Innovation Procurement

How Can Policymakers Strengthen the EU Public Innovation Procurement and Deep-Tech Scaleups' Participation?

Scaleup Series | Policy Report 3 out of 3

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Title	Innovation Procurement: How Can Policymakers Strengthen the EU Public Innovation Procurement and Deep-Tech Scaleups' Participation?
Collection	Scaleup Series
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Published	2026, June 9
DOI	10.15581/018/79056
IESE ID	ACADEM-79056
Contract	101114582
Dissemination	Public

The authors thank the support of Andres Chacon-Korsun, Jara Pascual, and Vassilis Tsanidis.

Executive summary

'Innovation procurement' is the purchase, by public-sector bodies, of R&D services or innovative solutions that are not yet available or widely adopted in the market, within applicable regulatory frameworks.

Deep-tech scaleups face long development cycles, high CAPEX, and elevated technological risk. Although EU public procurement represents 16% of GDP and could act as a potential validation and scale mechanism, it tends to favor established suppliers. Moreover, only about 10% of it is spent on innovation. Despite ongoing improvements, legal complexity, administrative burden, and slow payments continue to discourage this engagement.

This report examines how policymakers can strengthen the EU public innovation procurement and deep-tech scaleups' participation. The report is structured in four sections: an introduction to the topic, a stakeholder-policymaker comparison of priorities, a benchmark of EU and non-EU initiatives, and conclusions. It is based on a literature review, workshops, and surveys involving 49 experts, to identify core challenges, benchmark the current situation, and explore possible mitigations.

Some of the main insights:

- **Evidence suggests Europe continues to face two procurement gaps for deep-tech scaleups,** despite the presence of procedures such as PCP, PPI, and Innovation Partnerships: (1) limited availability due to buyer bias toward traditional suppliers and limited link between R&D and pilots to commercialization, in the analyzed cases; and (2) regional and functional fragmentation with limited harmonized standards.
- **Partial divergence in perspectives**. Both groups recognize the challenges related to effectiveness and fragmentation. However, they differ on the importance of tailored support—rated higher by policymakers—and on the availability for deep-tech scaleups, which stakeholders consider more critical. On actions, they converge on the relevance of EU joint buying, while diverging on harmonized procedures, which stakeholders rate significantly higher.
- **Benchmark lessons**. They show that PCP, PPI, and Innovation Partnerships procedures—complemented by procurement mechanisms such as the EIC Innovation Procurement Programme—may de-risk adoption, aggregate demand, and strengthen buyer-supplier cooperation through flexible, EU-compliant contracting. US-style OTA models illustrate flexibility but remain incompatible with EU procurement law and WTO GPA obligations.
- **Converging priorities**. Stakeholders and policymakers align on the need of a faster procurement, stronger R&D-to-market links, and harmonized standards. The EU Startup and Scaleup Strategy lays groundwork through initiatives such as pro-innovation procurement reforms, faster procedures, the 28th regime, and the proposed EU Innovation Act. It remains strategic and complies with the EU's WTO GPA.

1. Introduction

Innovation procurement:
How can policymakers strengthen the EU public innovation procurement and its impact on deep-tech scaleups?

Relevance for the addressed readers

1. **Policymakers**
   Identifying challenges of deep-tech scaleups, possible policy interventions, and international examples.
2. **Deep-tech scaleups**
   Understanding the public authorities' approach through reference cases for engaging with public buyers.
3. **Deep-tech stakeholders**
   Contrasting policymaker and scaleup priorities, examples of practices, and possible gaps.

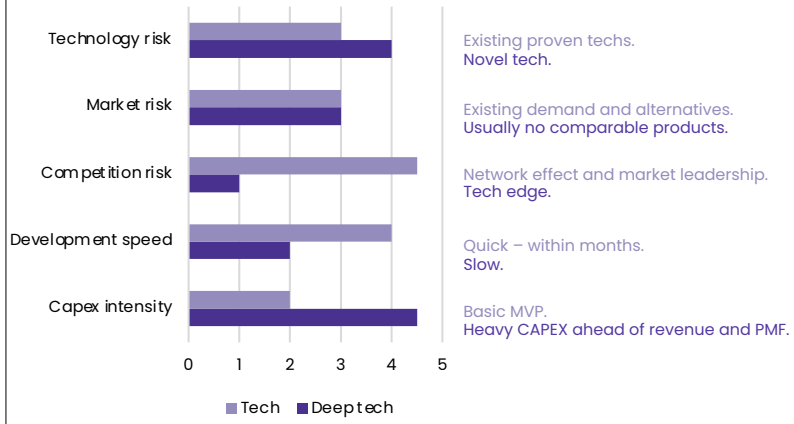
Note 1: 'Deep tech' is "a group of emerging technologies based on scientific discoveries or meaningful engineering innovations, seeking to tackle some of the world's fundamental challenges". For example: artificial intelligence, advanced materials, blockchain, photonics, etc. (IESE Business School, 2022).
Note 2: 'Scaleups' or 'scaling companies' refers to a subset of high-growth firms that have successfully navigated the early startup phase and entered a period of rapid growth. (Journal of Business Venturing, 2003; Organization for Economic Co-operation and Development, 2021). They have an average annualized growth rate of more than 40% for at least two out of three years and have at least 10 employees at the beginning of this period. Moreover, they are 10 years old or younger. 'Scaling' is the organizational and strategic routines by which firms grow exponentially through the expansion, replication, and synchronization of resources and practices over time. (Journal of Management Studies, 2023).

1. Introduction | Relevance of the topic

Deep-tech startups are different

They need longer time-horizons, higher CAPEX, with higher tech and market risks associated.

Figure 1. Comparison of deep-tech vs. non-deep-tech startup characteristics

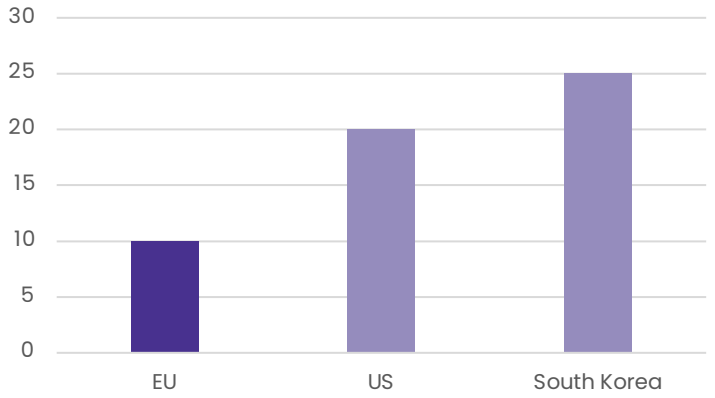


Source: IESE Business School (2021) and McKinsey (2022). Note: CAPEX is capital expenditure. MVP is a minimum viable product. PMF is product-market fit.

Limited innovation procurement

With a tendency to favor established suppliers, public procurement equals 16% of EU GDP. Yet just about 10% of this spending targets innovation

Figure 2. Innovation procurement as a percentage of total public procurement (2024)



Source: European Commission and EISMEA (2025) and European Commission (2025).

Definition

Innovation procurement: The purchase, by public-sector bodies, of R&D services or innovative solutions that are not yet available or widely adopted in the market, within applicable regulatory frameworks.

Source: See Annex 3: Triangulated definition of of innovation procurement.

