ESNA Compendium

Building a competitive Europe: the role of startup and scaleup ecosystems

Volume V: Intellectual Property and Technology Transfer

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Building a competitive Europe: the role of startup and scaleup ecosystems

Intellectual Property and Technology Transfer Volume V

Objectives, best practices, and correlations to give Europe the optimal administrative conditions for Startups and Innovation

For further information on ESNA's activities, please visit our website www.esnalliance.eu/en

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About ESNA

Founded as a direct result of the EU Startup Nations Standard of Excellence Ministerial Declaration in March 2021, ESNA is committed to transforming Europe's startup landscape by fostering a robust, interconnected, and competitive entrepreneurial environment within Europe, that drives innovation and economic prosperity across the continent.

About the Network and Strategic Initiatives Unit

The Network and Strategic Initiatives Unit intends to harness the startup ecosystem stakeholders' network to support on policy trends, strategies and initiatives that are aligned with the objective of bringing Europe to the forefront of the global startup ecosystem.

Disclaimer

Views and opinions expressed in this document do not necessarily reflect the position of the European Union regarding each topic covered in this report. The insights presented in this publication are based on desk research and expert dialogue, and the content is independent of ESNA's institutional viewpoint.

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PRR Plano de Recuperação e Resiliência
REPÚBLICA PORTUGUESA
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Foreword

Europe's strength in science and research is widely recognised. Yet turning that strength into scalable innovation remains an ongoing challenge. At a time of increasing global competition, the European Union is placing renewed emphasis on bridging this gap, ensuring that knowledge generated across Member States more effectively supports growth, resilience, and technological leadership. This Volume represents a strategic contribution to that effort, addressing the long-standing challenges that limit the full commercial potential of Europe's research base.

Following the foundations established in the ESNA Compendium, this document forms the final part of a five-volume series dedicated to the key pillars of the EU Startup and Scaleup Strategy. It focuses on the research-to-venture pathway, connecting EU-level ambition with actionable solutions at national and institutional levels. Structured around core areas such as intellectual property management, patent valorisation and the development of academic spinouts, it provides concrete directions to enhance Europe's capacity to generate scalable, investable innovation. These proposals reflect the input of ESNA's Advisory Board and Partners, bringing together on the ground experience and policy expertise.

Europe's research base is among the strongest globally, however, turning research into market success continues to face obstacles. Fragmented rules, complex approaches to intellectual property, and gaps in scaleup financing slow progress. This Volume puts forward a more coordinated approach, positioning intellectual property as a lever for investment and expansion.

This Volume brings together long-term policy thinking with concrete evidence. Based on examples and experience from across Europe, it outlines the current situation and points to practical steps to strengthen the development, protection, and commercialisation of research. It is structured to move from analysis to policy context, and then to targeted actions and recommendations.

Alongside its proposals, the Volume also offers practical tools, including comparative insights and guidance for implementation, aimed at policymakers, universities, and ecosystem actors. The objective is to support clearer decision-making and better alignment across national and European levels.

These actions focus on improving the effectiveness of Europe's research and innovation systems and supporting its position in deep tech and emerging industries. A key part of this is enabling researchers to translate their work into scalable ventures. In doing so, the Volume contributes to a broader effort to ensure that innovation in Europe moves beyond creation and into real deployment and growth.

This Volume is designed to support more coordinated action across Europe's innovation ecosystem, helping ensure that knowledge is more consistently translated into real and lasting impact.

Arthur Jordão
Executive Director, ESNA

Executive Summary

Europe has long been a continent where knowledge shapes trajectory. From the medieval universities of Bologna and Paris to the industries that led to the creation of Airbus, Europe's identity is inseparable from its research tradition. Yet history also shows that knowledge alone has never been enough.

Over the past decades, the continent has invested heavily in scientific excellence through consecutive Framework Programmes, and established a policy ecosystem built to feed into fundamental discovery. Europe now produces world-leading research outputs, ranks high in STEM graduates per capita, and maintains an unparalleled network of public universities and research institutes.

However, this excellence has not yet translated into impact at the scale expected globally.

As highlighted by the European Commission's recent report *"Spinoffs: Driving innovation across the EU-27"*, only **23% of university spinoffs** in the region operate in deep tech, even though deep tech absorbs **44% of Europe's venture capital** and represents the technological frontier of modern competitiveness. The report makes clear that Europe's research achievements are not fully becoming investor-visible ventures.

The reasons are structural and systemic: fragmented regulatory frameworks, long and complex IP negotiations, uneven access to growth-stage capital, and university equity stakes that discourage private investment all contribute to a reality where research-born ideas too often remain inside the lab. Across the continent, patents are still perceived as legal objects rather than **strategic assets**, and academic inventors often remain disconnected from venture pathways that could amplify their work.

To elevate from "excellent research" to **world-leading commercial impact**, Europe needs to transform the very architecture of how IP, patents, and spinouts are created, valued, governed, and financed.

This fifth and final Volume of our five-volume strategy responds directly to this challenge. Its ambition is twofold:

1. **To present a state-of-the-art assessment** of Europe's research-to-venture pathway - identifying what works, where bottlenecks persist, and where the opportunities lie.

2. **To co-design a forward-looking vision** - shaped with ESNA's Advisory Board and ESNA Partners - for reframing academic IP and technology transfer as central pillars of Europe's Startup and Scaleup Strategy for the next decade.

The first chapter focuses on context, which must be considered to understand the rationale behind this Volume. Chapter II is centred on policy, notably by assessing recent initiatives undertaken at the European level to improve the existing framework. The third chapter acts as a transition between the current landscape and potential solutions by identifying three action pillars. The penultimate chapter gathers best practices from both countries

and universities, which inspires and steers policymakers towards an IP-friendly ecosystem. The last chapter provides tangible and practical solutions aimed at improving current frameworks for researchers, policymakers, university staff, investors and founders.

What distinguishes this Volume is its combination of human-centred perspective and a scientific approach. Europe's research legacy is today at the top of the EU agenda and one of the main objectives of this specific last volume is to support and guide how, from a policy perspective, academics and researchers can more effectively transform their knowledge into tangible assets and, finally, scale their invention in Europe and beyond.

Document Structure

In order to continue our support of the Startup and Scaleup Strategy, a pathway was created by connecting two visions: an EU-level approach and a national-level approach. This was carried out through strategic thinking based on the selection and analysis of best practices, supported by historical, data-driven knowledge of Europe.
The document was designed to be as concise and practical as possible by incorporating targeted recommendations, Key Performance Indicators (KPIs), and a comparison of best practices into its structure.
All of this logic is set within the framework of three main pillars that are consistently present in this document:

1. Recommendations, KPIs & benchmarks: A practical guide
2. Making strategy tangible: correlating actions, objectives, and possible outcomes
3. The architecture of strategy: pathways, performance, and practice

This document is the continuation of ESNA's Compendium - published in November 2024 - a document that analyses Europe's past, present and future by acknowledging the previous 20 years within the European startup ecosystem. Following its publication, ESNA delivered four policy-centred documents of a five-part series of volumes, each of them focusing on a strategic pillar: #1 Regulatory Barriers, #2 Investment, #3 Talent, and #4 Entrepreneurial Culture. Intellectual Property (IP) & Tech Transfer is the last publication of this series.
The document suggests major actions that are both evidence-based and forward-looking:

Spinout investment terms reform

- Harmonised, investor-ready equity and royalty models
- Balanced incentives across founders, institutions, and investors
- Core venture readiness: IP, business plan, PoC, team
- Faster formation and improved access to capital

Academic culture & TTO transformation

- Incentives aligned with commercialisation outcomes
- Market-oriented, impact-driven TTOs
- Pro-spinout academic culture
- Stronger research-to-market execution

Investment and funding frameworks for IP valorisation

- IP recognised as a financeable asset

- Grant frameworks aligned with patent lifecycles
- Funding rules supporting commercialisation pathways
- Reduced “valley of death” through better capital access

These actions were developed thanks to the strong guidance of ESNA’s Advisory Board and Partners, acting as our voice from the market.

Finally, this document acts as a backbone for future steps, aligned with ESNA’s vision to position Europe at the forefront of the global startup ecosystem.

This IP & Tech Transfer Volume is structured to progressively guide the reader from context to action, aligning strategic insight with operational feasibility:

1. Setting the scene
The imperative of IP & Tech Transfer in Europe's competitiveness

2. Mapping EU policies
Policy landscape and EU-level frameworks on IP & Tech Transfer

3. Working Group insights
Three evidence-based proposed actions

4. Mapping national policies
National and universities’ best practices

5. Suggested solutions and KPIs
Concrete policy proposals and performance frameworks

6. Final recommendations

In Volume V, we turn our analytical lens to the **institutional interface** between Europe’s research powerhouse and its **commercialisation outcome**. In other words: how do we take the researcher, the lab, the intellectual property (IP) and ensure that patents, licences, spinouts and tech transfer become **real value items** on a venture’s balance sheet, comprehensible to investors and integrated into financing strategies.

ESNA Volumes' methodology

Key contributor	Strategic thinking
ESNA Compendium	**Foresight analysis:** identifying signals of change across sectors. **Horizon scanning:** tracking innovation across the EU and globally. **Strategic intelligence gathering:** drawn from expert white papers, market reports, and innovation indexes. **Systems thinking:** mapping how different actors and policies interact within the innovation ecosystem.
Advisory Board meetings	**Design sprints:** framing the problem and rapidly iterating solution pathways (online and in-person AB Meetings). **Structured expert:** forecasting and consensus building. **Sharing insights:** 1:1 meetings to share inputs and follow-up on actions content.
ESNA Partners contribution	**Participatory co-creation:** involving stakeholders in defining problem and solution framing. **Ecosystem mapping:** identifying roles, interdependencies, and resource flows. **Asset-based thinking:** leveraging strengths already present in the ecosystem. **Knowledge exchange labs:** facilitating cross-border learnings and policy co-design.
Best Practices Catalogue	**Benchmarking & Comparative analysis:** identifying global frontrunners and patterns of success. **Case study methodology:** deep dives into implementation and context with qualitative insights. **Expected impact on the startup ecosystem:** researching of expected impact each practice can bring to the ecosystem.
Desk Research	**Policy review & legal scan:** understanding institutional context.

A strategic and deep dive volume with an overview of the European startup ecosystem and concrete actions to the challenge faced

IP & Tech Transfer

Spinouts Investments Terms

a. Equity models
b. Royalty agreements

Academic culture & TTO transformation

Fostering an entrepreneurial landscape at universities

Investment

IP as a collateral & updating grants system

I. Setting the scene

Key themes

- Europe remains a global leader in research excellence, but struggles to translate it into scalable companies and global competitiveness.
- IP and technology transfer are central to value creation, yet fragmentation and weak governance limit their effectiveness.
- Academic spinouts are growing rapidly, particularly in deep tech, but face persistent barriers in scaling, exits, and access to capital.
- Misaligned incentives across universities, TTOs, and funding systems hinder commercialisation and discourage investor participation.
- Grant rules and patent frameworks are not aligned with innovation timelines, creating gaps in IP protection and market readiness.

Strengthening IP as a strategic and financial asset, alongside deeper capital markets and policy alignment, is key to retaining value in Europe. Europe has built a world-class research base, however it is still not widely recognised for turning that research into globally competitive startups and scaleups. The gap is most visible in deep tech and other critical industries, where innovation often originates in laboratories and must be translated through effective intellectual property management and tech transfer. Fragmentation in patenting, IP governance, and commercialisation increases the risk that Europe will lose economic value and societal impact from publicly funded research. Critically, patenting is low and declines from year to year in EC grant funded projects, and a major driver of this decline is an eligibility/timing mismatch in the AGA where patenting is multi-year journey, but eligible actual costs need the "generating event" taking place during the action, hence prosecution services required after the project end are not eligible. This underlines that legal integration alone is not enough: institutions also need clear guidance, incentives, and capability to use the system effectively, and changes are required to EC grant funded programmes to permit patent file-to-grant costs as eligible.

The EC and various actors within the startup and scaleup ecosystem have recently intensified to pilot and improve the way researchers commercialise innovation and push for new patent to emerge from labs (more on this in Chapter II Mapping Policies). This volume - the fifth and last one of our five-volume series - is the final building block of ESNA's supportive work to the EU Startup & Scaleup Strategy. It focuses on one of the most pressing issues for Europe's innovation future: how to bolster and capitalise on academic research's value, and how to turn patents and other intellectual property rights into tangible and intangible financial assets for the whole ecosystem.[1]

In previous volumes, we have addressed:

[1] Note: "financial asset" and/or "intangible asset" refer to recognising the patent as a balance-sheet asset that can be formally valued, thereby strengthening the company's valuation and financial position.

• Volume I: “Regulatory Barriers” - how to unlock the European market, overcome fragmentation and support scaleup processes across borders, notably with the 28th regime.
• Volume II: “Investment” - how to adapt Europe’s financial ecosystem (venture, growth, debt, public-private) to match the pace and ambitions of global competitors.
• Volume III/IV “Talent and Entrepreneurial Culture” - how to attract and retain Europe’s talent across its Member States and foster entrepreneurial culture between academia, industry and startups.

Over the past two decades, the evolution of Europe’s startup and scaleup ecosystem has been clearly intertwined with the trajectory of its research and innovation policy. The successive EU Framework Programmes have provided the technological foundations upon which Europe’s entrepreneurial ecosystem has been built. Since the early 2000s, Europe has progressively moved toward a more interconnected model, where universities, research centres, corporates, and startups increasingly operate within shared European missions and funding instruments[2].

This research backbone has recently begun to translate more visibly into entrepreneurial activity, notably with the rise of dedicated instruments within Horizon 2020 and Horizon Europe, including the foundation of the EIC (European Innovation Council) in 2021. While Europe has successfully generated a steady flow of startups and research-based spinouts, it has struggled to consistently scale them into global champions.

As stated by the President of the European Commission, Ursula von der Leyen at the World Economic Forum in January 2026,

> *“We are home to global champions in fields ranging from wind power to next-generation batteries. From aerospace to the industrial machines that are essential to build chips or advanced weapons. Our companies are taking up AI at the same pace as their US peers. Europe is in the race for the key technologies of tomorrow[3]”.*

However, numbers do reflect a structural gap between Europe’s strength in research and its capacity for growth capital and exits - precisely the gap that the EU Startup & Scaleup Strategy now seeks to close.

Historical outlook: from European excellence to steady patenting

Europe has long been a global research power, accounting in 2024 for **19.2% of the world’s top 10% most-cited scientific publications**[4]. However, it is not reflected in intellectual property generation nor in real value creation that would be expected in a fast-growing tech ecosystem. Moreover, Europe generates **approximately**

[2] Rossi, C., Desoche, M., & Ribeiro, S. (Project team). (2025c). Building a competitive Europe: The role of startup and scaleup ecosystems - Volume III/IV: Talent and entrepreneurial culture. European Startup Nations Alliance. https://l1nq.com/nuqa542

[3] European Commission President Ursula von der Leyen Speech at the World Economic Forum 2026, https://sl1nk.com/gxlokr0

[4] Science-Metrix. (2024). Analysis based on Scopus (Elsevier) data. Directorate-General for Research and Innovation, European Commission.

10.3%[5] **of global international patent applications, several of which do not reach the commercialisation stage.**

As seen in the image below, European universities and research centres have witnessed the creation of **around 17,000 spinouts since 1990**. The acceleration is particularly striking after 2015, highlighting the higher maturity levels of technology transfer structures and the growing acceptance of entrepreneurship as a legitimate pathway for researchers. This not only reflects academia's efforts to further collaborate with the business community, but also the need for a sharp mindset shift, as highlighted in some of our recent publications[6].

More importantly, although post-2015 marks a turning point in Europe's innovation history, research-based company creation must be a systematic outcome of the research system itself.

Since 2019, **spinouts have accounted for around 40% of all new startups**, representing an **80% increase compared to the 2010–2018 period**[7]. This is a structural transformation of the ecosystem. Deep tech and life sciences are among the most important sectors in Europe. Universities and public research organisations typically play a central role in these fields, and since 2015 "the value creation has accelerated, with 39 per cent of all spinout value deriving from companies founded thereafter"[8].

[5] This data refers global patent applications by region. World Intellectual Property Organization. (2025). World intellectual property indicators 2025. WIPO.

[6] Rossi, C., Desoche, M., & Ribeiro, S. (Project team). (2025c). Building a competitive Europe: The role of startup and scaleup ecosystems - Volume III/IV: Talent and entrepreneurial culture. European Startup Nations Alliance. https://l1nq.com/9hlsihj

[7] Dealflow. (n.d.). European university spinouts: Jobs created and investments raised (2018–2023). Dealflow.

[8] Quested, T. (2025, November 19). Cambridge and Oxford star as European deeptech and life science spinouts hit $398bn valuation. Business Weekly. https://sl1nk.com/u753ipe

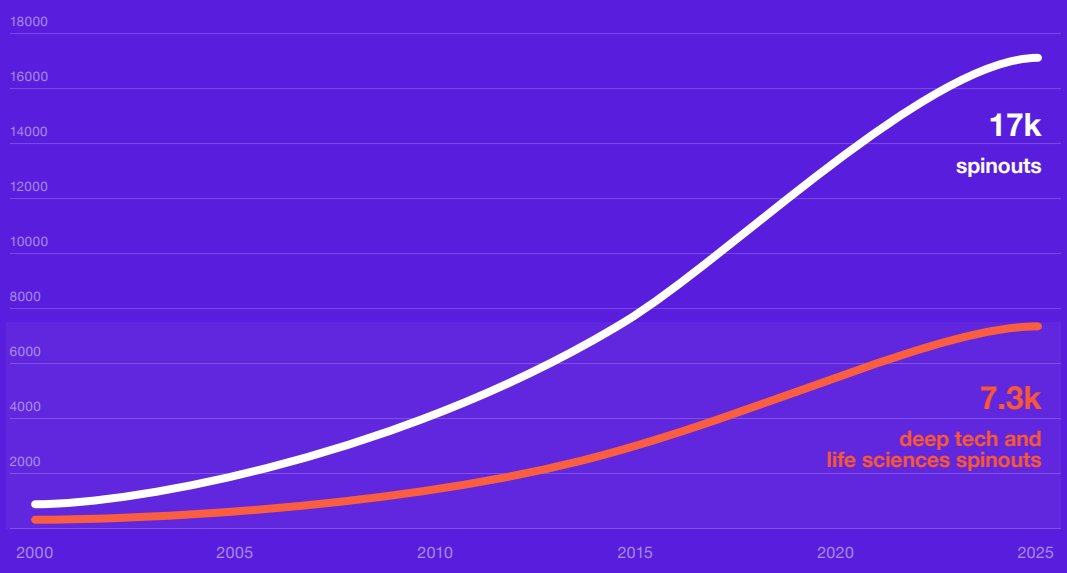


Figure 1. Number of research spinouts startups founded since 1990 from European universities and research centres by launch year

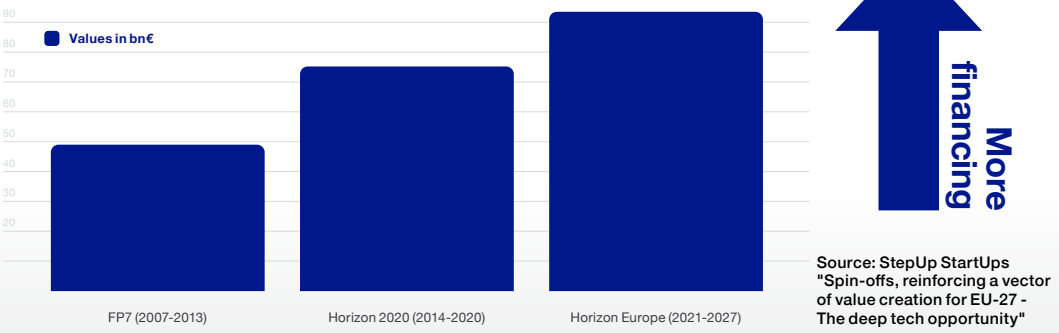
Source: Dealroom.co. (2025). The European spinout report 2025. Dealroom.co.

