excellence” mapping tools, such as those piloted by the JRC and other national bodies, to better visualise and coordinate R&I potential across Europe.

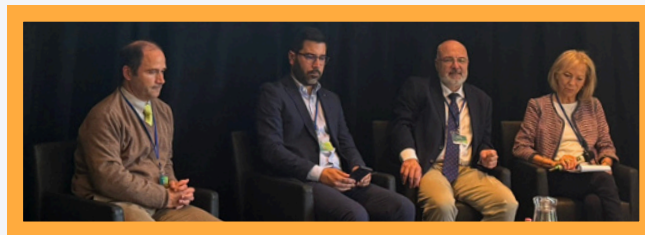
Ultimately, Breakout A1 reframed distributed capability-building not as a workaround for small Member States, but as a strategic asset for the EU. **By embedding modularity, flexibility, and collaborative governance into its approach, Europe can build a more resilient, innovative, and inclusive defence R&I system.**

Key takeaways

Theme	Key Insight
National Ecosystem Participation	Countries with smaller industrial bases can meaningfully contribute to EU defence autonomy if supported strategically.
EDF Engagement	Portuguese participation in EDF shows growth, but success depends on coordination, continuity, and institutional support.
Dual-Use Innovation by Design	SMEs like Beyond Vision and TEKEVER demonstrate that dual-use potential should be embedded from early development stages
Modular Capabilities & Interoperability	Naval operations increasingly demand interoperable tech components; innovation must reflect operational modularity.
Procurement Misalignment	Innovation is frequently ahead of defence procurement readiness—creating gaps in scaling and application.
Horizontal Instruments	A wider definition of critical technologies (e.g., software, AI, sensors) is essential to capturing full R&I value.
Mapping Distributed Excellence	Tools to visualise regional capabilities can foster better coordination and reduce duplication.

Policy implications

1. Support distributed R&I networks: The EU and Member States should formalise support structures for regional ecosystems through dedicated funding streams, joint calls, and capability roadmaps aligned with EDF and FP10.
2. Bridge innovation-procurement gaps: Defence procurement mechanisms must evolve to accommodate emerging dual-use technologies, especially from SMEs, through agile contracting and milestone-based validations.
3. Recognise modularity as a strategic capability: Capability-building policies should prioritise modularity, allowing actors to contribute discrete interoperable technologies across defence platforms.
4. Institutionalise National Focal Points: Create stable, cross-ministerial units at national level to connect industry, academia, and public procurement authorities, ensuring continuity and coherence in EU programme engagement.
5. Advance data-driven capability mapping: Expand and integrate distributed excellence mapping efforts to identify complementary capacities across Europe, especially in underrepresented regions and technology domains.
6. Redefine defence value chains: EU strategies must reflect the growing importance of software, data, and cyber-physical systems, not just traditional hardware, within defence value chains.



Breakout Session A2: Policy Instruments for Knowledge Security

This session went into the complex and evolving landscape of knowledge security, examining how research organisations can navigate the tension between open science and the imperative to safeguard critical technologies. Framed against a backdrop of intensifying geopolitical competition and growing awareness of foreign interference risks, the session brought forward institutional perspectives from EECARO (European Export Control Association for Research Organisations) and UiT – The Arctic University of Norway, offering both practical examples and policy reflection.

The conversation underscored that current EU and national approaches to knowledge security remain heterogeneous, fragmented, and reactive. Speakers illustrated that while awareness is growing, particularly following the implementation of export control regulations, foreign interference screenings, and heightened policy attention, implementation lags behind.

There is no harmonised European framework, and many RPOs lack adequate resources, expertise, and clarity to address the full scope of risks.

The panel highlighted three core tensions:

1. Open Science vs. Strategic Protection: Institutions must protect sensitive research while maintaining scientific openness. This requires nuanced governance rather than blunt restrictions.
2. Academic Freedom vs. Compliance Cultures: Researchers often view knowledge security measures as constraints. Bridging this gap requires building awareness and shared responsibility across the research system.
3. Diverse National Interpretations: Without coordinated EU-level standards, institutions face varying rules and expectations, complicating cross-border collaboration and compliance.