1. Introduction | Additional definitions and acronyms

Anchor Customer: A key early client, often a public entity or large corporation, that validates a startup's solution by being the first to purchase or integrate it at scale.

Competitive Dialogue: A public procurement procedure in which a contracting authority engages in dialogue with shortlisted suppliers to define suitable solutions for complex needs, before requesting final tenders and awarding a procurement contract.

Demand-Side Inclusion: The integration of public demand into innovation ecosystems, encouraging suppliers to develop solutions aligned with societal needs.

EIC: European Innovation Council.

Fast-Track Procurement: In this report, a descriptive term for the use of existing procurement procedures that enable shortened timelines or greater flexibility within applicable regulatory frameworks—such as accelerated procedures or negotiated procedures without prior publication—when justified by urgency or market conditions. It does not constitute a separate procurement procedure.

Follow-On Procurement: In this report, a descriptive term for a separate procurement launched after an R&D or pilot phase, conducted in line with public procurement rules and generally open to all eligible suppliers, with no automatic right for prior participants.

GPA: Government Procurement Agreement.

Grants: Non-repayable financial awards provided by public authorities to support innovation or research activities.

Innovation Partnerships: Aim at the development of an innovative product, service, or work and the subsequent purchase of the resulting supplies, services, or works, provided that they correspond to the performance levels and maximum costs agreed between the contracting authorities and the participants.

IPR: Intellectual Property Rights.

Other Transaction Authorities (OTA): Flexible procurement mechanisms, primarily in the US, allowing non-traditional contracts for R&D and innovation outside standard regulations.

Pan-EU IP Contracts: In this report, a descriptive term for voluntary cross-border joint innovation procurement by contracting authorities in different EU Member States, using existing EU public procurement frameworks; not a standalone contractual procedure.

Pre-Commercial Procurement (PCP): Public procurement of R&D services involving risk-benefit sharing under market conditions and competitive development in phases, where there is a clear separation between the procurement of the R&D and the deployment of commercial volumes of end-products.

Procurement by Quotas: A policy allocating a share of procurement contracts to specific supplier categories (e.g., SMEs, startups). [It exists in regions such as US, China, and South Korea.]

Public Procurement: Use by which governments and public-sector bodies purchase goods, services, and works from external suppliers to meet public needs, under applicable legal and regulatory frameworks.

Public Procurement of Innovation: Purchase, by public-sector bodies, of R&D services or innovative solutions that are not yet available or widely adopted in the market, within applicable regulatory frameworks.

Public Procurement of Innovative Solutions (PPI): Public buyers acquire innovative solutions to cover their needs, acting as launching customers for innovative solutions that are not yet commercially available on a large scale, providing a stable demand to incentivise suppliers to invest in mass production and improve their product offerings.

R&D: Research and Development.

Regulatory Sandboxes in Procurement: A controlled procurement environment where new solutions are tested with limited risk, allowing experimentation in regulations related to their commercialization before full deployment.

RTD: Research and Technological Development.

SME: Small and Medium Enterprises.

Testbeds: Controlled real-world or simulated environments where new technologies can be tested, validated, and demonstrated before large-scale deployment.

TRL: Technology Readiness Level.

TTO: Technology Transfer Office.

Upskill: Education and training that aims to augment or refresh a learner's existing set of skills.

Venture Client: Within the corporate venturing realm, it is a type of strategic partnership and a highly integrated tool that corporations can use to purchase the first unit of a startup's product, service or technology when the startup is not yet mature enough to become a client. In this way, corporations can unlock the collaboration at an early stage.

Disclaimer: This report is not intended as a legal analysis or advice. It adopts a policy and practitioner perspective, assuming that procurement frameworks can evolve. While the focus is on the EU context, international practices are referenced for comparative purposes. The report is written for policymakers and stakeholders, not legal specialists.
Source: Prepared by the authors from multiple sources (see Annex 1: Methodology and 5: References).

2. Focus

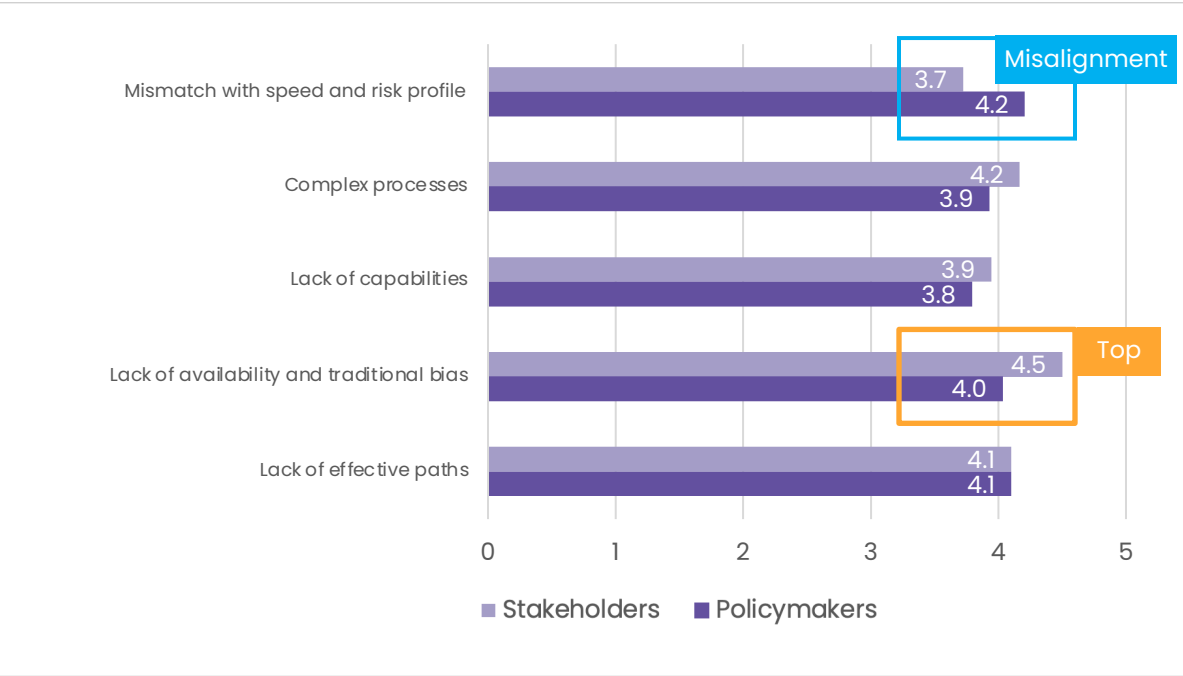
2. **Focus** | Core challenges and priority actions