In 2025, the EU launched initiatives such as Choose Europe to strengthen Europe's attractiveness as a destination for leading scientists and researchers, with a focus on improving research careers, mobility and working conditions. However, many of the long-standing challenges in translating inventions into spinouts and scalable companies – including IP negotiations, institutional equity models and access to early-stage finance – remain only partially addressed and continue to hinder the creation and growth of research-based companies.

Other positive trends related to universities and research centres are worth highlighting. European deep tech and life sciences spinouts "raised $7.9bn as of November 2025". From a policy standpoint, this sustained increase in spinout funding is encouraging, especially against a backdrop of generally weaker European VC flows. The image below exemplifies this phenomenon by crossing data on the growing budgets of successive EU Framework Programmes with recent signs of stagnation or slight decline in patenting activity, highlighting a possible decoupling between public R&I investment and certain innovation outputs.

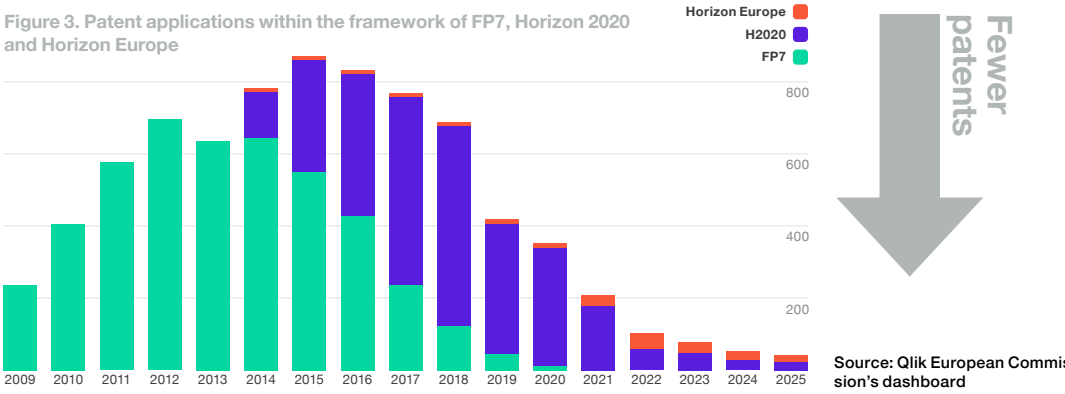
Therefore, the challenge now lies in ensuring that the systems governing IP, capital, and scaling enable this momentum to translate into sustained European competitiveness, rather than allowing the resulting value to be predominantly captured by non-European investors and acquirers.

Figure 2. Evolution of research and innovation financing programmes



Source: StepUp StartUps "Spin-offs, reinforcing a vector of value creation for EU-27 - The deep tech opportunity"

Figure 3. Patent applications within the framework of FP7, Horizon 2020 and Horizon Europe



Source: Qlik European Commission's dashboard

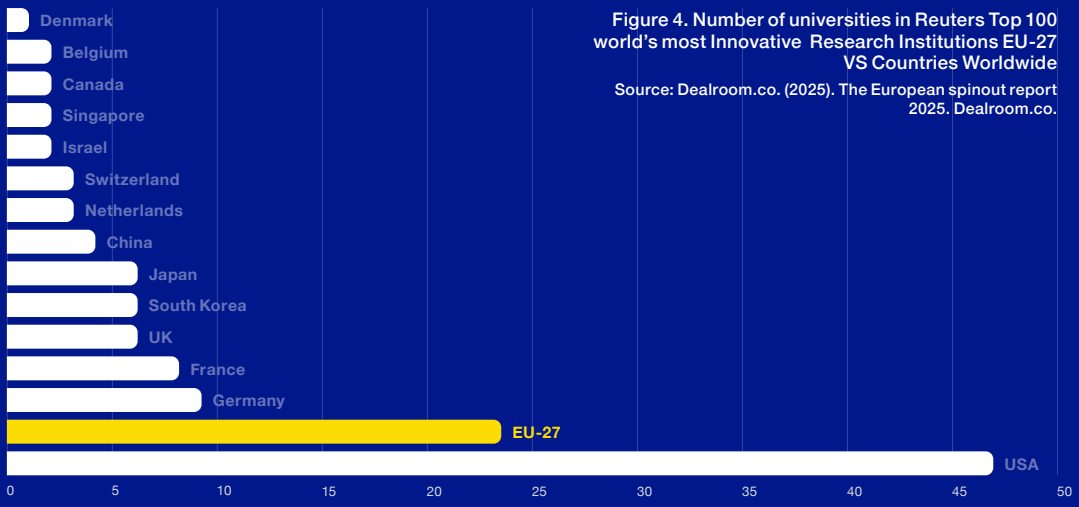


Figure 4. Number of universities in Reuters Top 100 world's most Innovative Research Institutions EU-27 VS Countries Worldwide

Source: Dealroom.co. (2025). The European spinout report 2025. Dealroom.co.

Europe's research legacy and its spinout landscape today

Europe's research institutions are world-class. The continent accounts for a leading share of global scientific publications, produces a large pool of STEM graduates, and has benefited from decades of sustained public investment through successive EU Framework Programmes. Europe does not suffer from a deficit of knowledge, talent, or foundational science. On the contrary, it has built one of the richest public research ecosystems in the world, with universities and research centres that consistently rank among the global top tier.

And yet, excellence has not translated into scale, also referred to as the European Paradox[9]: Europe excels at research outputs but struggles to translate it into scaled commercial value.

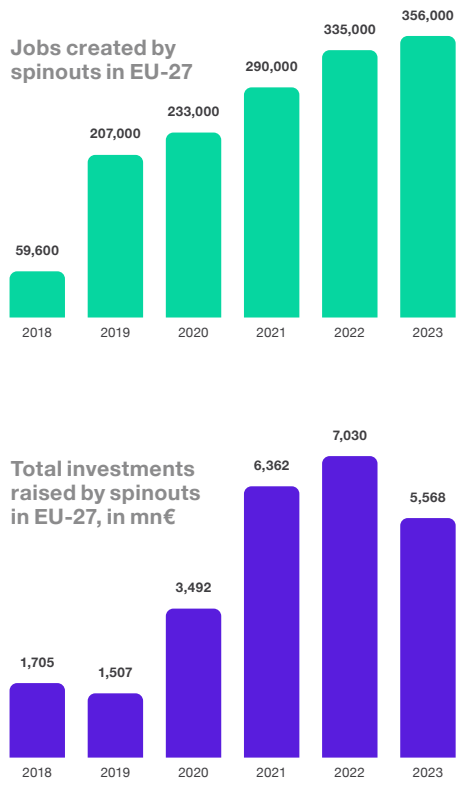


Figure 5. Jobs created and investments raised by spinouts in EU-27

Source: Dealflow. (n.d.). European university spinouts: Jobs created and investments raised (2018–2023). Dealflow.

[9] The European Paradox refers to the observed phenomenon where Europe excels in scientific research and development but struggles to translate these strengths into commercially viable, innovation-driven business and marketable products.

At the same time, recent evidence shows that academic spinouts are beginning to counterbalance some of these weaknesses. Over the past five years, university and research spinouts have emerged as a significant engine of economic impact across the EU-27. Between 2018 and 2023, spinouts generated **approximately 1.4 million jobs**, with annual job creation accelerating sharply-from around **59,600 jobs in 2018** to more than **356,000 jobs in 2023**. This growth trajectory mirrors capital mobilisation trends: during the same period, spinouts raised **close to €24 billion in investment**, peaking at over **€7 billion in 2022** before stabilising in 2023. Taken together, these figures illustrate not only the scale already achieved by Europe's spinout ecosystem, but also its role as a growing contributor to employment, innovation, and regional economic development, despite the structural constraints identified throughout this volume.

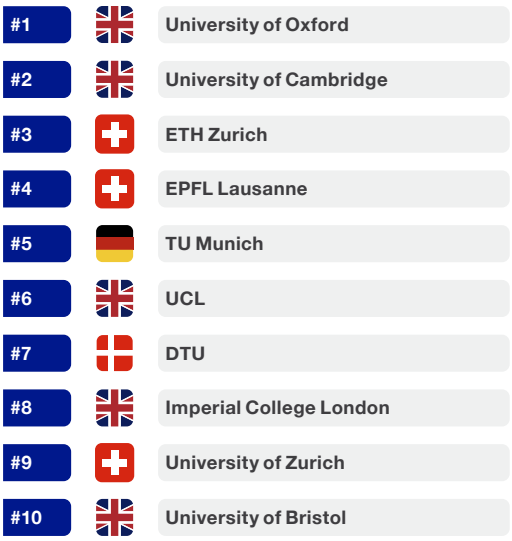


Figure 6. Top universities in Europe by deep tech and life sciences spinout value created

Source: Dealroom.co. (2025). The European spinout report 2025. Dealroom.co.

Beyond their aggregate economic footprint, spinouts are also reshaping the composition of Europe's startup landscape. At the same time, spinouts are becoming central to Europe's innovation ecosystem. Since 2019, academic spinouts have accounted for **around 40% of all new deep tech and life sciences startups**, an **80% increase compared to the 2010–2018 period**[10]. These trends confirm that Europe's research base is producing more companies while increasingly shaping where long-term value and industrial leadership emerge.

Spinouts are considerable assets for both the startup landscape and Europe's wider innovation economy. Although they represent only a fraction of all startups, they are more likely to evolve into scaleups due to their solid scientific foundations and defensible intellectual property. Deep tech is often at the core of spinouts due to their research-intensive nature, and the underlying breakthroughs are closely tied to critical industries with significant societal and economic impact.

Across Europe, university spinouts are strongly concentrated in **deep tech and life sciences**. In line with findings from ESNA's **Investment Volume**, deep tech stands out for the depth of its early-stage pipeline and the growing number of recently founded companies - signalling a strong potential of future value creation, while this segment remains highly sensitive to access to patient capital and long-term

[10] Dealroom.co., Atlantic.vc, Cambridge Innovation Capital, MITO Technology, Northern Gritstone, & Oxford Science Enterprises. (2025). The European spinout report 2025. Dealroom.co.

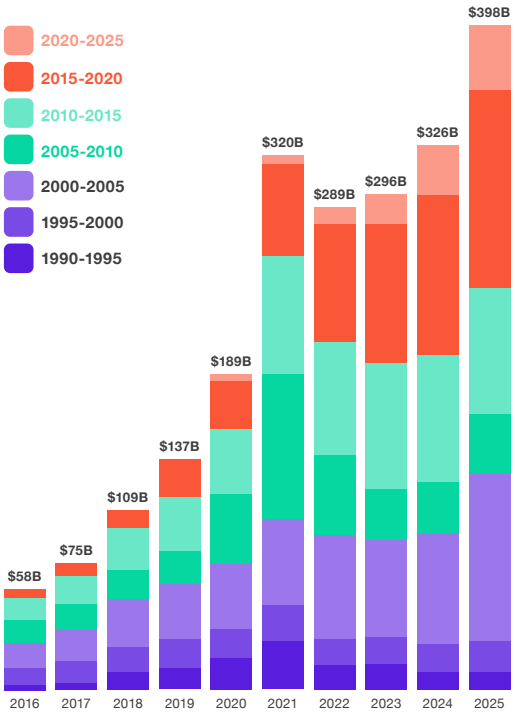


Figure 7. Combined enterprise value of spinouts from European universities and research centres by launch year

Source: Dealroom.co et al. (2025), The European Spinout Report 2025.

financing instruments.

Europe has developed a vibrant spinout ecosystem ranging from **AI-enabled deep tech, medical devices, climate and energy technologies, and semiconductor** - sectors that align closely with the **critical industries** identified in ESNA's Talent & Entrepreneurial Culture Volume. **Quantum technologies** are particularly worth highlighting: they have already generated exponential enterprise value despite a lower number of startups. This reflects both the intensive research in the field and its strategic importance. Energy and climate tech - especially nuclear - and semiconductors also stand out as key spinout fields.

By contrast, sectors such as defence, space, and robotics remain less driven by university spinouts, highlighting the need for more integrated pathways between research, industrial policy, and scaleup in these domains. "European startups focused on quantum, photonics, nuclear, and life sciences have strong links to universities, while defence, space and robotics companies are less likely to be underpinned by academic research"[11]. Finally, it is also worth noting that defence is an emerging sector for startups, and

[11] Quested, T. (2025, November 19). Cambridge and Oxford star as European deeptech and life science spinouts hit $398bn valuation. Business Weekly. https://l1nq.com/031mzis

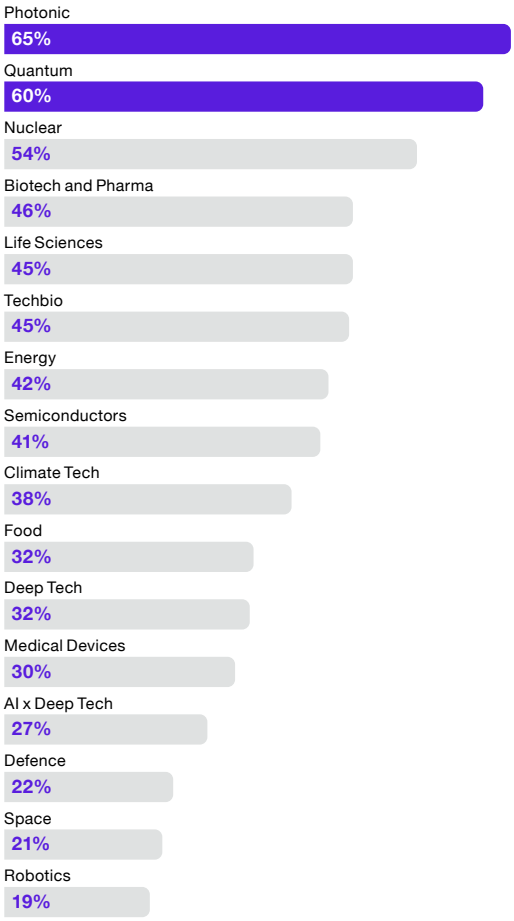


Figure 8. Spinouts as % of VC-backed deep tech and life sciences startups by segment in Europe

Source: Dealroom.co. (2025). The European spinout report 2025. Dealroom.co.

is typically spearheaded by national authorities, hence a lower representation at university level.

Core concepts: patents and IP as strategic assets

Europe's patent system has evolved from highly fragmented national regimes toward greater harmonisation, notably with the launch of the Unitary Patent and the Unified Patent Court, aiming to reduce costs and complexity for newly granted European patent owners. Uptake has been meaningful (about one in four European patents in the first year), but adoption is still a strategic choice for applicants, influenced by cost, litigation risk appetite, and portfolio strategy. Pertinently, adoption is low in EC grant funded projects where IPR/patent applications are declining, and a significant driver of this decline is an eligibility/timing mismatch in the AGA where patenting is multi-year journey, but eligible actual costs need the "generating event" taking place during the action, hence prosecution services required after the project end are normally eligible. This underlines that legal integration alone is not enough: institutions also need clear guidance, incentives, and capability to use the system effectively, and changes are required to EC grant funded programmes to permit file-to-grant costs as eligible.

The patent system and collateral assets

A patent is a set of exclusive rights granted in law to applicants for an invention that meets the standards of novelty, non-obviousness and industrial applicability. It is valid for a limited period (generally 20 years), during which time the patent holder may commercially exploit the invention on an exclusive basis. In return, applicants are obliged to disclose their inventions to the public, so that they may be replicated by others skilled in the art. The patent system is designed to encourage innovation by providing innovators with time-limited exclusive legal rights, thus enabling them to appropriate returns from their innovative activity[12].

Patents are still too often treated as legal outputs of research rather than as strategic instruments of value creation. Yet, a patent is a temporary, territorially-limited monopoly that can drive company formation, attract investment, enable licensing and partnerships revenues, and help safeguard technological sovereignty in critical value chains. Europe remains a major global patent producer, but only a limited share of these assets are systematically translated into spinouts, licences, or growth-oriented corporate assets. This Volume therefore frames patents not as legal end-products but as financial, strategic, and governance tools that should shape venture creation and capital structuring from day one.

Financial collateral is an asset provided by a borrower to a lender. It minimises the risk of financial loss to the lender if the borrower fails to meet their obligations[13].

[12] World Intellectual Property Organization. (2025). World intellectual property indicators 2025. WIPO.

[13] European Central Bank. (n.d.). Collateral. European Central Bank.

Private equity's role in European intellectual property rights

A joint report by Invest Europe and the EUIPO[14] highlights the strong ties between private equity and IP in Europe, as 14% seed stage PE/VC–backed companies have filed for at least one patent between 2007 and the first half of 2023 (see image below).

PE and VC invested in 50,000+ companies in the EU in 2024, out of which 20% holding patents, amounting to a €156.6 billion investment. Patents are a key asset for start-ups, which are more likely to receive PE/VC funding, attract larger investment tickets and exhibit higher survival rates, which confirms that protected IP acts as a signal of quality and innovation for investors.

Further key insights include:

- PE/VC investment is associated with increases in both the quantity and quality of patenting activity at company level.
- Governance, incentive systems and management of property rights are significantly improved when involving PE/VC investors.
- Debt financing constraints can be mitigated by using strong patent portfolios that can support collateral-based or IP-backed lending solutions.

Overall, the document demonstrates that PE and VC investments are well aligned with EU innovation and competitiveness frameworks, and that IP-intensive portfolio companies constitute an important component of Europe's growth potential.

[14] European Union Intellectual Property Office (EUIPO), & Invest Europe. (2023). Intellectual property rights and private equity/venture capital investment. EUIPO.