Speakers advocated for a systemic and proportionate approach: embedding risk assessment into research project design (not just ex post reviews), co-developing guidance and tools with practitioners, and investing in trust-based capacity building, not just control. Importantly, they pointed out that security is not only a regulatory burden but a competitive advantage: countries and institutions that demonstrate robust knowledge security practices will become more trusted and attractive partners in international collaborations, especially in sensitive technological areas.

Finally, the session raised the need to think of knowledge security as a dual challenge: safeguarding sensitive knowledge while also defending institutional integrity, academic values, and freedom from authoritarian influence.

Key takeaways



Theme	Insight
Fragmented Landscape	EU and national approaches to knowledge security remain uncoordinated, with divergent standards, uneven implementation, and lack of clarity on institutional roles.
Institutional Blind Spots	Many RPOs lack the internal capacity, resources, and awareness to assess and mitigate knowledge security risks, especially in dual-use or geopolitically sensitive areas.
Strategic Framing	Security should not be seen as an administrative burden but as a component of institutional competitiveness and trustworthiness in international partnerships.
Open Science vs. Protection	The need to reconcile openness with risk mitigation is critical, requiring proportionate, transparent, and anticipatory frameworks that avoid chilling effects on collaboration.
Governance Innovation	Participants advocated for co-designed tools, embedded risk assessments, and standardised but flexible guidance tailored to institutional contexts and research domains.
Academic Freedom and Compliance Culture	Trust-based approaches that preserve academic freedom while cultivating awareness and responsibility are essential to institutional legitimacy.
Call for European Leadership	A harmonised EU framework for knowledge security, possibly linked to FP10 association criteria, is needed to prevent strategic leakage and uneven playing fields.

Policy implications

1 .Develop an EU-wide Knowledge Security Framework: A clear and coherent framework is essential to reduce fragmentation across Member States and research institutions. This should include:

- Shared definitions and scope of “knowledge security”
- Guidelines for proportionate risk assessment
- Model protocols for data handling, international partnerships, and dual-use sensitive areas

2. Integrate knowledge Security into EU R&I Programmes: FP10 must explicitly include knowledge security as a design parameter, not as an afterthought or compliance add-on. This requires:

- Embedding risk screening at the proposal stage
- Training evaluators and programme officers
- Supporting secure-by-design research architectures

3. Empower RTOs and Universities as strategic actors: Institutions need capacity-building support to implement security measures without compromising academic freedom. Policy instruments should:

- Fund institutional security officers and governance mechanisms
- Incentivise institutional codes of conduct
- Promote internal awareness and scenario planning capacities

4. Advance Open but Secure Science Diplomacy: The EU must maintain its leadership in open science while safeguarding against illicit appropriation. Diplomatic efforts should:

- Include knowledge security in association agreements and global partnerships
- Develop trusted research protocols and bilateral risk mitigation pacts
- Coordinate positions in multilateral fora (e.g., OECD, G7)

5. Bridge legal and operational gaps in Export Control & Dual-Use regulation. The EU should:

- Clarify the interface between civil R&I and export control regimes
- Provide standardised legal interpretive guidance
- Support implementation through training and legal advisory services

6 .Balance risk governance with academic freedom: Policymaking must ensure that security frameworks do not devolve into bureaucratic overreach. This requires:

- Stakeholder co-design with researchers and RPOs
- Proportionality and transparency in restrictions
- Mechanisms for appeal, oversight, and ethical review

Breakout B1: Health, Cyber, and Sensors for Societal Resilience

This breakout session explored how advanced sensing, AI, and simulation tools contribute to societal resilience, particularly through their dual-use potential in civil protection and defence-related contexts. Two speakers from the INESC system showcased concrete applications developed within Portugal, emphasizing modularity, interoperability, and cross-sector readiness.

Speakers:

- Paulo Freitas (President, INESC MN): Nanoelectronics, biomedical sensing, and integrated platforms for diagnostics and monitoring.
- Hugo Paredes (Coordinator, HumanISE, INESC TEC): AI-driven situational awareness, decision-support, and real-time simulation platforms for crisis response.