Sub-question	Core challenges faced by EU deep-tech scaleups to be improved by policymakers	Description	Priority actions to be implemented by EU policymakers	Description	Policy lever type
How to **facilitate** EU deep-tech scaleups' access to public innovation procurement?	**Mismatch with speed and risk profile**	Public procurement is often not adapted to the speed and risk profile of deep-tech scaleups.	**Procurement models for deep tech**	Tailored to the risk, maturity, and development cycles of deep-tech solutions.*	Access
	Complex processes	In public procurement, this discourages deep-tech scaleup participation.	**Simplified procurement**	Create simplified tracks with fewer administrative burdens.	Speed
	Lack of capabilities	In public procurement to manage deep-tech scaleups.	**Deep-tech buyer academies**	Upskill procurement staff on tech risk and agility.	Talent
	Lack of availability and traditional bias	Public procurement often favors established suppliers, limiting access for innovative scaleups.	**Demand-side inclusion**	Use demand-side tools to improve deep-tech scaleups' access to procurement.	Access
	Lack of effective paths	Public R&D is sometimes disconnected from later-stage procurement or commercialization.	**R&D to market bridge**	Strengthen the transition from public R&D to scalable public contracts.	Access
How to **harmonize and aggregate** the public innovation procurement across Europe to improve deep-tech scaleups' participation?	**Regional and functional fragmentation**	Low cross-border and functional (in silos) procurement.	**EU joint buying**	Launch shared EU procurement portals for cross-border projects.	Infrastructure
	Procurement ineffectiveness	Fragmented implementation and standards hinder cross-border rollout.	**Harmonized procedures**	Adopt shared metrics and templates for procurement.	Speed
	Fragmented certification regimes	Different technical standards and certifications across EU hinder scaling.	**Unified standards**	Introduce EU-recognized certifications to support deep-tech scaleups.	Speed
	Joint IP framework	Lack of legal pan-EU infrastructure for IP.	**Standardized IP contracts**	Unify pan-EU IP models and clauses usable across Member States.	Speed
	Joint data-sharing framework	Lack of legal infrastructure for pan-EU data-sharing.	**Trusted data spaces**	Enable secure, shared testbeds for scaling innovations.	Infrastructure

Note: Possible examples include the venture client model and regulatory sandboxes in procurement.

Facilitating deep-tech scaleups' access to public innovation procurement

Challenges



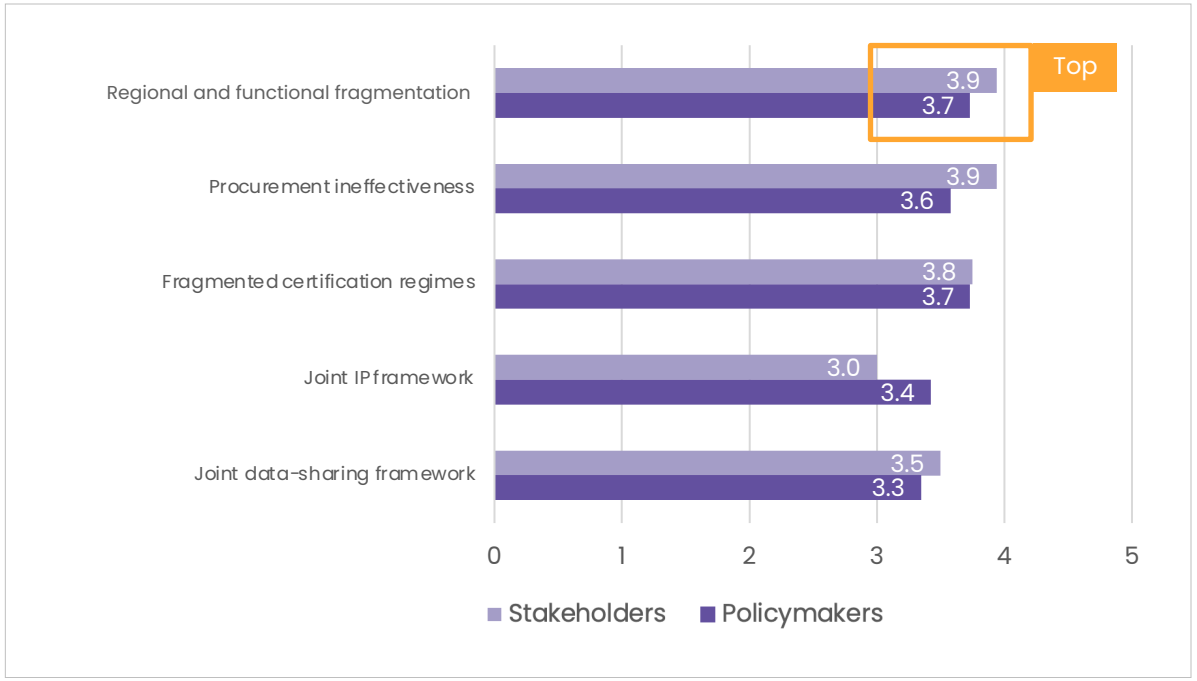
Actions

Source: Prepared by the authors (see Annex 1: Methodology). N = 49 (61% are policymakers and 39% are expert stakeholders, including investors, corporations, mentors, and companies).
Note: In the horizontal axis, 0 means "least important" and 5 refers to "most important". Data were reviewed at the date of publication. Misalignments are only highlighted when the difference is above 0.5/5.0. In the visualization, the numbers are rounded to one decimal place.

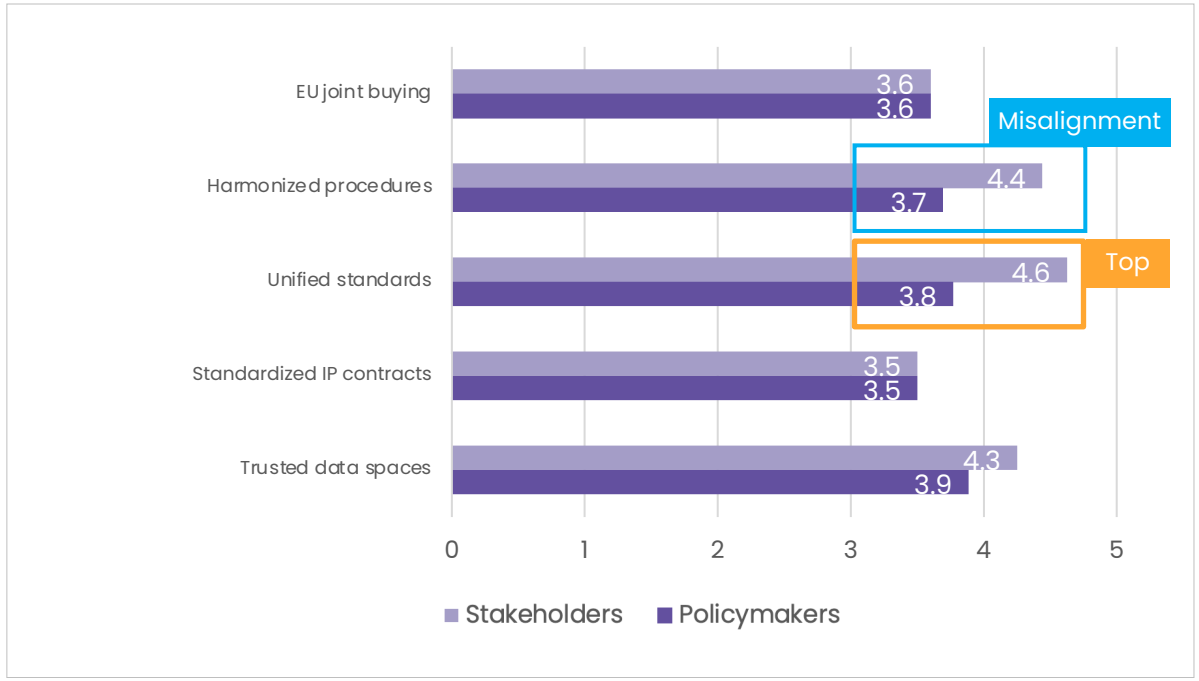
2. Focus | Core challenges and priority actions

Harmonizing and aggregating it across Europe

Challenges



Actions



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2. **Focus** | Learnings about the **challenges**

Facilitating deep-tech scaleups' access to public innovation procurement

1. **Top shared challenge: Risk aversion and limited spending on public innovation procurement:**
   - Data: Rated by policymakers 4.0/5.0 and stakeholders 4.5/5.0 (page 11).
   - Context: Public buyers continue to favor established suppliers due to risk and compliance concerns. The EU Expert Group on Innovation Procurement has noted that structural barriers—such as disproportionate financial requirements, reliance on past references, and administrative complexity—can limit startup and scaleup participation. However, EU initiatives such as the EIC's Innovation Procurement Program supports an increased participation of deep-tech scaleups as potential suppliers in tenders.