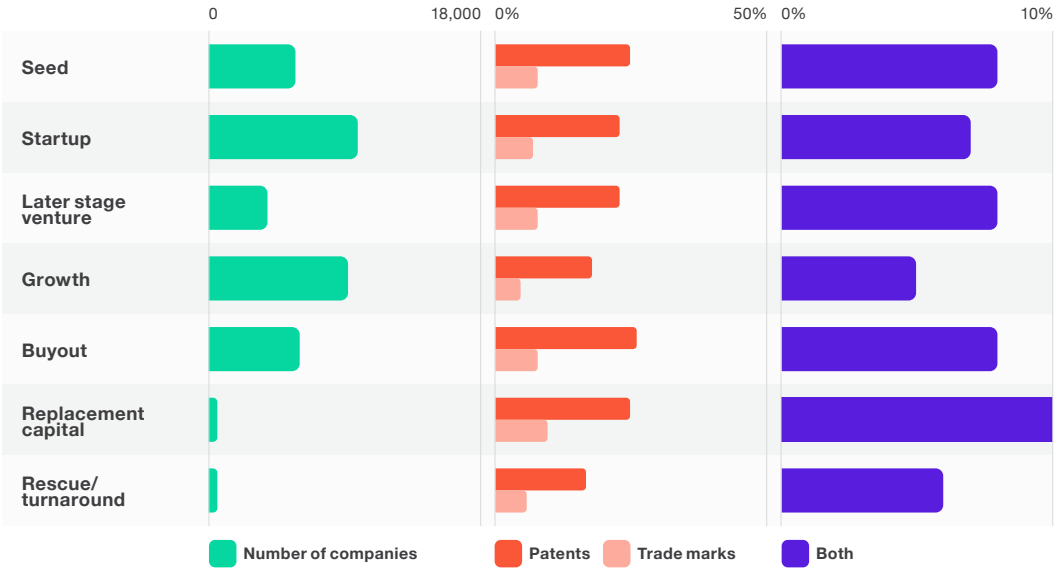


Figure 9. Number of companies and share of companies filing for IP rights by investment stage between 2007 and the first half of 2023

Source: European Union Intellectual Property Office (EUIPO) and Invest Europe (2024), Protecting European Innovation: Private Equity's Role in European Intellectual Property Rights, EUIPO

The bigger picture: Single Market / CMU / 28th regime

Importance for the EU Single Market Strategy

Released in May 2025, the Single Market Strategy acknowledged that "more intense use of intellectual property rights (IPR) would improve SME access to finance and thus aid their scaling up in the Single Market. IP protection is the key driver for intangible asset investment and a strong market signal of SME innovative potential". This document also underlines the importance of the Patent Package, implying the full participation of all Member States in the Unitary Patent System, which would mark a decisive step towards a more integrated Single Market for intellectual property.

> "*To support this transition, the Commission will assess the functioning of the Unitary Patent while intensifying targeted outreach to encourage remaining Member States to join the system.*
> *At the same time, the forthcoming European Innovation Act and the Startup and Scaleup Strategy are expected to introduce concrete measures to strengthen the valorisation of intellectual property across Europe.*
> *In parallel, the Commission, together with the European Union Intellectual Property Office (EUIPO), will extend the SME Fund to 2026 - and potentially to 2027 - while exploring an expanded scope that goes beyond registration costs to include IP valorisation, valuation, and commercialisation, as well as support for geographical indications linked to craft and industrial products*"[15].

These measures are particularly relevant for universities, public research organisations and their spinouts, for which IP-based financing tools and a more integrated IP regime can directly improve access to growth capital and cross-border scaling within the Single Market.

Diagnosing systemic frictions: IP governance and incentives

Understanding how intellectual property is governed is key for understanding this Volume. In this context, IP governance refers to the rules, decision-making processes and incentive structures that determine who owns which rights, how those rights are managed (e.g. equity shares, licensing terms, inventor rewards) and how they are used to support commercialisation and scale up.
Universities in Europe tend to retain relatively high equity stakes in early academic spinouts, sometimes without taking on a corresponding share of financial or operational risk. The 2024 ESNA Compendium already highlighted university equity policies as a critical issue for any policy agenda as these practices can deter private investors, thereby widening the gap between academic excellence and entrepreneurial

[15] European Commission. (2025). The Single Market Strategy 2025. European Commission.

opportunities and ultimately impacting long-term European competitiveness. These practices are not only a matter of individual negotiations. These outcomes are not just the result of individual negotiations, they reflect broader IP governance arrangements - including institutional rules on ownership, equity, revenue-sharing and decision-making over patents and other IP - that determine who carries risk and who captures value. Against this backdrop, it is notable that only around **11% of deep tech university spinouts reach valuation levels comparable to mainstream European startups**[16], which points to a persistent difficulty in converting strong scientific assets into companies that attract growth-stage capital at scale - a pattern consistent with the capital-market constraints identified in ESNA's Investment Volume.

Europe's IP challenge is also tied to a cultural divide, which requires a mindset shift as indicated in ESNA's Talent and Entrepreneurial Culture Volume. Academic systems reward publications, citations, and competitive grants, whereas entrepreneurial ecosystems reward speed, risk management, and market traction - two very different operating logic. European universities and public research organisations generate a substantial volume of high-quality, often publicly funded intellectual property. Yet, commercial uptake remains limited and uneven across Member States. This makes IP governance - including equity, licensing and inventor-incentive policies - a central lever for aligning institutional practices with innovation and scaleup objectives.

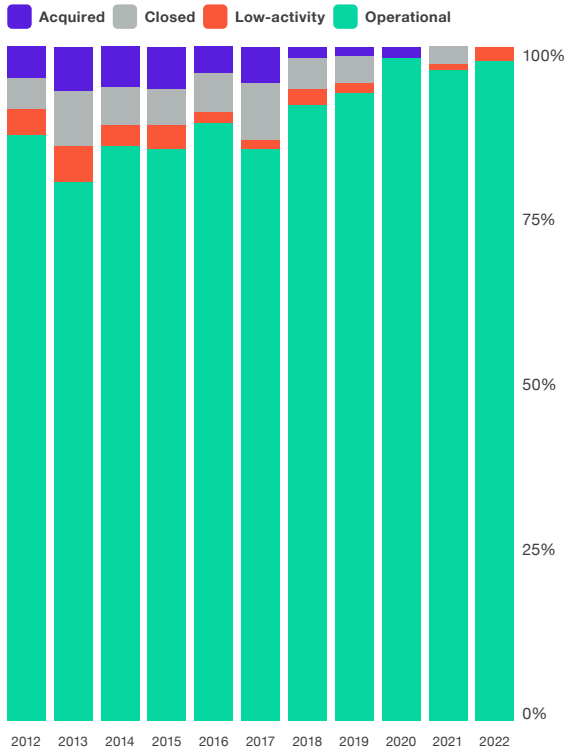


Figure 10. Spinouts have a low failure rate, but also relatively few exits through acquisition.

Source: Dealflow. (n.d.). Company status of EU-27 university spinoffs by launch year (2012–2022). Dealflow.

Data (see image below) shows that **spinouts exhibit a markedly higher degree of stability than other startups**: the vast majority of those launched after 2012 remain operational today, with **closure rates consistently below 10%** across cohorts. However, exits remain rare: acquisitions, the most common exit route in startup ecosystems, are uncommon for spinouts, and IPOs are even rarer in Europe. Europe has built a pipeline of robust, science-based ventures, but capital markets and prevailing IP valuation practices - including how patents and other rights from academia are assessed, priced

[16] Dealroom.co. (2025). The European spinout report 2025. Dealroom.co. https://sl1nk.com/kv63wit

and used as collateral – have yet to fully evolve to unlock their growth potential, especially when compared with more mature IP-driven financing practices in other ecosystems.

The image below highlights the discrepancies between different funding round stages for spinouts. It is also worth noting that the main type of exit is acquisition. While VC participation increased from 2016 onwards, grants remain a significant source of funding for spinouts. Additionally, later stage rounds are growing, which is promising for prospective scaleups, but the capital base remains insufficiently European. As indicated in ESNA's Investment Volume, nearly half of late-stage funding for deep tech and life science spinouts still come from outside the EU, predominantly from the United States. While the domestic share has improved in recent years, this continued reliance on non-European capital underscores the limits of a fragmented capital market.

A short overview on exit reality in Europe

Different models exist in the Spinout Investor ecosystem, ranging from single to multi-university funds, to independent funds with focus on spinouts

Figure 11. Spinout Investor models

Source: Dealroom.co et al. (2025), The European Spinout Report 2025.

On the one hand, rising exit values demonstrate that European spinouts can generate significant returns and are attractive acquisition targets. On the other hand, the fact that a large share of this value is captured by non-European acquirers reflects a clear structural imbalance. A higher volume of Europe-based exits would increase liquidity and recycle capital, talent, and experience back into the ecosystem.

This is where the **EU Single Market Strategy**, the **Capital Markets Union**, and the discussion around a possible **28th regime** become decisive for the future of spinouts. A more integrated single market would lower the cost of scaling across borders and improve investor confidence, while deeper and more integrated capital markets would increase the availability of growth capital. Greater legal and financial harmonisation would also increase liquidity, making European exits more frequent, more diverse, and eventually more likely to remain within Europe.

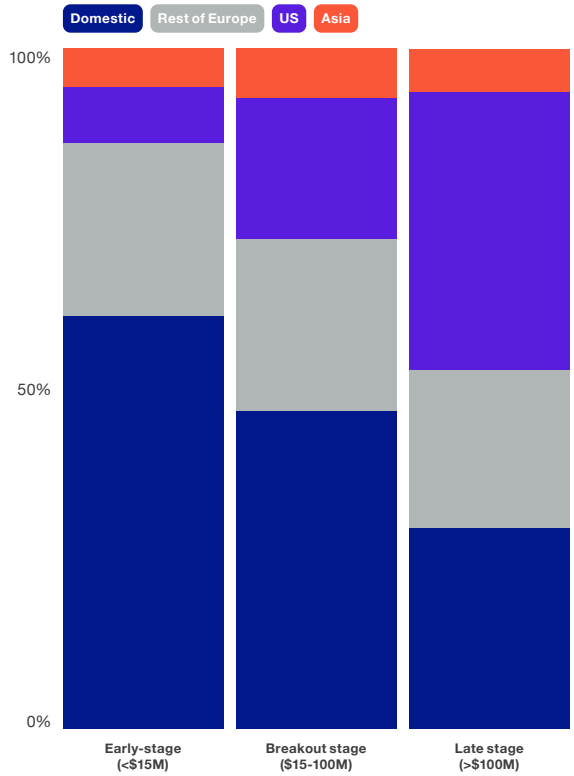


Figure 12. Europe Late-stage funding is still lacking

Source: Dealroom.co., Atlantic.vc, Cambridge Innovation Capital, MITO Technology, Northern Gritstone, & Oxford Science Enterprises. (2025). The European spinout report 2025. Dealroom.co. https://dealroom.co/reports/european-spinout-report-2025

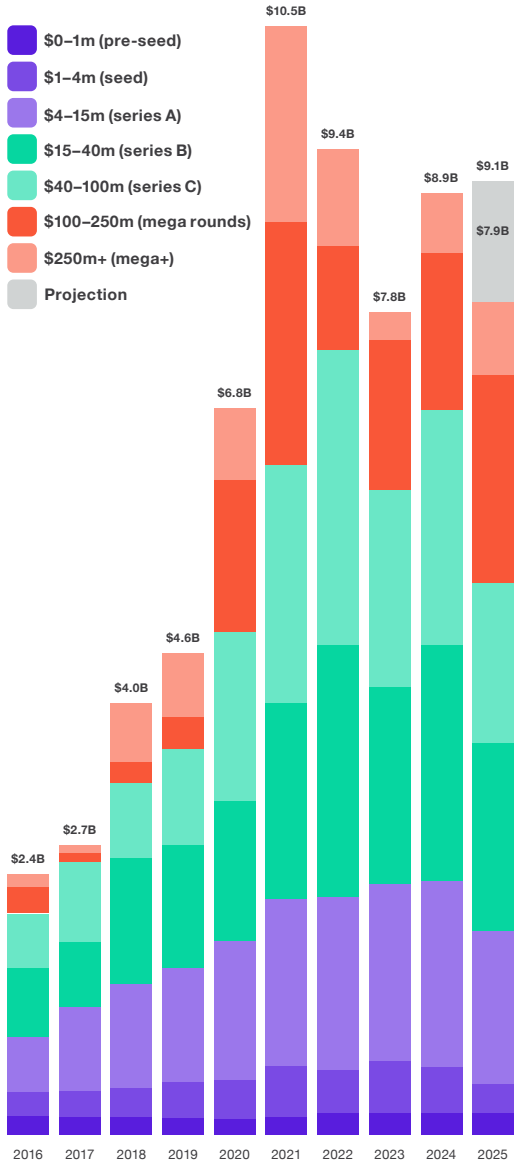


Figure 13. Venture Capital investment in European deep tech and life sciences research spinouts by stage

Source: Dealroom.co. (2025). The European spinout report 2025. Dealroom.co.

Looking ahead: beyond constraints

As indicated at the beginning of this chapter, despite Europe being home to some of the world's leading researchers and research institutions, the conversion of publicly funded research into tangible intellectual property and investable ventures that can generate real economic and societal value remains structurally weak compared with other regions. As highlighted by ESNA's IP and Tech Transfer Working Group, universities often generate high-quality scientific outputs, yet struggle to translate these into market-ready assets, in part due to incentive systems still prioritising publications, citations and grant income over commercial outcomes. This misalignment is particularly problematic given that most academic research in Europe is financed by taxpayers, with the explicit objective of delivering societal and economic impact. When commercialisation lags, the return on public investment is significantly undermined.

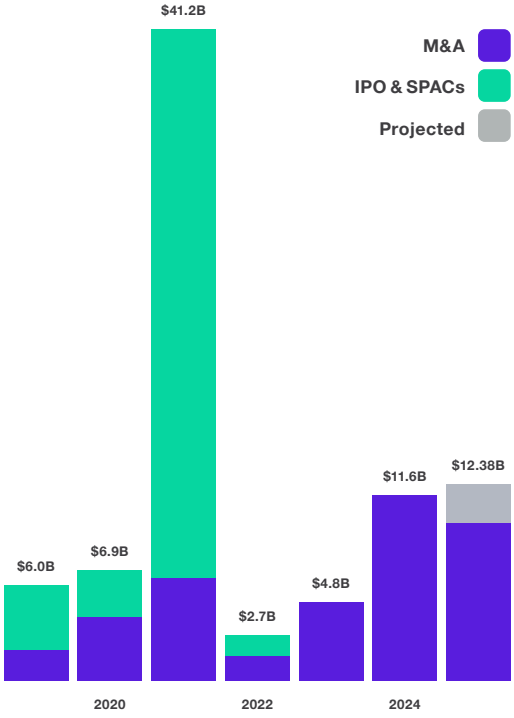


Figure 14. Exit value and count for VC-backed European deep tech and life science spinouts

Source: Dealroom.co. (2025). The European spinout report 2025. Dealroom.co.

A central constraint identified by this Working Group is the way universities and Technology Transfer Offices (TTOs) structure IP ownership and spinout terms (further details on this topic may be found in Chapter IV). Universities frequently demand large founding equity stakes or impose rigid royalty structures.

International practice and investor feedback suggest that investor-compatible models tend to converge around a university equity position of about 5%, with a flexible band depending on the maturity of the IP and the level of institutional support provided (see detailed ESNA proposal in Chapter IV). When university ownership reaches very high levels without providing corresponding cash investment or long-term support, investors often walk away, leading to fewer funded spinouts and weaker commercialisation outcomes.

This problem is amplified in highly regulated domains such as artificial intelligence (a strategic industry for which the European Commission has set high target in terms of growth and sustainability, thereby increasing its relevance at many levels), health tech and energy, where compliance costs and time-to-market are already high, and where regulatory frameworks – including the AI Act – further increase

capital requirements and risk exposure for early-stage ventures.

Main constraints across the EU innovation pipeline

1. Inputs: research, talent, infrastructure and capital

- **Public research funding weakly and unevenly linked to clearly defined impact**[17], despite expectations that publicly funded research should generate economic and societal value.
- **Low researcher motivation to found companies**, frequently linked to high institutional ownership claims over IP created in academic settings[18].
- **Declining patent activity**, while overall patenting at the EPO remains high, academic patenting and the translation of university research into patents are still under-exploited relative to Europe's scientific output, indicating a persistent gap between research excellence and IP generation.

[17] Note: Societal impact can for example be directly related to the number of patents that end up being actually commercialised and leading to the creation of a company providing tangible value to the community.

[18] Note: this topic directly relates to academic VS entrepreneurship culture, where publications hold a much greater value than spinouts.

2. Interfaces: TTO processes, IP terms, data visibility, grants and procurement

- **Excessive university equity stakes** in spinouts, often exceeding investor-compatible norms and discouraging external capital (recommended benchmark: ~5%, within a 3–10% range).
- **TTOs measured on ownership and short-term returns**, rather than on quality of ventures created, follow-on investment attracted or jobs generated.
- **Lack of systematic tracking of entrepreneurship-ready researchers and exploitable results**, limiting visibility of commercially relevant outputs and weakening policy coordination.
- **Grant agreement misalignment with patent lifecycles**, creating funding gaps between drafting, filing, prosecution and grant, including ambiguity around the use of the Unitary Patent in EC-funded projects.

3. Constraints: regulation, fragmentation, risk aversion and incentives

- **Fragmentation across Member States**, resulting in inconsistent IP practices, procurement rules, and other regulatory topics.
- **Misaligned academic incentives**, where spinout attempts are not recognised as positive learning outcomes, discouraging entrepreneurial risk-taking.

4. Outputs: patents, spinouts, licensing and scaleup

- **Underproduction of investable spinouts**, despite strong research inputs.
- **Expected impact if reforms are implemented:**
  - **50–100% increase** in the annual number of spinouts per proactive institution over a **5–7 year horizon.**
  - A higher share of spinouts raising external equity within **24 months** of incorporation.
  - **Improved survival rates** of spinouts as cap tables and incentives become more aligned with investor expectations.
- **Higher leverage of private capital per euro of public funding**, as universities with strong commercialisation track records attract a greater share of competitive R&I funding over time.

Why this matters for policymakers

This document reinforces a central conclusion: the problem is not a lack of talent, but a system that is not yet properly configured. Without addressing equity norms, TTO incentives, IP visibility and grant-rule alignment, Europe will continue to underperform in turning public research into patents, companies, and jobs, weakening its technological sovereignty.

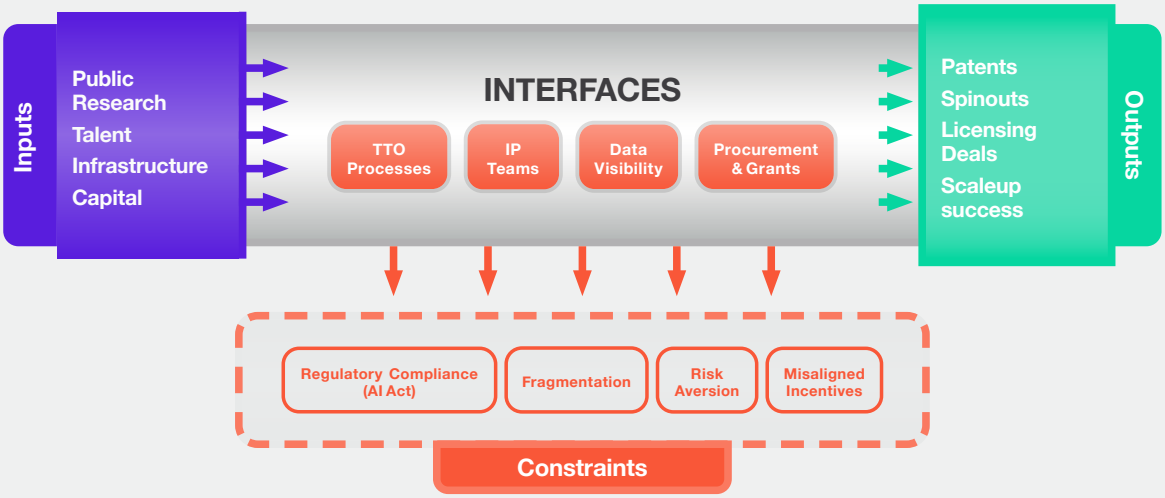


Figure 15. EU innovation pipeline – from lab to market
Source: ESNA

Finally, the Commission emphasises the pivotal role of **Technology Transfer Offices (TTOs)** as institutional gatekeepers of value creation, notably by highlighting their role in the EU Startup and Scaleup Strategy. This reinforces a central thesis of this Volume: IP and tech transfer must be treated as strategic infrastructure. Re-designing these systems around incentives, speed, and long-term ecosystem value is essential for Europe to convert its scientific leadership into globally competitive technology companies.