Moderator: Ana Teresa Freitas, INESC ID



Key Discussion Highlights

Thematic Focus	Insights & Issues Raised
High-Precision Sensing and Diagnostics	Paulo Freitas presented nanoscale sensing platforms integrated with AI, relevant for health monitoring, field diagnostics, and wearable systems. The capacity to miniaturize and embed intelligence at the edge is crucial for resilience.
Integrated Crisis Response Systems	Hugo Paredes shared HumanISE's work on AI-based platforms to support crisis decision-making, simulating multi-domain cascading events (e.g., fire, flood, cyber) to enhance coordination.
Technological Modularity	Both speakers emphasized modular design to ensure technologies can scale and adapt across civil protection, public health, and security domains.
Dual-Use Interface	Although framed in civil contexts, both technological families, sensors and AI-driven platforms, are ready for dual-use applications, particularly in logistics, battlefield health, and civilian protection.
Interoperability & Trust	A strong emphasis was placed on the importance of trust in automation and interoperability across agencies, levels of governance, and mission types.

Strategic themes

- Data-centric preparedness: Resilience requires real-time data acquisition and actionable intelligence. This session highlighted how Europe can lead in embedding these capabilities in infrastructure and services.
- From research to mission contexts: Presentations demonstrated how applied research can mature into mission-ready technologies, if supported by coherent public procurement and agile deployment channels.
- Value-driven innovation: Ethical design and explainable AI were implicitly recognized as key to user trust and broad deployment—essential for any dual-use context in democratic societies.

Breakout Session B2: Robotics, Power Systems and Autonomy – Strategic Tech for Civil and Defence

This breakout session examined the role of robotics and autonomous systems in enhancing European capabilities for resilience, energy flexibility, and security. Grounded in advanced research from INESC TEC, the session emphasized the dual-use potential of maritime robotics and smart grid control, highlighting how these technologies can simultaneously address civilian needs and strategic defence requirements.

Speakers:

- Ignacio Gil (Senior Researcher, Energy Flexibility & Smart Grids, INESC TEC): Smart grids, energy flexibility, and resilient infrastructures.
- Nuno Cruz (Coordinator, Centre for Robotics and Autonomous Systems, INESC TEC): Maritime robotics, autonomy in harsh environments, and long-endurance surveillance platforms.

Moderator: Ricardo Miguéis, Head of INESC Brussels HUB

Key Discussion Highlights

Thematic Focus	Issues Raised
Smart Energy Systems for Resilience	Ignacio Gil presented advanced solutions in smart grid control, focusing on flexibility, real-time system management, and blackout recovery, all critical in civilian and defence infrastructure.
Maritime Robotics and Autonomy	Nuno Cruz showcased long-range, autonomous marine vehicles used for ocean monitoring, border control, and defence surveillance. These systems operate with minimal human intervention in complex, contested environments.
Dual-Use Applicability	Both domains, energy and robotics, highlighted mature dual-use relevance, with potential deployment in humanitarian missions, infrastructure protection, and military operations.
Interoperability and Modularity	The technologies presented were characterized by scalable architectures and standards-compliance, enabling interoperability across agencies and geographies.
Ethical and Operational Challenges	While highly technical, the discussion also raised questions around control, accountability, and human-machine coordination in autonomous systems.

Strategic Themes

- **Infrastructure sovereignty:** The session reinforced how autonomy in energy and mobility systems is vital for Europe's strategic autonomy, particularly in crisis scenarios.
- **Mission-centric design:** Both speakers demonstrated the importance of designing technology with real-world missions in mind, from disaster recovery to surveillance of strategic assets.
- **RTOs as integration catalysts:** INESC TEC's work exemplifies how research-performing organisations can bridge the gap between prototyping and scalable deployment for both civil and defence users.
- **Cross-domain synergies:** The convergence of cyber-physical systems, AI, and energy resilience emerges as a field of critical importance for European strategic capabilities.



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