2. **Largest misalignment in challenges: Procurement not tailored (too slow and risk-averse for deep-tech scaleups):**
   - Data: Rated by policymakers 3.7/5.0 and stakeholders 4.2/5.0 (page 11).
   - Context: Deep-tech companies move faster and take greater risks than slow, sequential procurement allows. The mentioned Expert Group points to legal bottlenecks—such as low use of functional specifications, mandatory "lowest price" awarding, and restrictive IPR rules—that limit innovation-friendly procurement and discourage buyers from taking risks. This gap reinforces the case for agile alternatives (e.g., venture clienting) and policy-backed incentives to complement public procurement processes, allowing public buyers to validate early-stage technologies with greater confidence.

Harmonizing and aggregating it across Europe

3. **Fragmented demand: Limited number of cross cross-border and -functional procurements:**
   - Data: Rated by policymakers 3.7/5.0 and stakeholders 3.9/5.0 (page 12).
   - Context: Fragmented regional and sectoral demand limits the ability of innovative solutions to scale across the EU. The Benchmarking of Innovation Procurement (2024) indicates that differences in definitions, planning, and implementation continue to hinder harmonization, and that cross-border procurement remains limited. While initiatives such as Big Buyers Working Together support demand aggregation, further simplification and more consistent legal frameworks (e.g., 28th regime proposed by the Expert Group) may be needed to facilitate cross-border procurement.

4. **Largest misalignment: The relevance of a joint IP framework:**
   - Data: Rated by policymakers 3.4/5.0 and stakeholders 3.0/5.0 (page 12).
   - Context: Policymakers emphasize joint IP frameworks more than stakeholders. However, previous reports (e.g., Benchmarking of Innovation Procurement, 2024) suggest that unclear or complex IP conditions can slow procurement, and that predictable, innovation-friendly practices—such as functional specifications, transparent evaluation, and fair access—are often more relevant for scaleups than IP harmonization alone.

2. **Focus** | Learnings about the **actions**

Facilitating deep-tech scaleups' access to public innovation procurement

A **Top shared action: Simplified procurement:**

- Data: Rated by policymakers 4.5/5.0 and stakeholders 4.2/5.0 (page 11).
- Context: Strong alignment on the importance of simplified and faster procurement tracks with fewer administrative burdens to improve access for innovators and SMEs. Existing schemes often remain too generic for the speed and risk profile of deep-tech scaleups. For example, France's Achats Innovants allows contracts up to €100k without competitive tendering, but lacks features such as risk-sharing or validation tailored to deep tech.

B **Top second measure: R&D-to-market bridge:**

- Data: Rated by policymakers 4.2/5.0 and stakeholders 4.0/5.0 (page 11).
- Context: Both groups recognize the importance of ensuring that R&D evolves into scalable public contracts while ensuring transparency. Many deep-tech solutions stall between prototypes and commercial deployment due to limited early demand and slow procurement cycles. Strengthening this R&D-to-market bridge—through procurement of R&D services—might reduce buyer uncertainty and accelerate adoption.

Harmonizing and aggregating it across Europe

C **Top action and largest misalignment: Introducing EU-recognized certifications to support deep-tech scaleups:**

- Data: Rated by policymakers 4.6/5.0 and stakeholders 3.8/5.0 (page 12).
- Context: It is both the top action and the largest misalignment. Policymakers strongly support unified EU certifications to validate deep-tech solutions. Meanwhile, stakeholders show less enthusiasm, signaling the need to ensure these are practical, internationally recognized certifications, and not overly burdensome. The upcoming EU Deep-Tech Label could build trust in procurement and investment if aligned with industry and sector standards.

D **Second largest misalignment: Harmonizing procedures:**

- Data: Rated by policymakers 4.4/5.0 and stakeholders 3.7/5.0 (page 12).
- Context: Policymakers prioritize harmonized procedures to reduce fragmentation and make cross-border procurement simpler and more predictable. Stakeholders, however, are more cautious, concerned that overly uniform rules could limit flexibility for deep-tech experimentation or add administrative burden. A balanced approach would focus on shared templates and metrics that simplify access across Europe while preserving the adaptability required for emerging technologies.

3. Benchmark

3. **Benchmark** | Conceptual differences: Procedures, mechanisms, and buyers

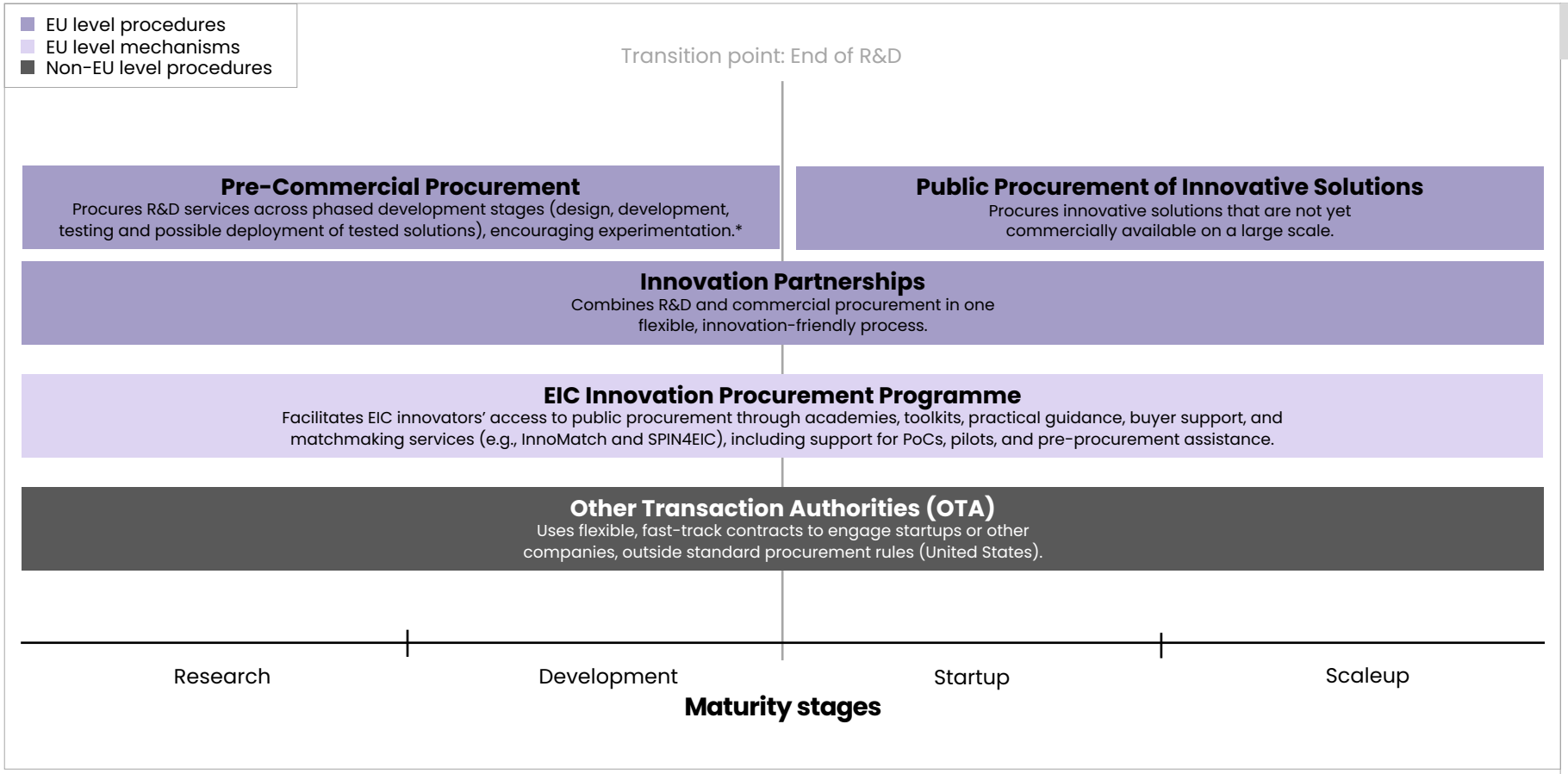
Within public innovation procurement:

	❶ **Procedures**	❷ **Mechanisms**	❸ **Buyers**
Definition	• **Formal contracting procedures**, with a defined legal basis, through which public demand is articulated.	• **Initiatives that** support or facilitate innovation procurement processes without constituting or replacing procurement procedures.	• **Public organizations** whose capabilities, incentives, and risk preferences shape procurement outcomes.
Scope	• Applied directly by public buyers through legally recognized procurement procedures.	• Direct (closely linked to procurement): e.g., competitive dialogues. • Indirect (facilitation and intermediation): e.g., innovation procurement academies.	• EU-level bodies. • National, regional, and local authorities. • Public agencies and utilities.
Features	• Lead to procurement contracts. • Governed by procurement law. • Determine contractual structure and risk allocation.	• Do not directly purchase solutions. • Aim to reduce risk, admin. friction, and information asymmetries.	• Hold procurement budgets. • Implement procurement procedures and mechanisms. • Decide whether and how to purchase.

All three elements operate within a shared legal and regulatory framework, including EU procurement law and international obligations.

Source: Prepared by the authors from several sources, including Research Policy (2025 and 2007), and Technological Forecasting and Social Change (2014).
Note: EU procurement law and WTO GPA rules generally prohibit selective or SME-only procurement and OTA-style follow-ons. However, it allows flexibility through EU-compliant tools such as functional specifications, phased risk-sharing procurement of R&D services, demand aggregation, and intermediation.

3. **Benchmark** | EU and non-EU examples of public innovation procurement



Observations

PCP not subject to WTO GPA constraints, PPI subject to WTO GPA except in the defense sector and in other specific cases.

Primarily implemented by national and regional contracting authorities, subject to WTO GPA constraints.

No automatic follow-on procurement but strong support via ecosystem preparation

EU equivalents are PCPs and PPIs outside WTO GPA and EU procurement directives: PCPs for R&D, and defense PPIs for purchasing war material.

Note 1: Most public procurement in Europe is national or local. This benchmark only covers selected EU-level procedures and mechanisms as of the analysis date.
Note 2: US OTAs rely on WTO GPA exemptions on open and non-discriminatory procurement for defense and R&D procurements. The EU uses similar exemptions in PCPs and follow-up procurements of defense innovative solutions.
Note 3: Evidence suggests that follow-on procurement is not automatic. It requires a separate procedure, often at the national or regional level.
Note 4: Some of these instruments and mechanisms are further detailed in the next pages. Procurement uses tenders; grants use calls for proposals.
Note 5: PCP may include the acquisition of limited, non-commercial volumes of solutions as part of R&D services, provided this does not extend to the production of large-scale quantity.

3. **Benchmark** | EU level examples: Public Procurement of Innovative Solutions

1 Challenge

- **Deep-tech startups and scaleups lack early large buyers**, face fragmented demand, and overcome the perceived risk of unproven solutions. Public buyers often favor familiar suppliers over scaleups, limiting the pace and scale of deep innovation.

2 Workshop voice

"As a friendly first customer, public organizations can buy from an early-stage technology to help not only themselves but also the startup or scaleup."

Pontus Rystedt | Open Innovation Navigator, OpenX Lab

3 Action

- The **Public Procurement of Innovation Solutions** enables public authorities to act as early adopters of innovative solutions that procure innovative solutions that have not reached 20% of market adoption in the Union yet.
- Focuses on procuring commercial volumes of innovative solutions (not R&D). Uses functional specifications and flexible IP rights.
- Simplifies application and encourages SME/startup participation. It may aggregate public demand, making innovative solutions more attractive and viable for scale.
- Often complements or follows the Pre-Commercial Procurement initiative or pilot tests. If a solution is valuable and works, it can be procured and deployed in a real-world setting in commercial quantities.

4 Potential impact

- **Short-term:** Recent examples illustrate the tangible impact of public procurement of innovative solutions. UVD disinfection robots deployed in Croatia and Italy achieved zero microbial presence after use, reduced disinfection time by up to 1.5 hours, and contributed to eliminating COVID-19 infections among staff in equipped departments. Similarly, the PPI4HPC joint procurement enabled European supercomputing centers to deploy next-generation, energy-efficient HPC systems, while incentivizing suppliers to integrate innovative components that improved versatility and power efficiency.
- **Long-term**: Firstly, it de-risked the path for deep-tech companies into mainstream markets, growing reference clients. Secondly, it modernized EU public services and built sustained demand for homegrown tech solutions. Thirdly, it may act as an engine for commercial scaling across borders.

Source: European Commission (2020, 2021), DG-RTD (2025), and European Commission website (n.d.). Accessed date 09/2025. Note: From a strategic autonomy perspective, separating PPIs from PCPs allows PCPs to favor or be limited to suppliers established in the EU, or those performing a significant part of R&D and subsequent commercial-scale production in the EU. PPIs can be limited to EU suppliers only when a WTO GPA exemption applies (e.g., defense procurers purchasing innovative war materials through a PPI may buy directly from PCP suppliers).

3. **Benchmark** | EU level examples: Pre-Commercial Procurement

1 Challenge

- **Deep-tech scaleups struggle to pilot and validate early solutions** in real settings, facing high risk, lack of public test customers, and fragmented tendering across Europe.

2 Workshop voice

"I think one of the biggest assets of the public sector is public procurement."

Jelena Simjanovic | Advisory Board Member, Spinmate

3 Action

- The **Pre-Commercial Procurement** (PCP) lets public buyers procure R&D services in stages across RTD TR levels 1–8 to research, develop, and test solutions. It may also include deployment of tested solutions, provided that the value of products procured remains below the R&D cost incurred by the supplier to research, develop and test the product and does not involve the production of a large quantity.
- It encourages competition and risk sharing: i.e., suppliers retain their IP in exchange for protecting and commercializing the solutions and meeting performance milestones. Multiple suppliers can participate, with contracts primarily covering R&D work and, where appropriate, the purchase or deployment of a limited number of final products.