Too often however, existing systems are designed to protect institutional interests rather than to maximise long-term value creation. Universities act as risk-averse shareholders instead of early-stage investors, and IP policies prioritise ownership over impact and short-term valuation over ecosystem growth.

The image below represents an initial benchmark of emerging good practice for universities and research centres. Standardising key elements such as university equity ranges and clearer term-sheet principles can reduce structural frictions that currently block investment, delay market entry, and undermine trust between universities, investors, and founders, while bringing European practice closer to successful international models.

	US Models	Swiss model	NL-Hybrid	Quick License	NL-Royalty	USIT Royalty	NL-Equity	USIT Equity
Equity	<10% 'single digit'	Max 12% (max 9% non-dilutive)	Max 12,5%				10-25%	10-25%
Dilution	Non-dilutive till X M$ valuation	Fully dilutive	Fully dilutive				Fully dilutive	Fully dilutive
License	Royalty	Royalty up to 5%	Royalty	Royalty	Royalty up to 5%	Royalty up to 5%		
Exit fee				Fixed exit Fee				
Possibility of assignment of patent to spin-off	No	No	Yes	No	Yes	Optional	Yes	Optional

Figure 16. Various models of investment terms

Source: University Spinout Investment Terms (USIT). (2023). USIT guidance on university spinout investment terms.

ESNA's proposed equity ranges for academic spinouts are intended to provide such a reference point, aligning with international benchmarks while remaining adapted to the European institutional context and public-funding model.

Key angles and goals of the Volume

This Volume sets out a practical blueprint for improving Europe's research-to-venture pathway. It translates high-level policy ambitions into a small set of standardisable levers that universities, investors and policymakers can act on: equity, time, speed and transparency.

Equity

What to standardise: ~5% (3–10%) university stake
Why it works: Preserves investability
Policy signal: Investor-compatible IP

Time

What to standardise: Dedicated researcher time
Why it works: Improves execution quality
Policy signal: Commercialisation is valued

Speed

What to standardise: 9–12 month spinout roadmap
Why it works: Reduces time-to-market
Policy signal: Europe can move faster

Transparency

What to standardise: Clear rules & timelines
Why it works: Builds trust & predictability
Policy signal: Legal & market certainty

Together, these pillars anchor the Volume's analysis and shape its two overarching goals:

1. To provide a state-of-the-art overview of Europe's current reality in the research-to-venture pathway: where we are, what is blocking us, where the opportunities lie.
2. To articulate a **forward-looking vision**, co-designed with ESNA's Advisory Board and Partners, on how Europe can reframe academic IP and tech transfer **as a central pillar** of its competitiveness strategy over the next five to ten years.

To conclude, this chapter also highlights a deeper cultural and institutional challenge. Although entrepreneurship is increasingly recognised in the academic world, it is not consistently rewarded in career progression, leaving researchers with unclear incentives and limited role models. Without reforms, intellectual property risks remaining locked within institutions. For this reason, the Volume moves beyond diagnosis: the challenges identified here are followed by concrete, actionable recommendations in Chapter V, aimed at shifting Europe from fragmented best practices to a coherent, outcome-driven system that accelerates spinouts, strengthens scaleups and ensures that the value generated by European research is exploited and reinvested within Europe.

As highlighted in this Chapter, grants - more specifically the EC's Framework Programmes - are an essential foundation in European research. While policies are the focus of the following chapter, it is worth noting that their central importance is directly reflected both in steady Framework Programmes budget increases, and in the rising expected impact, which is projected to almost double between 2014 and 2040.

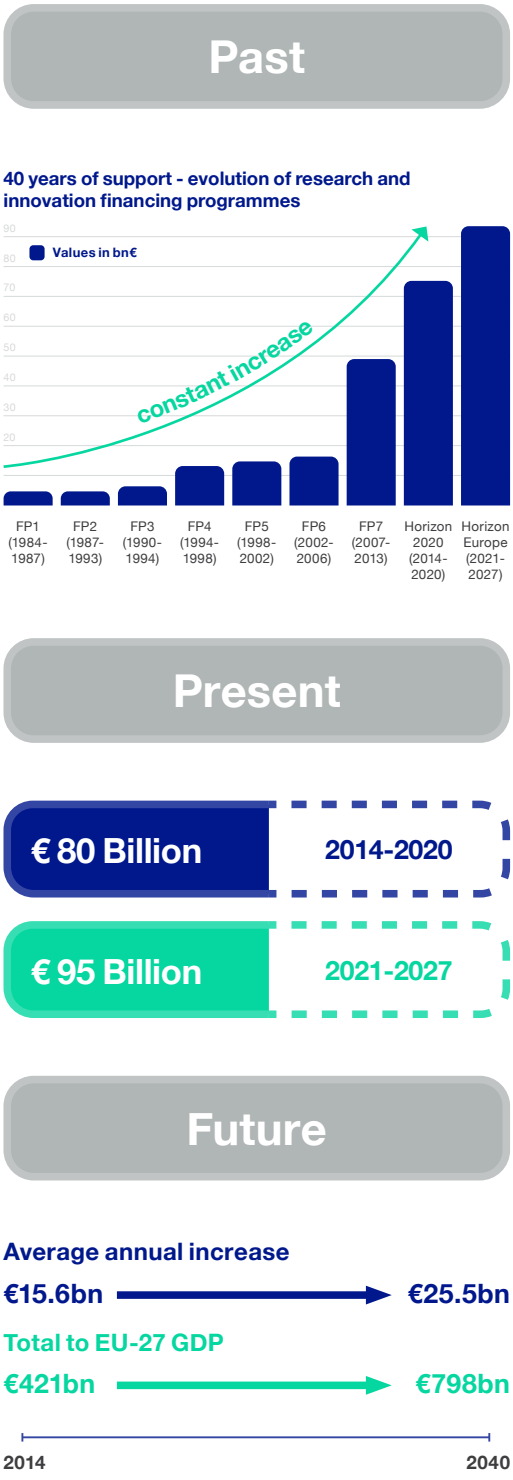


Figure 17. Framework programmes' budget increases and expected impact

Source: StepUp StartUps: "Spinoffs: reinforcing a vector of value creation for EU-27 – The deep Tech opportunity"

Main takeaways

• A structural European paradox
Europe leads in research excellence and top-cited publications, yet underperforms in commercialisation and global scaling, revealing a systemic gap between knowledge creation and value capture.

• Public R&I budgets have continuously increased
Successive EU Framework Programmes have expanded significantly in scale and ambition, but technology transfer efficiency has not kept pace with growing investment.

• More spinouts but limited scaling
Since 2015, academic spinouts have accelerated and now represent ~40% of deep tech creation. However, exits remain limited and late-stage capital is still insufficiently European.

• Beyond protection, IP is also strategy
Patents are still too often treated solely as legal safeguards rather than strategic assets, meaning that Europe generates IP without systematically transforming it into scalable companies.

• University equity standards deter private capital
Excessive equity stakes and rigid royalty models discourage investors, whereas converging around a benchmark in the ~5% equity range improves academic spinouts' investability.

• Incentives rarely combine research and entrepreneurship
Academic systems continue to reward publications and grants over company formation. Commercialisation therefore remains secondary, unless it is embedded into evaluation and promotion criteria.

• Strong innovation pipelines significantly impacted by friction
Frictions emerge in TTO processes, IP governance, grant-patent misalignment and the limited visibility of exploitable research outputs, weakening an otherwise strong innovation asset.

• Late-stage capital dependency as a sovereignty risk
A significant share of late-stage funding for deep tech and life sciences spinouts comes from outside the EU, increasing the risk that exits lead to relocation outside the EU and loss of strategic assets.

• IP reform directly linked to the Single Market and CMU
Stronger IP harmonisation, better liquidity and deeper capital markets are essential to retain value in Europe and support scaleups across borders, within the Single Market and Capital Markets Union.

• Budgets alone are not enough
Europe has steadily increased public R&I spending over decades. However, without aligned incentives and investor-compatible IP governance, higher budgets will not automatically translate into global champions.

II. Mapping EU policies: EU policy and guidelines on IP and Tech Transfer

Key themes

- Europe now recognises IP and tech transfer as central to competitiveness and sovereignty, but fragmentation still slows their impact.
- Critical industries depend on fast lab-to-market processes, making spinout terms and academic incentives decisive.
- Too little EU-funded research becomes scalable ventures. Updating royalty models and patent pathways increases economic return.
- Startups receive a limited share of innovation funding; better alignment across EU funding mechanisms is critical.
- Patents cannot act as bankable assets without EU valuation standards and grant rules that consider patent application timelines.
- Innovation-friendly public and private procurement and predictable IPR retention are key to accelerating market uptake, along with limited risk aversion.

1. State of play of the EU policy landscape: Political guidelines, EU Mission Letters under tech transfer

Ursula von der Leyen's political guidelines particularly highlight simplification measures for SMEs and speedier processes. With the nomination of the new College of Commissioners in late 2024, Research and Innovation continued to have a dedicated Commissioner, whose role included start-ups from then on. Ekaterina Zaharieva's missions – as stated in the Mission Letter dated 1st of December 2024 – include the expansion of the European Innovation Council, which is particularly focused on technologies achieving a higher TRL. Greater cooperation between academic, private and public sector entities is also in the pipeline, which is expected to lead to a higher utilisation of research outputs. The letter would not be complete without mentioning Horizon Europe's impact, tying up with the idea of making the most of European research.

This chapter maps policies in the EU and Member States to assess how both levels support competitiveness in the EU, more specifically for the startup and scaleup ecosystem. The implementation of EU initiatives may vary from one country to another, which may also highlight some disparities not only in terms of efficiency, but the diversity of nations that make up the EU.

Keeping consensus is a difficult balance act, whether it is meeting all countries

halfway or enacting laws that minimise any potential burden. In order to support these efforts, ESNA provides some tools to policymakers at national levels, which eventually impact European policymakers. The SNS Report, which monitors start-up-friendly policies in European countries on an annual basis, is a valuable resource to take stock of the regional situation when it comes to topics that are particularly relevant for small, innovative companies. Furthermore, the Best Practices Catalogue showcases initiatives from various parts of the world that have the potential to inspire European lawmakers to develop their own, country-tailored regulation.

To understand the major activities that support the EU Startup and Scaleup Strategy, a general timeline of main events was put together:

17/04 2024

Letta Report

"Much More than a Market"

18/07 2024

Ursula von der Leyen's Political Guidelines

"Europe's Choice: Political Guidelines for the Next European Commission 2024- 2029"

09/09 2024

Draghi Report

"Report on the Future of European Competitiveness"

05/11 2024

Appointment of Commissioner for Startups and Scaleups

Ekaterina Zaharieva (Bulgaria) was approved by the European Parliament as the EU's first Commissioner for Startups, Research, and Innovation

29/11 2024

Launch of the ESNA Compendium

5 building blocks: Regulatory Barriers, Investment, Talent, Entrepreneurial Culture and IP Tech Transfer

01/12 2024

Establishment of the Task Force on Startups and Scaleups

Project Commissioners: Ekaterina Zaharieva, Henna Virkkunen, Maria Luis Albuquerque, Michael McGrath, Stéphane Séjourné, Valdis Dombrovskis 2024- 2029

29/01 2025

EU Competitiveness Compass

An EU Compass to regain competitiveness and secure sustainable prosperity

27/05 2025

Launch of the ESNA Volume: Regulatory Barriers

ESNA launched the first volume: Regulatory Barriers

28/05 2025

Release of the Startup & Scaleup Strategy

The Startup and Scaleup Strategy is to be presented by the EU Commission in Q2 2025

17/06 2025

Launch of the ESNA Volume: Investment

ESNA launched the second volume: Investment

10/11 2025

Launch of the ESNA Volume: Talent & EC

ESNA launched the third and the fourth joint volume: Talent & Entrepreneurial Culture

18/03 2026

Unveiling 28th regime

The EC presented the long-awaited 28th regime proposal, a key feature of the Startup and Scaleup Strategy

Figure 18. General timeline. ESNA.

a. Political guidelines

President Ursula von der Leyen's overarching guidelines set the tone for the EC's strategic goals. Published in July 2024, these guidelines define six broad objectives to prepare the EU for the next seven years and beyond.

Six key goals underpin the Commission's approach to fostering prosperity and competitiveness:

All these goals are directly or indirectly related to innovative companies. Startups are mentioned three times in the 31-page document, indicating that the EC does not leave them behind during this new mandate. The EU Startup and Scaleup Strategy was published in May 2025, going beyond the traditional outlook on SMEs. IP and tech transfer are addressed, notably by a proposal to 'develop a framework

Key Political guidelines
A.1. Make business easier and deepen the Single Market
ESNA Volumes
Regulatory Barriers

Key Political guidelines
A.2. Build a Clean Industrial Deal to decarbonise and bring down energy prices

Key Political guidelines
A.3. Put research and innovation at the heart of the economy
ESNA Volumes
IP Tech Transfer

Key Political guidelines
A.4. Boost productivity through digital tech diffusion
ESNA Volumes
Entrepreneurial Culture

Key Political guidelines
A.5. Invest in sustainable competitiveness
ESNA Volumes
Investment

Key Political guidelines
A.6. Tackle the skills and labour gap
ESNA Volumes
Talent

for IP valuation for IP-backed financing', led by the EUIPO, as well as concrete IP finance instruments. Universities are also included in the Strategy's plan. Under the umbrella of the Lab to Unicorn initiative, European Startup & Scaleups Hubs will be built around academic nodes to provide startups with services and infrastructures that may support their scaling process. Addressing a challenging topic, a blueprint for licensing, royalty- and revenue-sharing and equity participation for academic institutions and their investors was put forward. Moreover, the Commission intends to support TTOs by creating 'venture builders' roles. State aid rules within the scope of IP rights compliance will also be investigated.

b. EU Missions Letters

The Mission Letters were published in September 2024 with the intent to assign portfolios to the Commissioner-elect. They set guidelines for the proper delivery of their missions, highlighting strategic tasks. ESNA collected the missions mentioned in these letters and allocated them to relevant overarching goals in the table below. Various Commissioners have missions that either directly or indirectly contribute to these overarching goals, particularly regarding the startup and scaleup ecosystem.

High Priority Level **Low Priority Level**

A.1. Make business easier and deepen our Single Market		
Missions	**National/ EU level**	**Legislation type**
1. Digital Networks Act	National/ EU level	Proposed legislation (pending approval)
2. European Data Union Strategy (simplified legal framework)		
3. Horizontal single market strategy		
4. SME passport		
5. Single Digital Gateway		
6. Facilitate labour mobility		
7. Review regulatory framework to help startup financing		
8. Digital Euro		
9. SME and competitiveness check "one in, one out"		
10. 28th regime	EU level	Conceptual framework (specific legislative acts to be defined)

A.2. Build a Clean Industrial Deal to decarbonise and bring down energy prices		
Missions	**National/ EU level**	**Legislation type**
11. European Green Deal - Clean Industrial Deal - Industrial Decarbonisation Accelerator Act / Net Zero Industry Act - Circular economy	EU level	Strategic framework supported by multiple legislative acts and regulations

A.3. Put research and innovation at the heart of our economy		
Missions	**National/ EU level**	**Legislation type**
12. EU Cloud and AI Development Act	EU level	Proposed legislation (details pending)
13. Have capital markets that invest in Innovation	National/ EU level	Strategic goal (supported by various legislative measures)
14. Intellectual property policy	National/ EU level	Legislative Acts: Includes directives such as Directive (EU) 2019/790
15. European Research Area Act - "fifth freedom"	EU level	Proposed legislation (details pending)
16. Strategy European Research Infrastructure	EU level	Supported by different regulations
17. Strengthen Universities Alliances	National/ EU level	Legislative Acts: Includes directives such as Directive (EU) 2021/817
18. European Innovation Act	National/ EU level	Proposed legislation (details pending)
19. Advanced Materials Act	National/ EU level	Proposed legislation (details pending)

A.4. Boost productivity with digital tech diffusion		
Missions	**National/ EU level**	**Legislation type**
20. Europe´s 2030 Digital Decade		
21. European Digital Rulebook		
22. Impact of digitalisation in the world of work		

A.5. Invest massively in our sustainable competitiveness		
Missions	**National/ EU level**	**Legislation type**
23. Defence industrial competitiveness	National level	Supported by various policies and programmes
24. New Industrial Strategy	EU level	Strategic initiative (encompasses various legislative measures)
25. European Competitiveness Fund	EU level	Proposed initiative (legislative framework to be defined)
26. Invest EU programme	National/ EU level	Legislative Act: Regulation (EU) 2021/523
27. Critical raw materials act		
28. New approach to competition policy		
29. SMEs and small midcaps killer acquisitions		
30. Increase availability of venture and other risk capital		
31. Enhance EIF to finance high-potential and fast growing EU companies	EU level	Strategic goal (supported by funding instruments and regulatory adjustments)

A.6. Tackle the skills and labour gap		
Missions	**National/ EU level**	**Legislation type**
32. Quality Jobs Roadmap / Union of Skills / Pact for Skills	National/ EU level	Policy initiative (implemented through various guidelines)
33. Talent Pool	EU level	Strategic initiative (details and legislative tools pending)
34. STEM Education Strategic Plan	National/ EU level	Policy initiative (to be supported through education and funding instruments)

Figure 19. EU Missions and their impact at national and EU level. ESNA analysis.

As described in the previous chapter, this Volume follows on from four other volumes that have already been published. As such, some of the missions listed in figure 19 are connected in a similar manner in each volume. Thus, a detailed analysis of the missions in "A.6 Tackle the skills and labour gap" can be found in the Talent & Entrepreneurship Culture Volume. This mission is considered to be of high priority in this Volume due to the impact it may have on the development of IP & Tech Transfer matters.

Apart from focusing on research outputs and their utilisation, the table in the previous page also identifies which authorities hold competencies over these topics, and how they are concretely turned into a legal shape. This is worth highlighting as their impact may vary accordingly. For example, while a regulation is binding and directly enforceable in the Member States, a directive acts more as a guideline for the EU countries. It is not directly applicable in national law, and it remains up to each Member State to implement them practically within a specific period of time - compliance levels may therefore vary. This eventually implies that various levels of enforceability lead to various levels of enforcement. A unanimous stance from the EU is not always necessarily reflected in all EU countries – and even if it does through a non-legally-biding mechanism, it will take time and may not achieve the desired level of uniformity.

General public funding

As indicated in the Innovation Radar Bridge consortium Report[19], public funding support for innovation has been growing constantly since 1984. However, just 5% of the total EU innovation funding goes to startups, even though they generate a great return per investment, as previously mentioned.

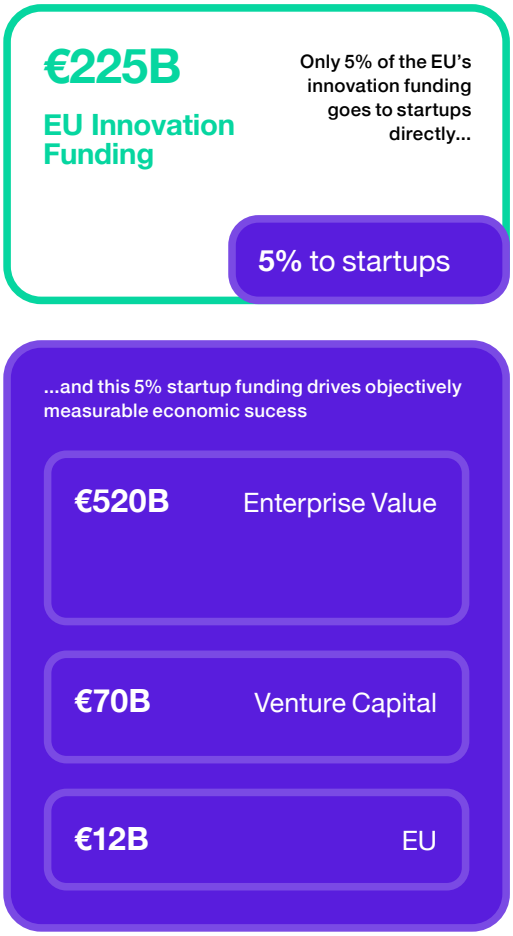


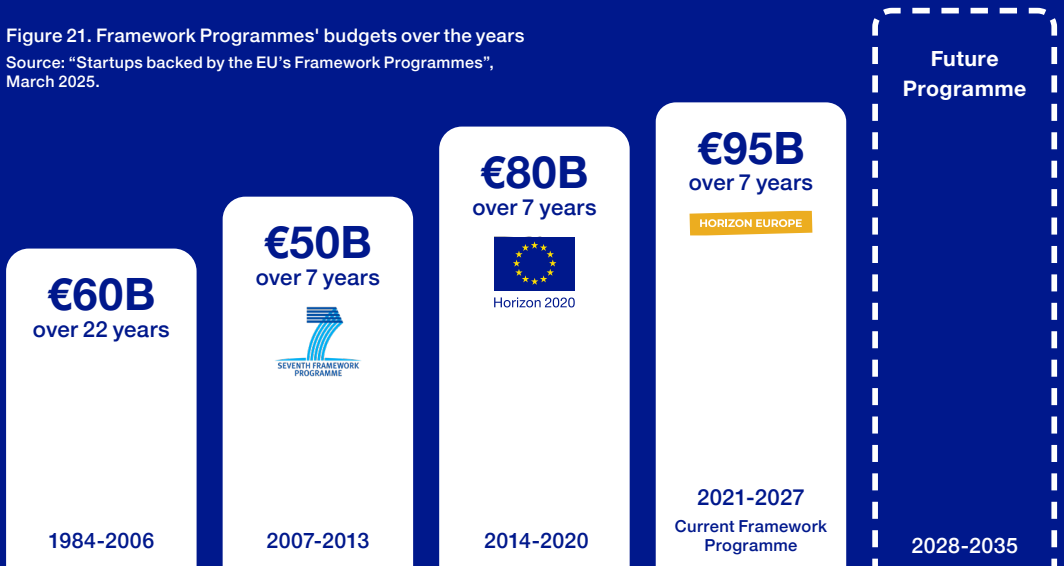
Figure 20. EU's innovation funding

Source: *"Startups backed by the EU's Framework Programmes", March 2025*

[19] Innovation Radar Bridge. (2025, March 3). Accelerating Europe – Part 1 of 3: The state of European innovation and why it matters.

This report mainly focuses on Horizon Europe, and its two preceding Framework Programmes: FP7 and Horizon 2020, with a high-level glance at earlier FPs

Figure 21. Framework Programmes' budgets over the years
Source: "Startups backed by the EU's Framework Programmes", March 2025.



To understand the dynamic of capital flow and the relevance under the public lenses, it is important to highlight not only the amount of public investment that goes to innovation, but also the system that allows it to be distributed at a local level.

With regard to general public funding set to support innovation, the current EU budget, managed by the EC, amounts to €190.1[20] billion in 2026. As seen in the image below, the annual EU budget is allocated across various sectors: 30% for Cohesion & Regional Development, 30% for the Common Agricultural Policy, 10% for innovation (Horizon Europe, InvestEU, Digital Europe, and the European Space Programme), 10% for Green Transition & Climate, 8% for programmes such as Erasmus and security, 6% for foreign policy, and 6% for administrative costs. The EIB and European Investment Fund (EIF) work alongside the EU to support various initiatives. This budget structure aims to ensure balanced regional growth, sustainability, innovation, and economic resilience across the EU.

Coordination of capital flow

In terms of coordination, the system involves the EU Member States, the EIB and the EC as the main coordinators of funds distribution. Alongside them, the EIF also plays a role. The funding supports a diverse range of projects and programmes, such as InvestEU, the EUChip Act, and the Framework Programme (FP) 9 - also known as Horizon Europe - which allocates a total of €95B to Research & Innovation as

[20] Mazur, S. (2025, October 28; updated November 27, 2025). The European Union's 2026 budget. European Parliamentary Research Service (EPRS). https://l1nq.com/eut1z1h

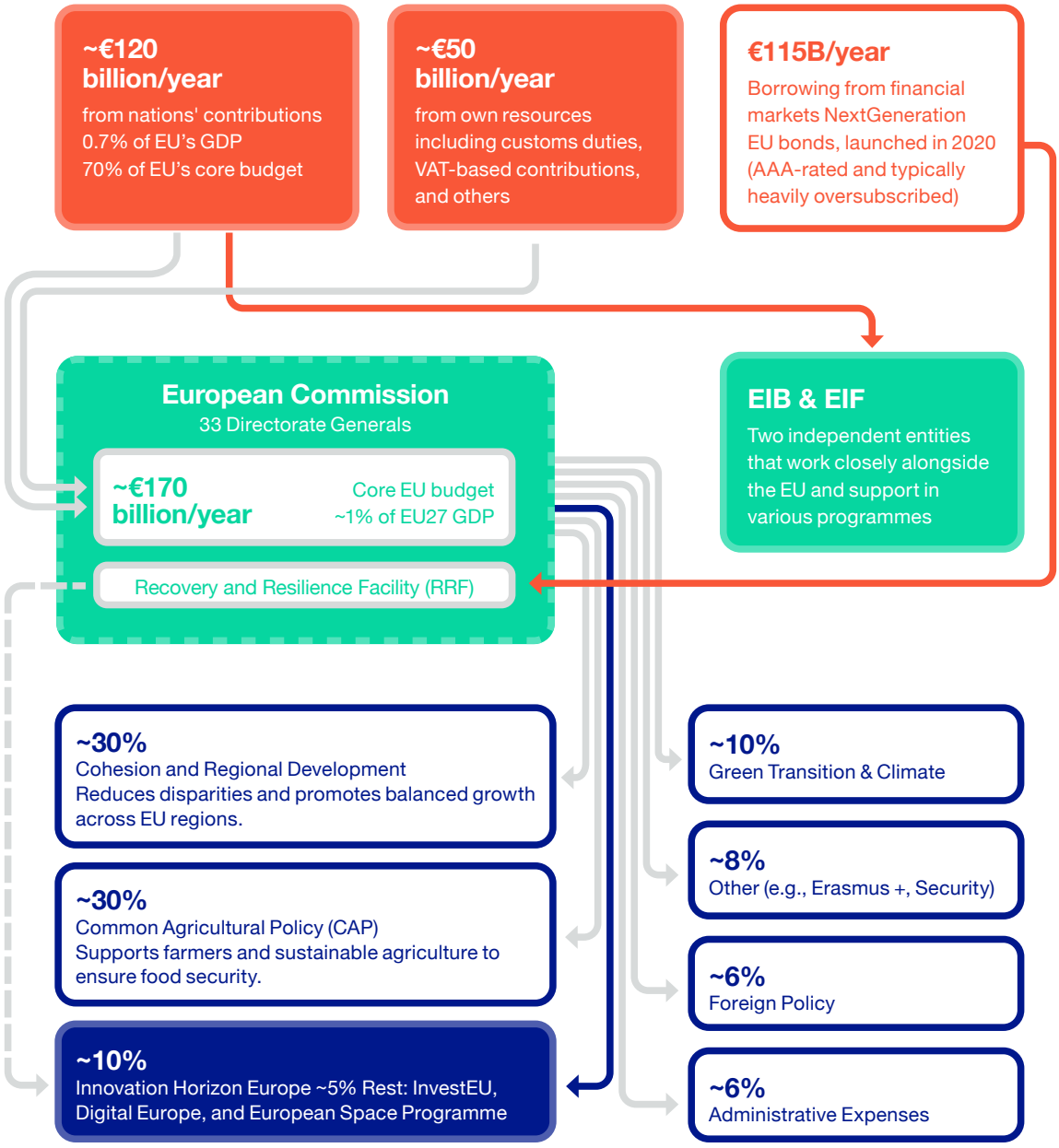


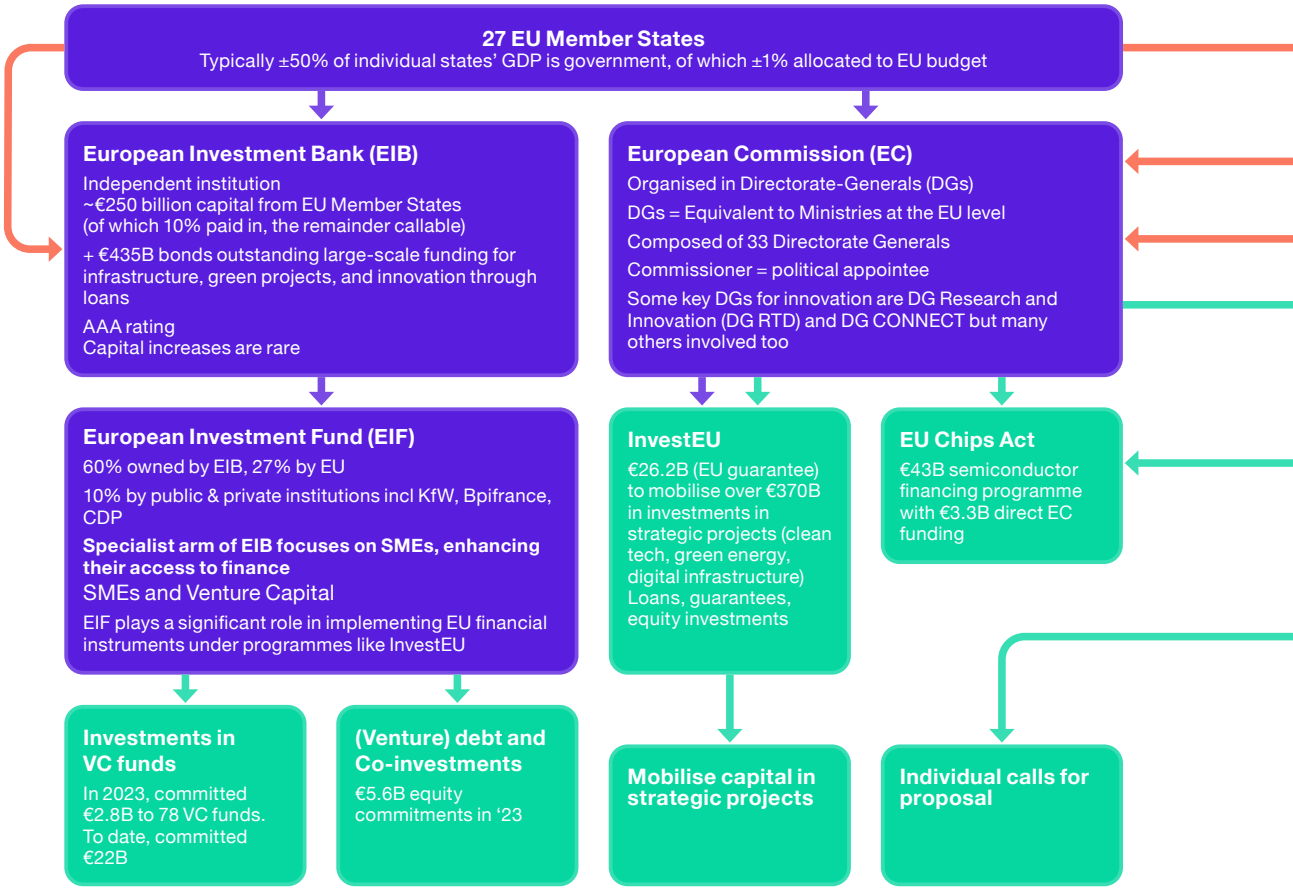
Figure 22. EU budget of GDP

Source: "Accelerating Europe – Part 1 of 3 – The State of European Innovation and Why It Matters", January 2025.

of 2026.

The coordination role of the Horizon Europe Programme is divided into four different entities: Directorates General (DGs) and agencies, EIC, European Research Council (ERC) and EIT, which are responsible for allocating those funds in grant, equity investments and co-investing in innovation projects.

The EIC was fully launched in 2021 as part of Horizon Europe's Pillar III, and has been dedicating funding to high-risk, break-



Zooming in… European Innovation Council

	million	
EIC PATHFINDER Funding for early-stage technology research and development	**€262**	
Grants per project	**€4**	max

From TRL 1-2 to reach TRL 3-4

	million	
EIC TRANSITION Funding for technology validation and commercialisation	**€100**	
Grants per project	**€2.5**	max

From TRL 3-4 to reach TRL 5-6

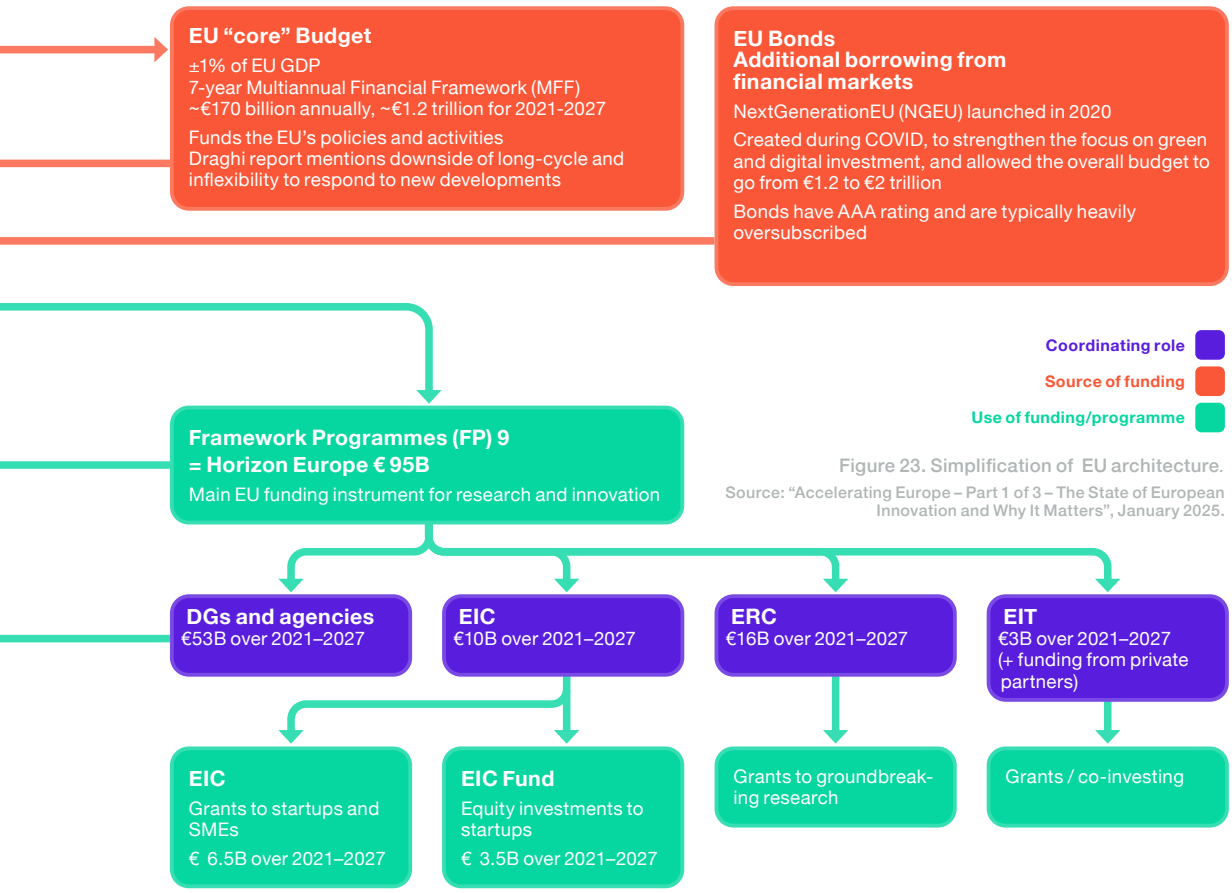


Figure 23. Simplification of EU architecture.

Source: "Accelerating Europe – Part 1 of 3 – The State of European Innovation and Why It Matters", January 2025.

Figure 24. EIC's main programmes

Source: https://eic.ec.europa.eu/

	million	
EIC ACCELERATOR Funding for commercialisation and scaleup	€634	
Open	€414	
Challenges	€220	
Grants per company	€2.5	max
Equity investment per company	€10	

From TRL 6 to TRL 9

	million	
STEP SCALE-UP Equity investments to catalyse larger investment rounds of €50 million or above to companies with pre-commitments from investors	€300	
Investment	€30	max

From TRL 3-4 to reach TRL 5-6

through innovations. As indicated in the above image, its various modules are set up per phases, from low TRLs to company scaling:

- **Pathfinder:** Research & innovation grants for breakthrough research from lab to prototype;
- **Transition:** Market-readiness grants for preparing to enter the market;
- **Accelerator:** Scaleup grant & investments for scaling up business
- **STEP Scale Up:** Major investments to help companies become global leaders

All EIC awardees can benefit from business acceleration services, including access to mentors, training, global partners, innovation testing and the overall ecosystem. Additionally, Advanced Innovation Challenges are in place to support deep tech ventures that require extraordinary support due to their research-intensive nature.
Beyond these pillars, new work programmes regularly introduce novelties. 2026 was no exception with the launch of an ARPA-like pilot programme and a streamlined Accelerator evaluation process. The EU Startup and Scaleup Strategy was also taken into consideration on matters such as internationalisation and corporate engagement.

2. The EU Competitiveness Compass under the IP and tech transfer lenses

The Commission presented the Competitiveness Compass in January 2025, a roadmap to support and restore Europe's dynamism and boost economic growth. It follows an analysis of Draghi's report, as it acknowledges three imperatives that were indicated as essential to reach competitiveness:

1. Closing the innovation gap

2. Reducing excessive dependencies and increasing security

3. Decarbonisation and competitiveness

Closing the innovation gap

The EU must reignite its innovation engine - to do so, startups and scaleups are fundamental. As mentioned in the EU Digital Compass, to create a habitat for young innovative startups, promote industrial leadership in high-growth sectors via deep technologies and promote the diffusion of technologies across established companies and SMEs, we need to take the following topics into consideration:

1. AI Gigafactories
2. Apply AI
3. Advanced materials, quantum, biotech, robotics and space technologies
4. EU Startup and Scaleup strategy to address the obstacles that are preventing new companies from emerging and scaling up

These topics are very focused on deep tech, which is ubiquitous at universities and therefore greatly related to this Volume.

Five horizontal enablers for the competitiveness compass

The three pillars (closing the innovation gap, reducing dependencies, and decarbonising our economy) are complemented by five horizontal enablers (removing barriers in the single market, enabling more efficient financing, promoting skills and quality jobs, and ensuring better coordination). All those areas are closely related to knowledge transfer, either as enablers or benefitting from greater technology development.