4 Potential impact

- **Short-term**: Over 70% of PCP-funded solutions associate with market entry, with strong SME participation (73% of contract value) and significantly higher cross-border procurement (33% vs. 1.7% EU average). Around half of contractors report revenue growth linked to PCP outcomes. Illustrative example: Checkpoint Cardio (Bulgaria), awarded cross-border PCP contracts under NIGHTINGALE by procurers in the Netherlands, Sweden, and Belgium, successfully leveraged PCP to enter the market and scale its business.
- **Long-term**: Bridges the EU "valley of death" for R&D intensive firms; builds a pipeline of qualified suppliers ready for large-scale public and private procurement; and boosts EU competitiveness and SMEs' access to first clients and new markets.

Source: European Commission (2019, 2022), DG-RTD (2025), and European Commission website (n.d.), and Innovation Procurement Platform website (n.d.). Accessed date 09/2025. For additional evidence on impact and successful cases across the EIC portfolio, see the EIC Impact Report 2025.
Note: The indicated 70% reflects an association rather than a fully established causal effect. From a strategic autonomy perspective, as PCP falls outside the WTO GPA, it may be restricted to or favour suppliers established in the EU, or those carrying out a significant part of the R&D and subsequent commercial-scale production within the EU.

3. **Benchmark** | EU level examples: Innovation Partnerships

1 Challenge

- **Traditional procurement splits R&D from commercialization**, has high risk aversion, and rarely aligns end-users' needs with scaleup commercial goals. This leaves deep-tech scaleups with unclear paths from prototype to market-wide adoption.

2 Workshop voice

"We need public procurement for not only the wellness of the people but also to accelerate innovation."

Francesco Matteucci | Senior Advisor, Regione Emilia-Romagna

3 Action

- The **Innovation Partnerships** combines R&D and commercial procurement within a single, multi-stage framework.
- The public buyer and supplier purchase and iterate on solutions.
- It enables the procurement of innovations not yet on the market, smoothing the transition from lab to public rollout.
- Supports long-term relationships, and operates under harmonized EU legal frameworks (Directive 2014/24/EU).
- It opens the procurement market–including R&D–to economic operators outside Europe.

4 Potential impact

- **Short-term**: Integrates all innovation phases: R&D, prototyping, and commercial adoption in one contract, removing transition gaps. Enables contracting authorities to define functional and performance-based requirements and to procure solutions that meet these requirements, thereby reducing market and technological uncertainty for breakthrough solutions. Streamlines the adoption of complex solutions in fields such as health, mobility, and public infrastructure.
- **Long-term**: Supports the gradual institutionalization of demand-driven innovation through public procurement across the EU, contributing to more consistent application of procurement rules and practices at scale. Over time, bridges public-private innovation, cementing Europe's ability to build, test, and deploy next-generation tech at scale"

Source: European Commission website (n.d.). Accessed date 09/2025.
Note: From a strategic autonomy perspective, only procurement instruments that fall outside WTO GPA obligations can be used to limit participation to EU-based suppliers or to require R&D and production in Europe. While PCPs are doing so, Innovation Partnerships cannot.

3. **Benchmark** | EU level examples: EIC Innovation Procurement Programme

1 Challenge

- **Many startups face limited access to early reference customers** and structured demand, despite strong technological capabilities. At the same time, public buyers often lack visibility on validated EIC innovations.

2 Workshop voice

"Innovation procurement enables the modernization of public services through cutting-edge technologies and opens new markets for innovative SMEs and startups, contributing to their scaling up."

Vassilis Tsanidis | Innovation Procurement Program Coordinator,
European Innovation Council

3 Action

- The **EIC Innovation Procurement Programme** facilitates access for EIC-backed innovators to procurement markets in Europe and globally, while supporting the mainstreaming of EU innovation procurement by enabling public buyers to purchase innovative solutions instead of off-the-shelf products.
- This program strengthens innovators' skills to participate in tenders (e.g., through the EIC Innovation Procurement Academies), connects them with committed public buyers (e.g., through the EIC Innovation Procurement Community and matchmaking with buyers' challenges), and supports business opportunities (e.g., through procurement contracts, tailored assistance, and financial support for PoCs with committed buyers).

4 Potential impact

- **Short-term**: First customers for the EIC-backed solutions through structured and enhanced buyer engagement. Improved buyer confidence by reducing technological, supplier, and implementation risk. Higher participation of innovative SMEs and scaleups in procurement procedures. One recent example is the EIC-backed Italian company Ablio, which in about one year, it submitted a total value of €7.8 million in tenders. So far, 3/14 of these tenders have awarded a total value of €790k.
- **Long-term**: Supporting EIC innovators in identifying business opportunities through public procurement. Positioning these innovators as potential suppliers in public procurement procedures across Europe and globally. Promoting the mainstreaming of EU Innovation Procurement by assisting public buyers in implementing innovation procurements and conducting market consultations prior to purchasing. Translating public procurement into a strategic business market for innovators.

Source: European Innovation Council (2025). European Commission website (n.d.). Accessed date 09/2025.

3. **Benchmark** | Non-EU level examples: Other Transaction Authority

1 Challenge

- **Traditional government procurement is too slow** (based on Federal Acquisition Regulation), rigid, and compliance-driven to engage startups and nontraditional firms, particularly in fast-moving, R&D-intensive deep-tech sectors.

2 Workshop voice

"Standardization should make it easier and faster to operate across different regions. Yet, simplification should reduce bureaucracy. Otherwise, startups and scaleups would see it as an obstacle."

Jasmina Popovska | Head of Investments, EIT Manufacturing

3 Action

- US Congress authorized **Other Transaction Authority** for the first time for NASA in 1958.
- OTAs support R&D and prototyping. Follow-on production is only possible for procurements falling outside WTO GPA coverage (notably defense-related procurements). In GPA-covered civilian procurements, OTAs are in practice limited to R&D and are not used for commercial production or deployment.
- Encourages nontraditional firms/startups by reducing compliance burdens, enabling milestone-based payments, and permitting speedy, commercial-style negotiations and consortia collaboration.

4 Potential impact

- **Short-term**: Increased participation of nontraditional and dual-use suppliers in government contracts. Rapid access for the government to next-gen technologies via OTA adoption. Direct engagement of startups and corporates with public projects through consortia.
- **Long-term**: Structural and cultural shift in US procurement toward agile, innovation-driven practices. Sustainable public spending that drives innovation and attracts private investment.

Source: DOD (2023), IBM Center for the Business of Government (2021), McKinsey (2022), and Contract Management (2018).
Note: Department of Defence (DOD), and National Aeronautics and Space Administration (NASA).