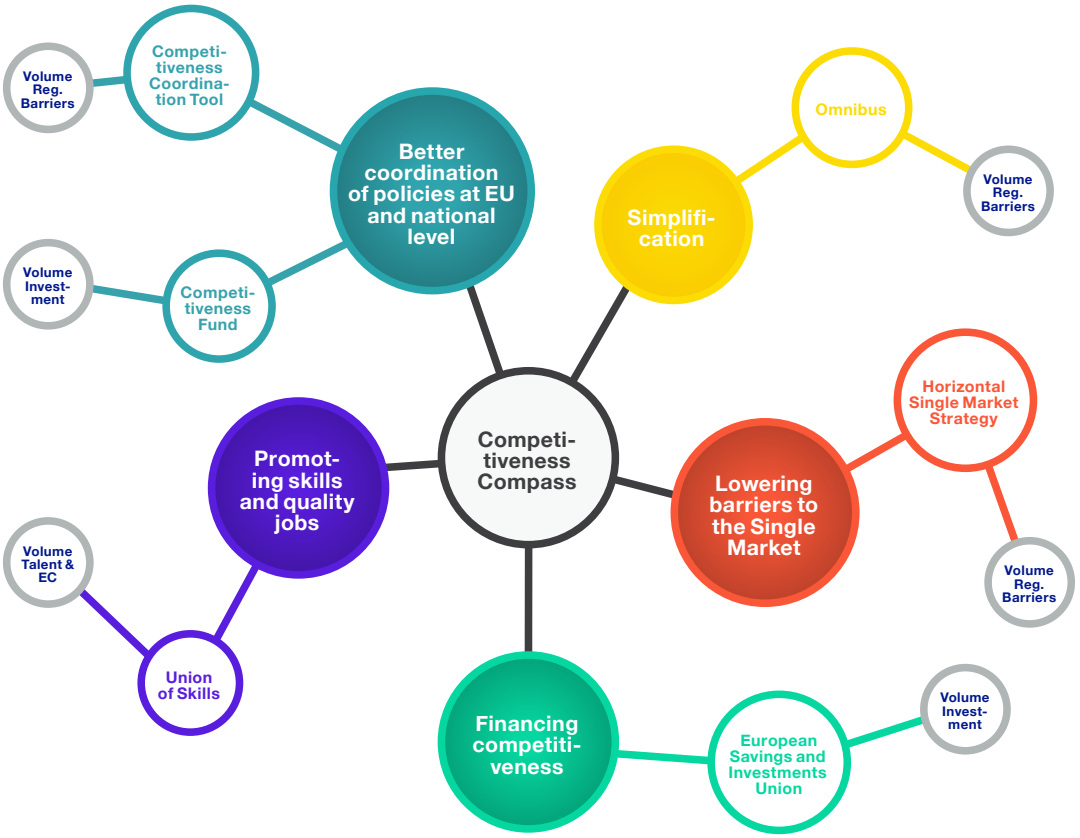


Figure 25. Five horizontal enablers for the competitiveness compass

Worth highlighting Spinouts still pending on critical areas within Europe

VC-backed startups focusing on critical industries - such as robotics, space and defence – lack in Europe. This indicates that the ecosystem is not keeping up with the considerable need for this technology in the region, and its related requirements in terms of IP and Tech Transfer.

Spinouts as % of VC-backed deep tech and life sciences startups by segment in Europe

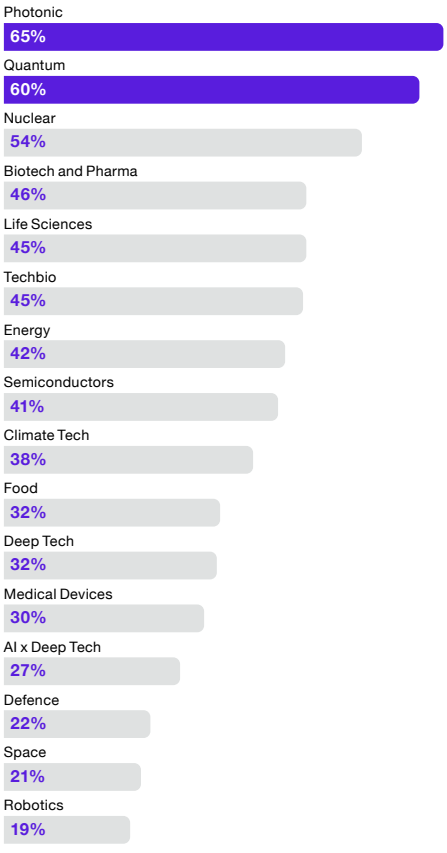


Figure 26. Spinouts as % of VC-backed deep tech and life sciences startups by segment in Europe

Source *European Spinouts Report 2025, dealroom.co, November 2025*

3. European Competitiveness Fund (ECF) – structure and alignment with critical industries

Overview of the ECF

The ECF is an investment framework proposed for the EU's post-2027 budget that stems from Mario Draghi's report. It aims to consolidate numerous existing funding programmes (around 14 instruments) into one fund focused on boosting Europe's competitiveness in strategic technologies and sectors. It entails unifying support across the whole innovation lifecycle – from research and innovation to scaleup, industrial deployment, and manufacturing – in industries deemed critical for the EU's economic resilience. By pooling resources and instruments, the ECF is designed to address current problems of fragmented and overlapping programmes, ensuring coherent support along the investment journey for European projects and companies. In short, the ECF's mission is to strengthen EU competitiveness, close the innovation gap, accelerate the green and digital transitions, and reduce strategic dependencies in key sectors.

Strategic policy pillars

To target investments effectively, the ECF will likely revolve around thematic verticals (or pillars) aligned with the EU's priority industrial domains, which are expected to make a significant impact on IP and tech transfer. Each pillar corresponds to a broad strategic area that is crucial to Europe's

competitiveness and resilience, ensuring that funding is directed to critical industries in that domain[21].

[21] Carvalho, L. R. (2025, May 28). From fragmentation to strategy: Building a smart European Competitiveness Fund. BST Europe. https://l1nq.com/qzn773w

Clean transition & Industrial decarbonisation

Supporting climate-friendly technologies, clean energy, sustainable industry, and the EU's green transition (e.g. renewable energy, clean tech, circular economy, decarbonising industrial processes). This pillar aligns with Europe's push for industrial decarbonisation and clean tech innovation, crucial for both competitiveness and climate goals.

Health, biotech, agriculture & bioeconomy

Investing in healthcare innovation, biotechnology, pharmaceuticals, medical research, sustainable agriculture, and the bio-based economy. This ensures dedicated support for health, biotech industries and related fields that are critical for public health resilience and food security in Europe.

Digital leadership

Focusing on digital technologies such as AI, semiconductors, digital infrastructure, and advanced computing. This vertical targets the EU's digital and AI industries, aiming to boost Europe's capabilities in key digital technologies and reduce reliance on external providers.

Resilience & security (including defence and space)

Strengthening Europe's defence industry, space capabilities, and other security-related sectors (cybersecurity, critical infrastructure, etc.). This pillar addresses industries vital for the EU's strategic autonomy and security, such as defence manufacturing and the space sector. It reflects the EU's recognition that areas such as defence and space technology are increasingly linked to economic competitiveness and require coordinated investment.

4. The European Innovation Act, enabling technology transfer

European Innovation Act (2026)

The European Innovation Act is expected to offer a framework that supports the European innovation ecosystem, notably by facilitating the commercialisation of innovative ideas across all sectors. Its foundations will lay upon a stronger collaboration between the industry and academia, as

well as enabling easier access to markets, finance, talent, and infrastructure for innovative companies.

Under the umbrella of the Startup and Scaleup Strategy, a call for evidence and public consultation were open until October 2025. Feedback reached 500+ entries – combining responses to the public consultation and position papers for the call of evidence. The feedback included:

Definitions of startups, scaleups and innovative company

EU level definition would be welcome to simplify, clarify and tailor support mechanisms for these firms, as well as to improve the legal certainty of company status in the EU. Criteria should not be rigid not to exclude deep tech companies, and should put an emphasis on transparency and flexibility.

Innovation stress test

Along the lines of the SME test, this document would include a checklist whose goal is to assess the potential impact of a prospective legislation related to innovation. It is highly supported by participants, who also expressed interest in a fast-track procedure for obtaining regulatory advice and for obtaining permits for strategic innovative technologies, as well as regulatory sandboxes and a regulatory ladder in their legislation.

Regulatory sandboxes

Regulatory sandboxes are regarded as overall positive tools, as they enable faster time-to-market, early structured dialogue with regulators, easier compliance, safer real-world testing, and timely adaptation of the product, resulting in increased attractiveness for investors. The current fragmented landscape is highlighted as an issue, leading to difficulties in cross-border ventures, slow feedback from involved authorities, as well as time-consuming processes and limited access for smaller companies due to the required resources.

Improved coordination of innovation policies and programmes

Participants believe greater alignment should be considered when developing innovation programmes at national and EU levels to improve efficiency, harmonise criteria and reporting requirements, and fully exploit synergies. Turning the EIC into an official innovation forum at EU level with proper coordination mandate is regarded as a relevant option.

Greater public and private investment in innovation

Stronger public investment in innovation activities is considered to be the main trigger for boosting market entry for European innovations. Aside commercialisation, participants also quote closing the international innovation gap and raising private investment in innovation to encourage wider public investment for coordinated investments.

IPR-backed financing

In line with this Volume, participants were surveyed about the barriers to obtaining IPR-backed financing. Reasons included: lack of experience with IPR valuations among banks/ institutional investors and startups/ scaleups, prudent attitude of investors, valuation uncertainty due to lack of widely accepted standard practices for IPR valuation, high valuation and litigation costs, as well as regulatory barriers, lack of secondary IPR market and IPRs not typically being visible in startup/scaleups' annual accounts. To solve this issue, respondents put several ideas forward: an EU-wide IPR valuation methodology, offering an IPR-valuation tool, providing guidance and training on IPR valuation for startups and scaleups, while setting a maximum price for IPR valuation does not convince the participants. Creating a pool of qualified professionals to create better guidance and clearer rules was also mentioned.

Talent

When it comes to attracting and retaining talented professionals in the EU, competitive benefits and remuneration are undoubtedly paramount. However, the lack of harmonised conditions for ESOPs in the EU and their limited mutual recognition were highlighted as noteworthy challenges. The respondents believe that alignment of ESOP tax regimes and some harmonisation of national frameworks could strengthen opportunities to provide more attractive fringe benefits to prospective employees. Longer exercise windows, tax incentives for long-term retention of options awareness campaigns, guidance and practical support for SMEs and employees, fast track visa processing and family allocation support were also mentioned.

Access to public and private procurement markets

Respondents emphasise the lack of a level playing field so that innovative EU supplier can compete with non-EU suppliers, supply chains deficiencies that may affect strategic technologies development – they also lament private buyers' risk averse approach when it comes to purchasing from small innovative companies. Suggested solutions include: adopting procurement practices that promote innovation and support the participation of startups/scaleups and ensuring safeguarding of the resilience of the supply chains. Conflicts in the IPR policies of universities was flagged as a potential impediment to commercialisation, reinforcing the need for a greater alignment of IPR policies across value chains.

Access to the public procurement market

Participants mostly agree that lowest prices should not be the only criteria taken into account when awarding a tender, and many suggest the creation of a set of EU innovation procurement criteria to provide legal certainty. Improvements on multi-sourcing, tenders transparency,

retaining IPR rights, applying value engineering, the introduction of a template subcontracting agreement were notably mentioned.

Supporting innovation procurement through R&I policies

Respondents stress the role that R&I policies and programmes can play for innovation procurement, and recommend the following: better support and incentives for innovation procurement, stronger anchoring of innovation procurement into R&I policies, a roadmap to reinforce public and private innovation procurement investment at national and EU levels, a clear EU definition for innovation procurement and placing the EU as a model by having its own institutions and agencies making efforts to make their public procurements more innovation friendly.

Access to research and technology infrastructure

Complex administrative procedures, high access costs, lack of information, limited availability of facilities, fragmented IPR frameworks, confidential concerns in agreements with R&T infrastructures, and legal barriers were identified as hurdles to overcome. Simplification was mentioned as the key to facilitating access to the infrastructures, along with dedicated access schemes for startups/scaleups and greater conditions alignment. Other suggestions include making public financing conditional to access for users across the EU, including both technological and non-technological services, having dedicated schemes for public buyers to access R&T infrastructure to test solutions.

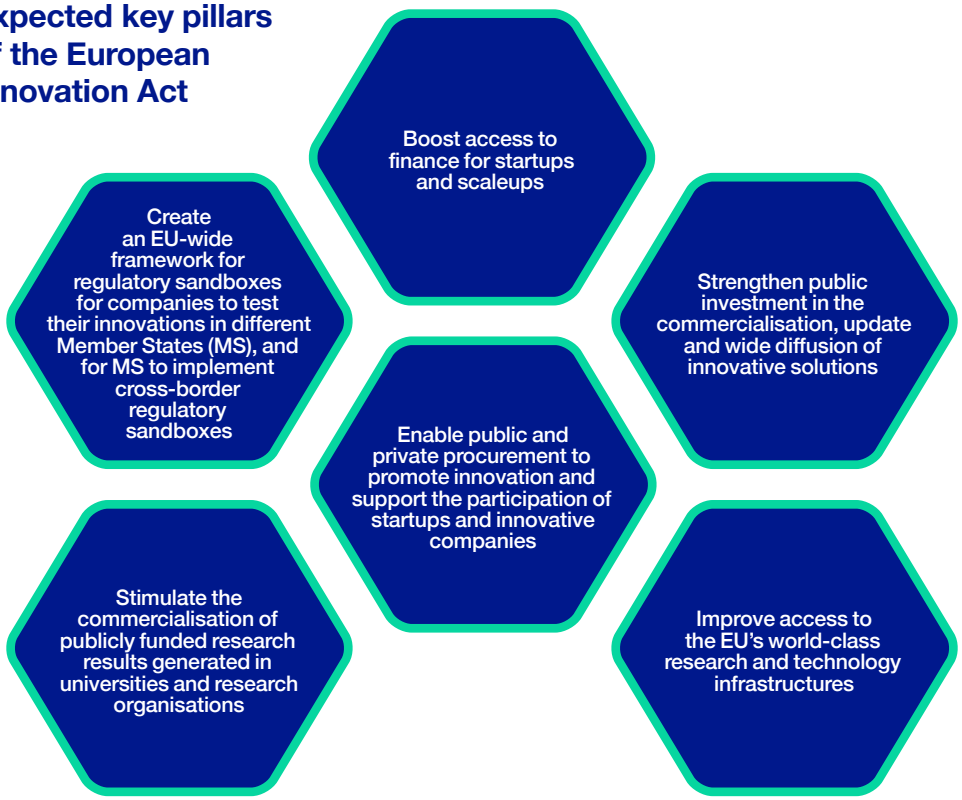
Private/public collaboration

As highlighted in this Volume, several barriers impede tech transfer ventures in the EU: limited collaboration between industry, academia and public sector organisations, lack of standardisation policies in universities and RTOs, whose IPR policies are not geared towards fostering commercialisation. Mitigation may start with national strategies promoting the commercialisation of publicly funded research, policies at universities/RTOs level that clearly outline IP protection, licensing and transfer, while reinforcing capacity building for their staff and designing incentives for researchers. Other recommendations include: Europe-wide IPR asset platform, setting up transfer offices at universities and RTOs, preventing liquidity issues, shorter procedures for strategic technologies, providing support and training to researchers, identifying standardisation and certification objectives at early research stages, reduced prices for startups/scaleups for certification and permitting processes.

Based on the inputs provided, the Act should address the following points[22]:

[22] European Commission, Directorate-General for Research and Innovation. (2025, December 4). Commission concludes public consultation on the European Innovation Act. European Commission. https://sl1nk.com/t5qpmrf

Expected key pillars of the European Innovation Act



Correlation of proposed solutions with the EU Innovation Act

This section outlines ESNA's proposed solutions and actions within the framework of the future EU Innovation Act and the Startup and Scaleup Strategy. It intends to offer policymakers a clear understanding as to why these actions matter and how they align with current EU priorities. This analysis adopts a design-thinking perspective by framing the European innovation ecosystem as an interconnected system.

Similarly, the EU Innovation Act topics can be read as interdependent layers of the same system. The first four topics shape the framework conditions: shared definitions of startups and scaleups, the introduction of innovation stress tests, the use of regulatory sandboxes and ladders, and improved coordination of innovation policies and programmes across EU and national levels. Topics five to seven address the quality and availability of inputs, notably public and private investment, IP-backed financing mechanisms and access to talent. The following four topics set the conditions under which innovation can be deployed and scaled through procurement markets and access to research and technology infrastructures. The last topic – the commercialisation of research results – is the final outcome towards which all other elements ultimately converge.

ESNA's three recommended actions connect these dots:

Action #1

It addresses the cap tables structure, ensuring that equity and royalty models in academic spinouts are compatible with investment realities and do not act as barriers to financing or scaling up.

Action #2

It suggests modernising academic culture and Technology Transfer Offices so that incentives, skills, metrics and governance are aligned with effective commercialisation and relevant market engagement.

Action #3

It enables IP to function as a financial asset. By adapting grant frameworks to the full lifecycle of patent protection, it ensures that public funding rules are tailored to the real timelines and costs of innovation.

These actions translate high-level policy objectives into concrete actions that aim to improve investability, reduce time-to-market and increase the economic and societal return of public research. The correlation table below therefore demonstrates how targeted updates in IP and technology transfer procedures can act as powerful enablers of the EU's broader innovation agenda.

Correlation narrative by Action (policy-relevant alignment)

Action #1 - Spinout investment terms (equity + royalty)

Primary alignment:

Topics **5, 12** (and materially **2, 8**)

Topic 5 (investment)

Explanation: Fixing university equity terms increases investor participation and follow-on funding probability.

Topic 12 (commercialisation)

Explanation: If spinout terms are hostile, commercialisation fails regardless of research quality.

Topic 2 (stress test)

Explanation: A policy "innovation stress test" should explicitly check whether rules indirectly push universities into terms that discourage investors.

Topic 8 (procurement/ IPR conflicts)

Explanation: Badly structured IP terms and royalties can block procurement pathways.

EU Startup and Scaleup Strategy relevance: *The Commission will […] develop a blueprint for licensing, royalty- and revenue-sharing and equity participation for academic institutions and their inventors when commercialising IP and creating spinoffs, following best commercial practice.*

Levels of correlation of proposed solutions with the EU Innovation Act

ESNA Action ▶ / EU Topic ▼	A1 Spinout terms (equity/royalty)	A2 Academic culture & TTO transformation	A3 Investment & grants (IP as collateral + Horizon Europe)
1. EU definitions (startup/scaleup/innovative company)	Mid	Low	High
2. Innovation stress test (checklist for legislation)	Mid	High	High
3. Regulatory sandboxes + ladder (incl. AI Act)	Mid	Mid	Mid
4. Coordination of innovation programmes (EU/national alignment, EIC forum)	Mid	High	High
5. Public & private investment (market entry, private leverage)	High	Mid	High
6. IPR-backed financing (valuation, tools, standards)	Mid	High	High
7. Talent (ESOPs, mobility, incentives)	Mid	High	Mid
8. Access to public & private procurement markets (including IPR policy conflicts)	Mid	High	Mid
9. Access to public procurement market (award criteria, IPR retention, value engineering)	Mid	Mid	Mid
10. R&I policies supporting innovation procurement	Mid	Mid	Mid
11. Access to research & tech infrastructure (admin, IPR frameworks, access schemes)	Low	High	Mid
12. Commercialisation of research results (standardisation, IP protection/licensing, capacity building)	High	High	High

Action #2 - Academic Culture & TTO Transformation

Primary alignment:
Topics **2, 8, 9, 11, 12** (system-wide)

Topic 12 (commercialisation)
Explanation: If incentives reward publications only, commercialisation is structurally underproduced.