3. **Benchmark** | Learnings

Despite an expanding set of EU-level procedures and support mechanisms for innovation procurement, the transition from pilots to sustained procurement remains uneven in the analyzed cases. Evidence suggests that follow-on procurement is not automatic and typically depends on separate decisions by national or regional contracting authorities, operating within fragmented legal and budgetary frameworks. Below are the takeaways of some of the analyzed cases:

Limited scaling from pilot to practice: Insights from selected EU procedures and mechanisms

1. **Risk-sharing procurement approaches appear to ease public-sector hesitation to test innovations:**
   Over 70% of Pre-Commercial Procurement (PCP) solutions have reached the market, 85% of phase-3 and 75% of phase-2 contractors have commercialized their solutions. Moreover, 73% of PCP value went to SMEs (vs. 29% EU average), aiming to reduce risk aversion among buyers and promote early validation (page 19).
2. **Early-buyer mechanisms may support market readiness and scaleup potential:**
   In the Public Procurement of Innovative Solutions (PPI), cases such as UVD disinfection robots in Croatia and Italy, and the PPI4HPC joint procurement showed measurable outcomes: improved infection control, time savings in hospital operations, and deployment of energy-efficient HPC systems across multiple Member States. This illustrates how PPI enables public authorities to act as first buyers of market-ready innovations and to aggregate demand (page 18).
3. **Integrated innovation partnerships show potential to strengthen continuity from R&D to commercialization:**
   Innovation Partnerships merge R&D and commercial procurement within one contract, helping align both phases and reduce transition losses through iterative co-creation and flexible specifications. However, from a strategic autonomy perspective, only procurement instruments outside WTO GPA can limit participation to EU-based suppliers or require R&D and production in Europe. While PCPs are doing so, Innovation Partnerships cannot (page 20).
4. **Intermediation mechanisms support early demand but do not replace procurement:**
   The EIC Innovation Procurement Programme shows how EU-level intermediation can reduce information asymmetries and increase buyer confidence by connecting EIC-backed startups with public buyers and supporting procurement readiness. It facilitates first deployments and pilots, but follow-on procurement and scaleup adoption ultimately depend on contracting authorities' budgets, priorities, and risk tolerance (page 21).

Regional fragmentation and limited experimentation: Learnings from selected international models

5. **Flexible contracting frameworks indicate possible pathways to greater agility and faster innovation adoption:**
   The US Other Transaction Authority (OTA) grants federal agencies special contracting power for R&D and prototyping outside standard rules. This enables milestone-based payments, consortia participation, and collaboration with nontraditional suppliers. The model has accelerated deep-tech innovations while reducing compliance burden and speeding time-to-market for government-funded projects (page 22).

4. Conclusions

4. Conclusions | Takeaways

Addressing these areas collaboratively at EU and Member-State levels might further support deep-tech scaleups through public innovation procurement.

1. **Evidence suggests Europe continues to face two main structural procurement gaps for deep-tech scaleups (pages 11, 12, 17, and 23):**
   - Scaling gap: limited availability for deep-tech scaleups, bias to traditional providers, and limited follow-on procurement.
   - Fragmentation gap: regional and functional fragmentation, as well as a lack of harmonized certification regimes and implementation standards.

2. **Intersections and misalignments between policymakers and stakeholders in priority challenges and countermeasures (pages 11-14):**
   - Challenges: Both groups agree on the lack of effective pathways and current fragmentation. However, policymakers place relatively more emphasis on the need of tailored support (4.2 vs. 3.7/5.0), whereas stakeholders prioritize the limited availability of this type of procurement (4.5 vs. 4.0/5.0).
   - Actions: Both groups converge on the relevance of EU joint buying. They diverge slightly on the usefulness of faster procurement, which policymakers value more highly (4.5 vs. 4.2/5.0). A larger misalignment appears around harmonized procedures, with stakeholders rating it higher (4.4 vs. 3.7/5.0).

3. **Lessons from benchmark initiatives illustrate (page 23):**
   - Risk-sharing procurement, such as PCP, appears to help reduce buyer hesitation.
   - Early-buyer models (e.g., PPI) may support faster scaleup adoption.
   - Integrated co-development (e.g., Innovation Partnerships) may better link R&D and commercialization.
   - Procurement intermediation (e.g., EIC Innovation Procurement Programme) may increase buyer confidence and innovative suppliers' participation.
   - Flexible contracting models (e.g., US OTAs) may improve agility but are usually incompatible with EU procurement law and WTO GPA.

4. **Broad convergence on three priority mitigations: Faster procurement, transfer bridges, and harmonization (page 28):**
   - Faster procurement: Simplify and speed up processes with milestone-based, failure-tolerant designs (e.g., 73% policymakers, 80% stakeholders).
   - R&D-to-market bridges: Strengthen continuity between pilot validation and commercialization (e.g., 73% policymakers, 76% stakeholders).
   - United standards: Introducing EU-recognized certifications to support deep-tech scaleups (e.g., 84% policymakers, 63% stakeholders).

5. **The EU Startup and Scaleup Strategy: Foundations and implementation considerations (page 28):**
   - It lays groundwork through initiatives such as pro-innovation procurement reforms, fast-track procedures, the 28th regime, and the proposed EU Innovation Act. It remains strategic, relying on (1) subsequent operationalization by EU Member States, and (2) compliance with the EU's WTO Government Procurement Agreement obligations on open and non-discriminatory procurement.

Annex

Annex 1: Methodology

Academic partner

IESE Business School University of Navarra

Collaborating partners

TechTour | bpifrance

webrazzi | EurA

hello tomorrow

Methodology

This study explores how policymakers can strengthen the EU public innovation procurement and deep-tech scaleups' participation, specifically by improving the access of deep-tech scaleups to a more harmonized and aggregated innovation procurement across Europe. The research team followed a multi-step approach combining literature review, exploratory interviews, expert workshops, surveys, reviews, and more.

- **Literature review:** A comprehensive review of academic research, institutional reports, policy papers, and EU documentation was conducted to identify challenges and possible policy actions. This helped develop a structured classification of challenges and actions by theme as well as potential gaps. Insights were systematically analyzed and triangulated, ensuring conceptual clarity and relevance.
- **Exploratory interviews:** Preliminary insights were gathered through unstructured interviews with experts during multiple international events. These insights informed the design of the subsequent stages.
- **Expert workshops and survey:** Three online and onsite workshops were moderated for further validation to gather qualitative and quantitative data from 49 experts, including scaleups, investors, corporates, policymakers, and mentors. Diversity in geography, industry, and gender was ensured. Responses were analyzed across several stages—categorizing by keyword repetition and frequency—to identify and validate key patterns. Four researchers conducted the analysis. Results were quantified, rounded to the nearest unit.
- **Review:** The draft report was revised by four additional experts: one academic, two practitioners, and one policymaker, strengthening the robustness of the findings. Moreover, although AI was used in the editing of this article, the authors always verified the accuracy, originality, and integrity of the final text.

The study's primary methodological challenges and mitigations were:

- Evolving policy landscape: The parallel development of the EU startup and scaleup strategy created an overlap. To remain relevant, the research question was progressively refined to focus on under-addressed topics. The second stage of the literature review was updated in real time to reflect new releases.
- Avoiding popularity bias: While consensus among respondents can indicate importance, research is not a vote. To ensure evidence-based conclusions, we applied countermeasures such as expert selection, triangulation, multi-sourcing, and contrasting perspectives.
- Sectoral differentiation without redundancy: Disaggregating challenges by sector (e.g., biotech, mobility, space) while avoiding overlap required iterative refinement. For this, this study also builds on a two-year previous effort involving over 381 additional experts and the development of 10 Challenge Roadmaps to understand the EU deep-tech scaleup perspective.

Given the complexity of the topic, further work could include (i) testing selected policy options in regional sandboxes and (ii) developing new studies with a deeper focus on the public buyer perspective.