Topic 2 (stress test)
Explanation: The "innovation stress test" highlights what TTO transformation should entail: a checklist mindset that prevents institutional policies from blocking innovation.

Topic 8 & 9 (procurement + IPR retention)
Explanation: Procurement actors need predictable IPR arrangements; misalignment becomes a procurement barrier mindset that prevents institutional policies from blocking innovation.

Topic 11 (infrastructure)
Explanation: Access to infrastructure often depends on contract templates, confidentiality, and IPR rules. Modern TTO capability reduces transaction cost and speeds up cross-border use.

EU Startup and Scaleup Strategy relevance: *The Commission will support capacity-building of Technology Transfer Offices and the creation of 'venture builders' roles in research performing organisations, including Research and Technology Organisations, research infrastructures and universities.*

Action #3 - Investment: IP as collateral + Grants System Update (AGA patent pathway)

Primary alignment:
Topics **4, 5, 6, 12** (direct), plus **2**

Topic 6 (IPR-backed financing)
Explanation: IP collateral, valuation methods, and bankability are key in the EU agenda and is at the core of this action.

Topic 5 (investment)
Explanation: Updating grant rules to cover the full patent pathway increases the probability that public research produces tangible and investable assets.

Topic 4 (coordination)
Explanation: Horizon Europe's grant agreement modifications imply upgrading an EU-level mechanism.

Topic 12 (commercialisation)
Explanation: Patent protection timelines do not swiftly align with project timelines, however the system needs eligibility rules that match the process' full lifecycle.

Topic 2 (stress test)

Explanation: The stress test should detect when funding rules create unintended "dead zones" (e.g., post-project patent filing costs become ineligible).

EU Startup and Scaleup Strategy relevance: *The Commission will develop a framework for IP valuation for IP-backed financing in cooperation with the European Union Intellectual Property Office. It will also expand the evidence base to develop concrete IP finance instruments.*

5. Main EU policies and strategies addressing IP & tech transfer for small companies

EC 2008 IP Recommendation
2008/416/EC

This document drafted by the European Commission already encouraged universities and research centres to address their IP and knowledge transfer systems. Suggestions include: 1) defining knowledge transfer as a strategic mission, 2) adopting IP management policies based on its Code of Practice, 3) foster skills and capacity building, 4) push dissemination forward where appropriate, 5) set up coherent IP ownership regimes.

EU IP Action Plan
(2020)

This Action Plan on IP aims to strengthen the EU's economic resilience and support recovery following the COVID-19 crisis by improving protection and use of inventions, creations and other intangible assets. Key measures are focused on improving IP protection, boosting uptake by SMEs, facilitating access to and sharing of IP, combating counterfeiting and enforcement, and promoting a fair global IP environment.

Code of Practice for the smart use of intellectual property
(2021-2022)

Part of the European Research Areas (ERA) under the EU Knowledge Valorisation Platform, this code of practice was developed as a bottom-up guidance document co-created with a broad community of research and innovation stakeholders, to provide practical recommendations and examples on how organisations and innovators can manage and apply intellectual assets effectively in research and innovation contexts, addressing topics such as co-ownership of results, skills development, valuation, and international projects.

Council Recommendation on Knowledge Valorisation
(2022)

This is a non-binding document whose core concept is knowledge valorisation, by turning research results and knowledge into tangible products, services or solutions. It suggests broadening the concept to assets while promoting systemic

value creation, supported by the whole ecosystem. Recommendations also include supporting open science, strengthening infrastructures at national level and implementing a cohesive environment in research organisations.

The Guiding Principles for Knowledge Valorisation
(2022)

These recommendations set out high-level policy principles and measures to help Member States and the European Commission maximise the societal and economic value of research and innovation results across the whole EU ecosystem. These principles focus on broad systemic goals like boosting skills and capacities, encouraging collaboration across all actors, and promoting effective management of intellectual assets in research and innovation policy.

New European Innovation Agenda
(2022)

The new European Innovation Agenda aims to position Europe at the forefront of the new wave of deep tech innovation and startups. It helps Europe develop new technologies to address the most pressing societal challenges, and to bring them to the market through innovation procurement, a pivotal demand side instrument to modernise public services with innovative solutions while boosting the growth of innovative companies in Europe.

Code of Practice on the Management of Intellectual Assets for Knowledge Valorisation
(2023)

This Code of Practice aims to increase the use of research results and accelerate the uptake of innovative technologies across the EU research and innovation ecosystem by offering comprehensive guidance on strategic management of intellectual assets (IP, data, know-how and other outputs of research activities). It builds on the Guiding Principles for Knowledge Valorisation and was developed through stakeholder engagement and expert consultation to help R&I actors establish strategies for efficient asset management, foster open science and innovation practices, clarify ownership and collaboration conditions, and support pathways from knowledge creation to market impact.

Strategy for European Life Sciences
(2025)

The Strategy outlines a key objective: to position the EU as the world's most attractive place for life sciences by 2035. Concretely, a three-phase approach was developed to 1) optimise the research and innovation ecosystem to promote global competitiveness, 2) ensure rapid market access for life science innovations, and 3) boost trust, uptake and use of these innovations.

European Strategy on Research and Technology Infrastructures
(2025-2027)

The strategy ensures that scientists, researchers, innovators, and industry have easy access to Europe's cutting-edge facilities, high-quality data and tailored services. It also aims to encourage world-class researchers and innovators to 'Choose Europe'.

ERA Policy Agenda
2025-2027

With three building blocks, this second agenda outlines the ERA's upcoming activities, following the 2022-2024 agenda. The 19 ERA activities encompass 1) a policy narrative, 2) 11 structural policies highlighting key policy priorities, 3) 8 ERA actions focusing on specific sectors.

European Research Area Act – "fifth freedom"

The European Research Area (ERA) is the ambition to create a single, borderless market for research, innovation and technology across the EU: by strongly aligning their research policies and programmes, European countries become more effective on the research sector. The ERA is based on excellence and prioritises investment and reforms in R&I, boosts market uptake, strengthens mobility of researchers and free flow of knowledge and technology, and improves access to excellence.

European IP Helpdesk

The European IP Helpdesk supports beneficiaries of EU-funded research projects and European SMEs on their IP-related ventures. Their expertise is offered free-of-charge, and spans across a variety of topics, while remaining mostly targeted at cross-border businesses and EU research and innovation programmes. Support channels include informative material, a helpline and training.

To ensure greater geographical and linguistic accessibility for European innovators, the IP Helpdesk teamed up with the Enterprise Europe Network and created a scheme of national European IP Helpdesk Ambassadors. IP management beyond Europe is however addressed, as the helpdesk also covers Africa, China, India, Latin America and South-East Asia.

Horizon IP Scan is a flagship initiative that help EU-funded project participants identify existing IP, understand how it can be protected, and develop a shared strategy for the consortium to exploit new IP.

Horizon Results Booster

This initiative launched by the European Commission provides several services related to dissemination and exploitation, online and free-of-charge, to EU-funded projects beneficiaries. With the primary goal to ensure that research findings are converted into valuable outcomes, Booster boasts a pool of 300+ professionals in dissemination, marketing, communication, business plan, and exploitation. While its specific focus is on dissemination and

go-to-market support, additional relevant services may be included. EU-funded projects beneficiaries are encouraged to apply to maximise their impact.

Knowledge Valorisation Platform

The platform connects stakeholders across Europe moved by the same will to turn research results into sustainable products and solutions for the public good. It acts as a community where actors can share their experiences, listen to lessons learnt or seek collaborators and partners. The platform notably features best practices, upcoming training sessions, the EU knowledge valorisation strategy and information about citizens initiatives. It also acts as a repository for the EU Knowledge Valorisation Talks, and offers guidance to its users.

Competence Centre on Technology Transfer (CC TT)

The CC TT is the single reference point for expertise and services in technology transfer at the European Commission. It provides technology transfer policy related expertise and services to the European Commission and other institutions of the Union as well as operational support services to a broader range of stakeholders. The Centre notably focuses on innovation ecosystem development, funding mechanisms and capacity building.

6. Strategic framework references (Draghi report)

In his 2024 Report, Mario Draghi framed IP as a key component of Europe's competitiveness and innovative potential. He advocates for an EU wide IP strategy aiming to protect EU-based patents and innovation, notably in critical sectors such as semiconductors, novel medicines, and clean technologies. While encouraging internal collaboration where appropriate, Draghi stressed the importance of ensuring that essential IPR and strategic know-how remained within the EU, coined with this sentence "as open as possible and as closed as necessary".

Furthermore, the report notes the poor commercialisation of publicly funded research. Limited academia-industry collaboration is frequently referred as a weakness. While TTOs' work is paramount, they typically lack resources – whether financial or human – which strongly undermines their impact. Adding to this layer major disparities related to IPR ownership and equity sharing across the continent, researchers are rarely incentivised to opt for the entrepreneurial path.

This inevitably leads to EU research being largely commercially unexploited – only one third of patents originating from European universities and research organisations are commercialised. In the larger ecosystem, just 9% of SMEs hold patents, trademarks or designs – compared to more than half for larger firms. High costs and fragmented national systems are typical barriers for them. This reflects a worldwide trend where Europe is slowly

losing the competitiveness race, where China has already surpassed Europe in terms of number of patents files as seen in the graph below.

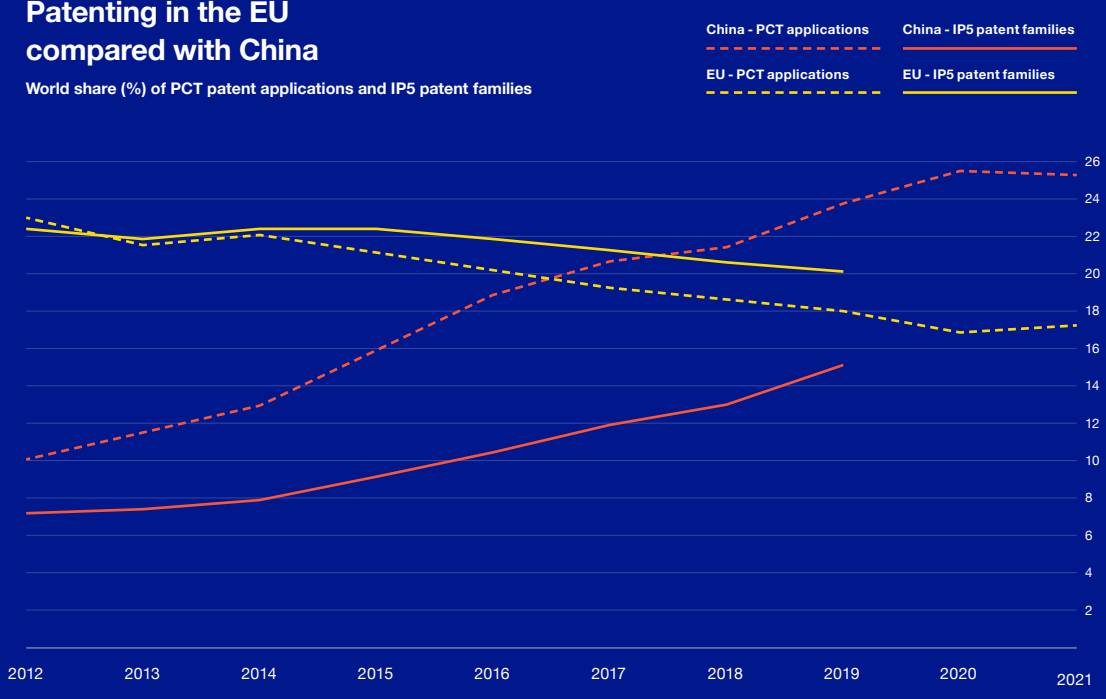


Figure 27. Patenting in the EU compared with China.
Source: Dragh*i, M. (2024). The future of European competitiveness. European Commission*

With its strong research ecosystem, not all is lost for the continent, however. Considerable initiatives will be needed, including:

- An EU-level blueprint for fair and transparent royalty-sharing between researchers and institutions,
- Tackling legal barriers, mostly at national level,
- Enhanced access to IPR-related information for researchers,
- Further develop capacity building activities for TTOs,
- Harmonised training for TTO staff.
- Facilitating cross-border knowledge transfer,
- Full adoption of the EU Unitary Patent.

Main takeaways

• IP & tech transfer are now at the core of the EU's competitiveness
This is exemplified by their mention in the Startup & Scaleup Strategy and the European Innovation Act, among others.

• While interest is rising, outcomes remain uneven
Enforceability varies greatly (e.g. from regulations to directives), which inevitably impacts implementation levels in the Member States.

• A well-funded system that is not properly targeting startups
While public innovation funding is plentiful, only a limited share reaches startups/scaleups, leading to productivity and growth gap.

• Some funding mechanisms provide the clearest lab-to-scale pathway
The EIC is particularly relevant for deep tech with Pathfinder → Transition → Accelerator → STEP. However, timelines may not be fully aligned with IP processes.

• Key sectors for competitiveness clearly depend on universities
AI, quantum, advanced materials, biotech, robotics, or space – to close the innovation gap, greater speed is required when converting research outputs into entrepreneurial ventures.

• The European Competitiveness Fund (ECF) marks the pace
R&I → scaleup → industrial deployment/ manufacturing - IP management and tech transfer capacity is intertwined with competitiveness funding.

• The European Innovation Act and its holistic and ambitious approach is necessary
By encompassing clear definitions, innovation stress tests, regulatory sandboxes, IP-backed financing, talent (with ESOPs), procurement, infrastructure access, and commercialisation, it intends to restructure the European ecosystem for the better.

• IP-backed financing as a key policy lever
The current lack of valuation standards, expertise, secondary markets, and visibility in accounts keeps IP from acting as a bankable asset.

• EU knowledge valorisation guidance remains mostly non-binding
Progress will be more noticeable once broader adoption is a reality at national and institutional level, going beyond theory.

• Key reports highlight a need for bolder IP policy
Quoting fragmentation, weak incentives, and lack of resources, IP is acknowledged as a strategic asset. Recommendations include harmonisation, capacity building, and faster cross-border transfer.

III. Advisory Board's input: implementation approach

Key themes

- Software scales via speed, adoption and iteration with limited reliance on patents, while deep tech can grow through protected IP and capital over long development cycles – commercialisation processes must therefore be tailored accordingly.
- For deep tech, investors require clear IP strategies and timelines as capital is locked for years before market validation.
- Investability revolves around three practical levers: balanced university equity, protected dedicated researcher time, and fast spinout processes.
- A ~5% baseline for university equity balances founders/investors incentives out with preventing "double dipping" on publicly funded research.
- Spinout creation must be considered as legitimate work for researchers, with protected time windows and lower teaching/administrative load.
- Clear roadmaps and benchmark timeline limit friction and increase investor confidence.
- Published criteria, fixed evaluation windows, clear process steps, and tracking build trust and improve policy learning.
- Horizon Europe should prevent value leakage and grant-only participation through ring-fenced IP budgets, mandatory IP plans/tables, KER registers + stage-gates, publish-or-protect controls, pass/fail screening, and milestone exploitation gate reviews.

1. Understanding the difference between software companies and deep tech companies

A recurring weakness in European innovation policy lies in the assumption that all tech companies follow similar development logics. In practice, software companies and deep tech companies operate under fundamentally different models and constraints. These differences have direct implications for IP strategy, funding design, knowledge transfer regulation and subsequent outcomes. Not taking their nuances into account leads to misaligned incentives, and ultimately underperformance in the commercialisation of publicly funded research.

As highlighted in the TenU/USIT guidance for software and deep tech commercial-

isation[23], software ventures are primarily characterised by quick iteration cycles, lower marginal costs, limited upfront capital requirements and fairly light dependency on formal intellectual property protection

Their value creation is often related to their speed to market, user adoption, and continuous product improvement. While software companies may rely on various types of IP, they rarely depend on patents for investment or growth. As a result, their path from idea to market typically take months rather than years, and their financing needs tend to align well with standard VC models focused on fast growth and early traction.

On the other end, deep tech companies are built on scientific breakthroughs that require long development cycles, significant investment and solid IP protection in order to be commercially viable. Typical examples include advanced materials, AI systems for critical infrastructures, health technologies, energy systems or hardware/software combinations. In these cases, registered IP rights are foundational assets: they strengthen valuation, enable investment, and set a framework to collaborate with industrial partners. The TenU/USIT initiative emphasises that deep tech ventures often require five to ten years to reach market readiness, with extended phases of prototyping, testing, certification and regulatory compliance before revenues can be generated.

These structural differences hold significant implications for tech transfer policy design. In a software context, universities' excessive control over IP or lengthy negotiations can be inconvenient but rarely genuinely detrimental. However, in a deep tech context, misaligned IP ownership or slow institutional processes can be seriously damaging, if not fatal. Investors in deep tech require early clarity on IP ownership and protection strategy precisely because capital will be locked long before reaching potential market validation, increasing risk. Moreover, regulatory frameworks are unavoidable constraints that impact development timelines.

A "one-size-fits-all" policy approach to startups and scaleups would therefore unfairly penalise deep tech. Funding instruments based on short time-to-market metrics do not accommodate research-based innovation. The TenU/USIT guidance clearly highlights that applying software logic to deep tech leads to underinvestment, delayed commercialisation, and the eventual loss of strategic technologies to non-European actors better equipped to manage long development risk.

Universities and research centres must acknowledge that deep tech spinouts require different equity models, long-term thinking and more sophisticated IP strategies than software-based ventures. Along those lines, public funding rules and evaluation criteria must reflect the fact that deep tech success is measured by the accumulation of complex IP and the ability to attract patient capital. As deep tech is often linked to critical technologies, not considering their specificities may negatively impact Europe's competitiveness and strategic

[23] TenU. (n.d.). Essential resources for innovation: Download the USIT and USIT for software guides. https://l1nq.com/smdve6y

autonomy.
The software/deep tech distinction is worth keeping in mind in the next section, which tackles academia's equity in spinout.

2. ESNA's general guidelines for academia

Enabling investable spinouts and sustainable technology transfer in Europe

Purpose and policy rationale

ESNA's Working Group opted to provide a set of guidelines to support universities, public research organisations in increasing the likelihood for startups and scaleups to emerge from academia. To do so, these guidelines attempt to safeguard public interest while ensuring alignment with EU innovation, competitiveness and regulatory objectives.
Evidence collected through ESNA's Advisory Board and Partners demonstrates that Europe's challenge lies in the way IP, time, incentives and processes are structured at crossroads between research and the market, as previously indicated in this document. Spinouts notably play a critical role in offering credible alternative career pathways for researchers, particularly at an early stage of their careers. As entrepreneurial paths are typically under-recognised in academia, it represents a constrain to Europe's ability to translate research talent into economic and societal value.
Inadequate equity claims, insufficient allocated time for researchers, and slow, opaque, and heavy technology-transfer processes systematically reduce investability, thereby weakening the return on public research funding. These guidelines therefore focus on three core pillars, which define a common standard for transparent and time-efficient spinout creation across Europe.