Annex 2: Priority actions from cross-source triangulation

Insights from stakeholders, policymakers, workshops, literature, and EU strategy

Sub-question	Priority action	Sources				EU Startup and Scaleup Strategy	
		Stakeholders	Policymakers	Workshops	Literature		
Improving	Tailored procurement	52%	73%	✓	✓	✓	Pro-innovation procurement reforms
	Faster procurement	73%	80%	✓	✓	✓	Faster procedure for public procurement
	R&D to market bridge	73%	76%	✓	✓	✓	Lab to Unicorn, pro-innovation procurement, TTO support
Harmonizing	Harmonized procedures	79%	60%	✓	✓	✓	28th regime, EU Business Wallet, EU Innovation Act, etc.
	United standards	84%	63%	✓	✓	✓	Standard definitions of startup, scaleup, innovative firm
	Trusted data spaces	73%	60%	✓	✓	✓	Charter of Access, EU Innovation Act

>70% of total

>50% of total

0–50% of total

✓ Qualitative mention

Note: The sources are the combination of N (49), which is distributed between 30 policymakers and 19 stakeholders. Percentages (%) reflect the share of respondents who rated the action as 4 or 5 on a 1–5 importance scale in the survey among their group. Checkmarks (✓) indicate that the action was mentioned in at least one source of the literature, in the EU Startup and Scaleup Strategy (in this case, it provides some examples), and in the workshops' discussions. TTO refers to technology transfer office.

Annex 3: Triangulated definition of innovation procurement

Definitions

Source	Focus	Core element	Emphasis	Main references	Intersection
European Commission	Policy and legal	Innovation procurement is "any procurement that has one or both of the following aspects: (1) buying the process of innovation–R&D services–with (partial) outcomes, and (2) buying the outcomes of innovation."	Demand-side innovation policy; compliance with procurement rules; role of public buyers as early adopters.	European Commission (2021), Guidance on Innovation Procurement, Sections 1.1 and 1.2	Innovation procurement is the purchase, by public-sector bodies, of R&D services or innovative solutions that are not yet available or widely adopted in the market, within applicable regulatory frameworks.
European Innovation Council	Operational	Innovation procurement is the "acquisition of new, cutting-edge solutions that are either not yet widely available in the market or have not yet achieved mainstream adoption." […] "It includes the development of innovative solutions through the procurement of R&D services; the procurement of innovative solutions that are not yet available or do not exist on the market; and the procurement of innovative solutions that do exist but are not yet widely available on the market."	Practical implementation; PCP and PPI distinction; buyer support and intermediation.	EIC (2024), Innovation Procurement Toolkit, Section 1.2	
Academic literature	Theoretical	Innovation procurement is "the process by which a public agency purchases, or places an order for a product—service, good, or system—that does not yet exist, but which could probably be developed within a reasonable period of time as a result of additional or new innovative work by the organization(s) willing to produce, supply and sell the products being purchased."	Market creation; system-level effects; conditions for effectiveness.	Chiappinelli et al. (2025) and Edquist et al (2000).	
Non-EU: OECD	Benchmark	Innovation procurement is "any kind of public procurement practice (pre-commercial or commercial) that is intended to stimulate innovation through R&D and the market uptake of innovative products and services."	Strategic state demand; national priorities.	OECD (2017), Section 1.1	
Non-EU: US	Benchmark	In the US federal system, innovation procurement refers to the acquisition of research, development, and innovative solutions conducted under the Federal Acquisition Regulation, particularly FAR Part 35 (Research and Development Contracting) and FAR Part 12 (Commercial Products and Commercial Services), using standard procurement procedures such as FAR Parts 13 and 15.	R&D and prototyping; within standard federal acquisition rules.	Federal Acquisition Regulation (2024): Parts 2, 12, and 35. United States DoD (2023). Other Transactions Guide.	

Note 1: OTAs represent a specific and limited instrument, used in cases falling outside WTO GPA obligations, primarily to support R&D and prototyping.
Note 2: This intersection definition follows the European Commission as the primary anchor. It is complemented by EIC operational guidance, theoretical academic literature, and context from other regions.

Annex 4: Acknowledgments to contributing experts and organizations

Experts

Aet Alise Michelson, Technical University of Munich
Alba Soldevilla, Spanish Congress of Deputies
Ana Catarina Gomes, Independent Consultant
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Benoit Samanos, Mecaware
Bernd Wacker, Siemens
Boštjan Božič, Trapview
Cristina Vicini-Rademacher, Vicini Strategy
Daniel Serra, EIT Urban Mobility
David Golding, Innovate UK
Federico Menna, EIT Digital
Francesco Matteucci, Regione Emilia-Romagna
Gancho Kolaksazov, Institute for Technology Transfer and Innovations
Gilles Le Cocguen, Bpifrance
Ina Piperaki, Piperaki International Consulting
Ioannis Sagias, European Commission
Itziar Blasco Donoso, Barcelona Activa
Ivo Locatelli, European Commission (former)
Jasmina Popovska, EIT Manufacturing
Jelena Simjanovic, Spinmate
José María Blasco, ICEX Spain Export and Investment
Juraj Kubica, European Commission
Justina Klyviene, Health Tech Accelerator
Lauren Steed, City of Amsterdam
Luis Baratas, ICEX Spain Export and Investment
Luke Incorvaja, EIT
Mirza Sikirić, Zenica Development Agency
Nicoletta Zappatini, Olea Capital
Omar Beidas, Government of the Balearic Islands
Paulina Podskubova, Government Office of the Slovak Republic
Pontus Rystedt, OpenX Lab
Rosalía Machín Prieto, Spanish Ministry of the Interior – Guardia Civil
Romana Pikulova, Czech Technical University in Prague
Shiva Dustdar, European Investment Bank
Tadas Tumėnas, Lithuanian RDI Liaison Office
Teresa Riesgo, Spanish Ministry of Science, Innovation and Universities
Vassilis Tsanidis, Innovation Procurement Advisor, European Innovation Council, European Commission

Note: Only those who acknowledged appearing. The organizations are the ones at the time of the analysis.

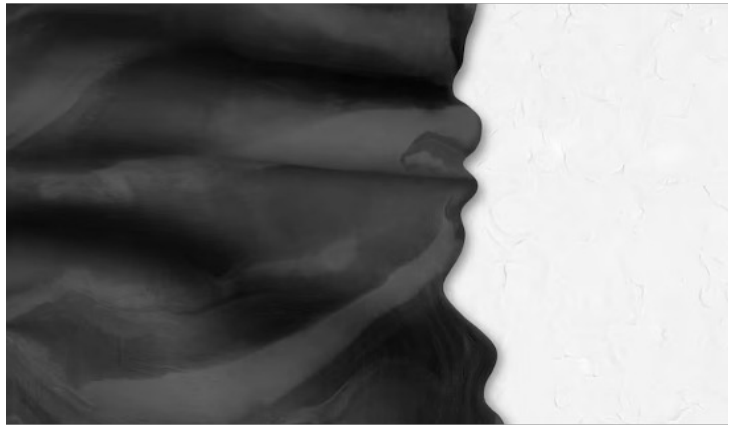
Annex 4: Acknowledgments to contributing experts and organizations

Organizations

Source: Companies' website. Note: Only those who have allowed the use of the logo.

Annex 5: References | Selection

Benchmarking of innovation procurement investments and policy frameworks across Europe



Read more:

Source: European Commission (2024).

Bringing down legal barriers for innovation procurement

Read more:

Source: Corvers (2025).

Navigating challenges and unlocking the potential of European funding for innovation procurement to support innovation scaleup

Read more:

Source: European Commission (2024).

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