Pillar 1
Equity discipline: avoid excessive institutional ownership

a. Guiding principle

Universities should not take high founding equity stakes in spinouts.
First offers around 50% institutional ownership should not occur, and it contradicts established European and international best practice.

b. Why this matters

- In spinouts, investors bear the financial risk while university IP is often generated through public funding – which implies a much lower risk.
- Excessive university ownership deters founders, employees and investors, making securing follow-on financing significantly challenging.
- Overly high equity demands lead to 'double dipping' taxpayers: public money funds the research, and universities' excessive IP retention later blocks the private capital needed to commercialise it.
- The TTO is often considered less fair than the first investor (see image below).

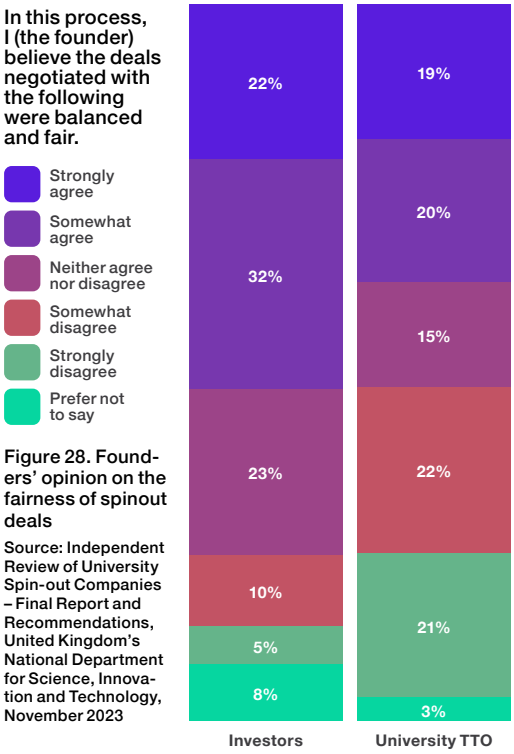


Figure 28. Founders' opinion on the fairness of spinout deals

Source: Independent Review of University Spin-out Companies – Final Report and Recommendations, United Kingdom's National Department for Science, Innovation and Technology, November 2023

c. ESNA's recommended baseline

- **Target equity position** ~5% for the university
- **Flexible band** 3–10%, depending on IP maturity, institutional support and risk profile – it may be lower or higher in exceptional circumstances. Recommendations range up to 15% for deep tech considering significant initial investments.
- Universities should remain a clear **minority shareholder** relative to founders and investors. Equity allocation should be an indicator of actual and current contribution, which also include risk-taking, time commitment, and post-spinout implementation responsibility.
- Option to include a neutral, trusted **external advisor** in the negotiation process (non-binding). Their ideal profile should be an experienced PhD holder with a track record of commercialising products, and they should be appointed by the initial investor, the public funding entity. The advisor should facilitate fair processes for all parties while ensuring speed and transparency.
- Opting for a **holistic approach** – for example, free access to infrastructure can offset higher equity. Full transparency is key; this can include e.g. a researcher's semester abroad.
- Should **multiple universities** be involved, one lead should be appointed, and bilateral agreements should be negotiated to prevent a lengthy cap table. The same method should be applied to royalties.

Pillar 2
Real time allocation: ensure genuine time for researchers

a. Guiding principle

Researchers must have actual protected time to engage in spinout creation. This new company should be considered a full part of their work, instead of a side venture.

b. The problem today

- Researchers' schedules are typically demanding, as they are required to juggle between teaching, grants, publications and administrative duties. This leaves little to no time to work on a potential spinout.
- Commercialisation work is therefore often done outside working hours, leading to a slower process and increased dropout rates.
- This discourages prospective founders

and weakens capacity during the early stages, which is critical.

c. ESNA recommendation

Spinout creation should be considered as a legitimate professional activity for academics. To support this culture shift, the following steps are suggested:

- A dedicated, protected time windows for researcher-founders on a weekly basis;
- Temporary teaching or administrative load reduction, most importantly in the early stages of the spinout;
- Clear employment and IP rules from the onset.

This aligns with good practices on early-stage IP management related to confidentiality, due diligence and strategic decision-making, all of them requiring significant time and efforts.

Pillar 3
Speed and predictability: how fast can this be done?

a. Guiding principle

Speed is a competitive factor, especially for investors. Having a clear, predictable roadmap for spinout creation would benefit all parties, including universities.

b. Current reality

- In many universities, spinout processes can easily take a year. Beyond the frustration it can cause, this can be a serious impediment to commercialisation efforts
- Delays are often caused by internal administrative burden, unclear IP strategies, and lengthy negotiations
- This weakens first-mover advantage and investor confidence

c. ESNA benchmark

- Medium end-to-end timeline: ~9–12 months
- Clear milestones related to:
  - disclosure
  - IP evaluation
  - protection decision
  - licensing/assignment strategy
  - company formation
  - first external financing discussion.

Cross-cutting principle – transparency as a system enabler

Transparency is a precondition for trust, speed, compliance and an overall smooth negotiation process.

What transparency means in practice

- Clear evaluation timelines: e.g. set a legal four-month window to set a clear IP protection framework and filing strategy
- Published criteria for:
  - equity allocation
  - licensing vs assignment decisions
  - royalty structures (if applicable)
- Clarity on process steps so researchers and investors can plan accordingly
- It should include tracking systems, from

formation to outcome. Monitoring what happens once the IP is registered or after the spinout is created – in terms of survival, market entry or follow-on investment - is key to improving future policies.

In conclusion, these guidelines are about universities unlocking value over 'giving up' value. This implies fostering publicly funded knowledge, by balancing equity out, protecting researchers' time, accelerating processes and fostering transparency. That way, Europe can significantly improve its ability to turn research into companies, jobs and boost its competitiveness - without increasing public spending (please see the box below).

Linking with ESNA's Investment Volume

Bridging startup-friendly investment policy and IP & Tech Transfer

The recommendations put forward in this Volume are clearly aligned with ESNA's Investment Volume. Both sections of this chapter – including guidelines for academia and an update of Horizon Europe's Grant Agreement - address the same underlying challenge: Europe's continued reliance on public subsidies that limit scalability and accountability, eventually leading to a weaker ecosystem. While the Investment Volume suggests a shift from grants toward convertible loans and equity-based instruments to generate reinvestment cycles, the IP and Tech Transfer Volume applies this logic at the level of universities and TTOs. Inefficient IP commercialisation, rigid equity and royalty practices, paired with misaligned incentives within academia, are current bottlenecks preventing publicly funded research from translating into scalable companies. ESNA's guidelines for academia on equity and royalty access aim to ensure that public funding is used more strategically.

We therefore wish to highlight one of the three actions extracted from the Investment Volume:

- **Updating public funding strategy for innovative companies**
- **a) Ensuring more funding is allocated to startups**
- **b) Ensuring more public funding is allocated to convertible loans instead of subsidies/grants**

Description

This action aims to ensure that more public funding is directed toward startups and that a greater proportion of these funds are deployed as convertible loans instead of grants. Additionally, it recommends co-investment models focusing on angel

investment and venture capital to stimulate private-sector engagement.

Key objectives include:

- Increasing the proportion of public funding allocated to startups beyond the current 5%.
- Shifting from grant-based funding to loan or equity-based financing to create a reinvestment cycle, compounding available funds over time.
- Allowing the majority of shareholders to choose how to repay the loan - either through a direct cash payment (with low or zero interest rate) or through equity allocation - ensuring long-term financial sustainability without distorting the cap table.
- Ensuring clean cap tables by requiring that key team members are full-time, allowing for a maximum of 5% exceptions.

Recommended regulatory and policy measures

Recommendation

Increase allocation of public funds to startups

Explanation & rationale

Revise current public funding frameworks to ensure a greater proportion is invested in startups.

Align funding mechanisms with the Draghi Report's recommendations to maximise impact and economic return.

Recommendation

Transition from grants to convertible loans

Explanation & rationale

Ensure startups receive convertible loans instead of grants, with the option to convert into a grant if the company fails (excluding fraudulent cases).

Enable startups to choose repayment methods - either a percentage of revenue/equity or a direct repayment to the government.

Recommendation

Establish co-investment funds for angel investment and VC

Explanation & rationale

Develop a structured co-investment framework modeled after successful initiatives (e.g., Portugal's angel investment scheme).

Public-private co-investment mechanisms should be designed to attract private capital, reducing reliance on government funding.

Recommendation	Single market integration
Explanation & rationale	Further integrate and deepen the single market to foster innovation (long-term goal).
Recommendation	Stock market fragmentation
Explanation & rationale	Reduce stock market fragmentation to align with the CMU agenda.
Recommendation	EIF and EIB instruments
Explanation & rationale	Expand the capacity and instruments of the EIF and the EIB to support VC growth funds.
Recommendation	Streamline funding application processes
Explanation & rationale	Reduce bureaucratic barriers to ensure proposals can be submitted and processed within one month. Introduce digital platforms to facilitate funding applications, tracking, and reporting.

Table 1. Explanation and rationale of recommended regulatory measures for action 3 a) and b). ESNA analysis.

EU level	Further **integrate and deepen the single market** to foster innovation (long-term goal). **Reduce stock market fragmentation** to align with the CMU agenda. Expand the capacity and **instruments of the EIF and the EIB** to support VC growth funds.
National level	Enhance the **role of national public financial institutions** (PFIs) in developing the VC ecosystem. **Increase allocation of public funds to startups** Revise national funding frameworks to boost startup investment and align with recommendations like the Draghi Report. **Transition from grants to convertible loans** Provide startups with convertible loans instead of grants, with repayment flexibility or grant conversion in case of failure. **Establish co-investment funds for angel investment and VC** Develop public-private co-investment schemes to crowd in private capital, modelled on successful programmes. **Streamline funding application processes** Digitise and simplify application procedures to reduce bureaucracy and improve processing speed and transparency.

Table 2. Regulatory measures for action 3 a) and b) broken down into national and EU levels. ESNA analysis.

3. Updating Horizon Europe's Grant Agreement

Horizon Europe is the EU's flagship funding programme for research and innovation. For the 2021-2027 period, 93.5 billion euros were allocated to the Framework Programme. Pairing collaboration with excellence, it puts an emphasis on societal impact and is widely recognised as competitive but also a seal of quality. At time of writing, a proposed 175 billion budget is put forward for the 2028-2034 period, strengthening its importance in the EU Research & Innovation ecosystem while addressing current concerns related to underfunding.

While this heralds a positive ecosystem for the EU's innovators and researchers, our Working Group raises the point that improvements are not restricted to budgetary issues. The current model suffers from certain weaknesses when it comes to knowledge valorisation:

- Valuable results from EU-funded projects remain under-protected and under-exploited.
- Patents are not filed despite clear strategic EU value, and a large number of SMEs and industrial partners repeatedly participate in multiple grants without credible post-grant commercialisation intentions.

This leads to a weakened European competitiveness, limited private follow-on investment, legitimate and deserving SMEs being squeezed out of EC grant funding programmes, and lower societal and economic ROI on billions of euros of public funding.

ESNA's Advisory Board and Partners therefore suggest acting on three different key areas, favouring a preventative approach:

A) Grant agreement-mandated requirements
B) Evaluation screening and scoring that rejects non-compliant proposals
C) Proactive Commission/Agency oversight during implementation

These measures will be developed in the following pages, and partially in the annexes. While fostering IP valorisation, they aim to find a balance between protection, commercialisation and open science. The Framework Programme is currently very much tipping towards openness, where commercialisation is less of a priority. A 'protect-or-open' approach is preferable, where what is strategically/commercially differentiating is protected, and what improves interoperability, uptake and scientific advancement is open. These decisions should be evidence-based, considering maturity, novelty, market need, TRL, standardisation potential, and risk of losing competitive advantage. In doubt, protecting first to avoid losing rights then later publish or share once protection is secured is the recommended route. A staged approach will maximise commercial, societal and scientific impact in the EU.

a. Grant agreement mandated requirement

Patent applications have been declining in the past few years, as seen in Figure 29 below. It highlights an eligibility/timing mismatch: patenting takes several years and they are therefore often filed late, but eligible costs are typically related to the work occurring within a project's timeframe. Consequently, project beneficiaries tend to avoid robust patent strategies (especially EPO/unitary) due to audit risk and cost ineligibility uncertainty. Additionally, varying national grant timelines make it impossible to reach "full protection" within project duration – demonstrating some Member States' advantages. While the Unitary Patent is a welcome measure, projects are largely discouraged from using it.

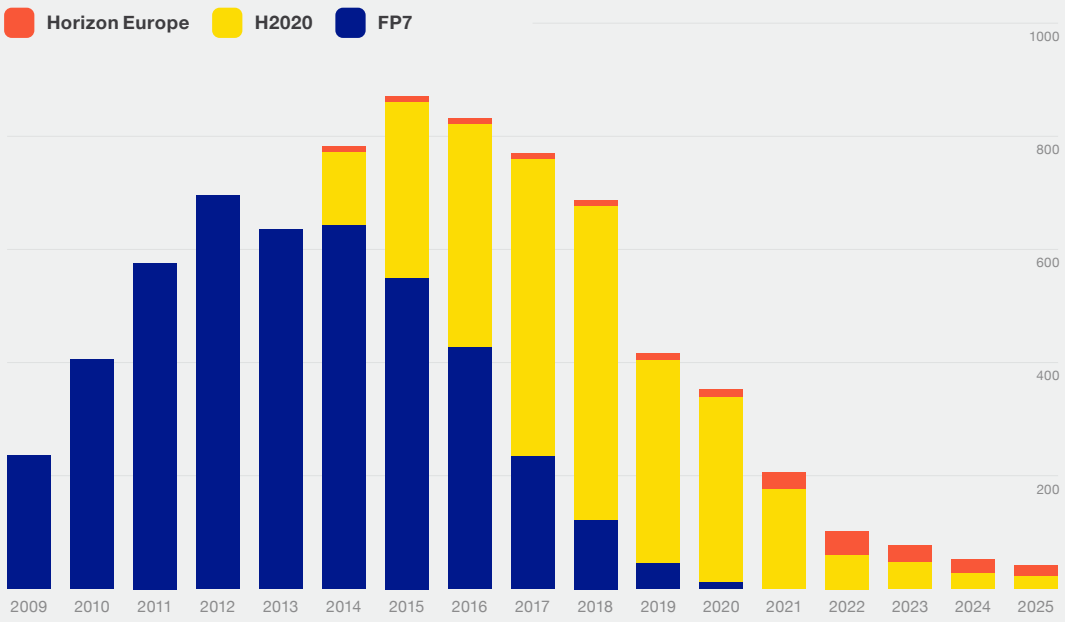


Figure 29. Patent applications from 2009 to 2025
Source: Qlik European Commission's dashboard

1. Ring-fenced IP protected budgets

Mandate a dedicated, ring-fenced budget line for IP protection activities (novelty/patentability assessment, proportionate Freedom To Operate/ competitor and/or licensability screening, drafting/filing, key fees, translations, prosecutions). Reallocation of related budgets away from this should require EC scrutiny and strict EC deviation approval under strict amendment rules.

2. Mandatory patents/IP plan + patents table in the proposal template

Require a completed patents/IP table for relevant topics, capturing at a minimum: Key Exploitable Results family, intended protection route (patent/ trademark/trade secret/open), trigger evidence, filing timing, intended territorial scope (e.g., PCT, National, EPO, USA), owner/responsible beneficiary, and indicative IP budget held by the coordinator or partner with IP/patents expertise. Incomplete tables should be treated as a material weakness or inadmissibility (topic-dependent).

3. "Protect-or-justify" rule for valuable results

Where results are assessed as commercially or strategically valuable, beneficiaries must either protect them on a defined timeline or document a reason why (e.g. trade secret/open strategy) supported by objective justification "No budget or not time to file patents" should not be accepted where ring-fencing applies.

4. Mandatory SME/industry product & revenue linkage table

Require each SME/industrial partner to map project outputs to internal products/services and revenue/costs pathways, name an internal accountable owner, and state expected economic effect within a defined window post-project (e.g. 12-36 months), including a credible continuation plan.

5. Elective/board-level exploitation commitment for SMEs/industry

Require a short, signed commitment assigning internal ownership and exploitation intention (or justified non-exploitation). This strengthens accountability and reduces "participation without intent".

6. Mandatory exploitation stage-gates and KER register

Require stage-gates (e.g. early triage; protect/publish decision; pilot/market readiness; end-of-project exploitation readiness). Each gate should produce documented decisions per KER and evidence packs proportionate to maturity

(robustness, repeatability, cost envelope, regulatory path, validation, IP position).

7. Invention disclosure process with timelines

Require each project to operate an invention disclosure mechanism and decision timelines (e.g. disclose within X days of identification; file decision within Y weeks). This prevents accidental loss of rights and creates an audit trail.

8. Publish-or-protect dissemination discipline

Strengthen dissemination guidance to require advance notice, response Service Level Agreements, and bounded filing delays where needed. Non-compliance becomes a review finding and potential return of a percentage of EC grant funding.

9. Exploitation-enabling access rights expectation

Require applicants to demonstrate that background/results access arrangements are workable and will not block exploitation. Where exploitation depends on access, require fair, timely terms and fast dispute paths.

10. "Anti-shelving" safeguard (step-in mechanism)

For exploitation-centric actions, require and enforce a mechanism allowing another beneficiary (or agreed exploitation vehicle) to step in to protect/exploit if the responsible owner declines or unduly delays, under fair terms.

11. Post-project exploitation updates (standardised)

Mandate brief annual exploitation updates for 3-4 years post-project (patents maintained and not abandoned, licensing/deployment/pilots, commercial progress, indicators, reasons for discontinuation). This supports accountability and programme learning.

b. Evaluation screening and scoring that rejects non-compliant proposals

With current very low success rates, having a tailored evaluation process is paramount. This also ensures that public money is well allocated, all the more when it comes to commercialisation and eventual societal impact. ESNA's Working Group therefore suggests some methodology that would allow not to fund proposals that fail the new rules.

1. Pass/fail admissibility checks for relevant topics

For exploitation-heavy calls, treat the following as minimum compliance items:

- Patents/IP table completed (with territorial intent + triggers)
- Ring-fenced IP protection budget and ensure present and credible IP
- SME/industry product and revenue linkage table completed
- Stage-gate plan defined with evidence requirements
- Credible exploitation commitments provided
- Missing items should fail admissibility and impact threshold (depending on call design)

2. Structured "commercial credibility" rubric/structured scoring guide inside impact

Move from narrative impact to evidence-based scoring: market pathway realism, internal product ownership, sufficiency of IP budget, protection strategy credibility, validation plan (pilots/Letters Of Intent), regulatory pathway where relevant.

3. Exploitation track-record factor for SMEs/industry (not relevant to universities, RTOs or non for profits)

Require an evidence-based summary of exploitation outcomes for SMEs and industry entities from prior EU projects (patents maintained, licences, deployments, product launches, measurable revenues/cost savings, or justified open strategies). Weak track records should be addressed with stronger commitments, otherwise score down.

4. Flag "high participation/ low exploitation" patterns for SMEs

Where applicant history indicates repeated participation with minimal exploitation outcomes, require enhanced safeguards (ring-fenced budgets, step-in, external commercial lead, stronger validation commitments) as a condition of competitiveness.

5. Panel composition for impact realism

Ensure evaluation panels include appropriate market operators/ end-users/industry experts and IP/ commercialisation expertise for exploitation-critical topics.

6. Penalise "grant-only business models"

Where SMEs show no credible post-project plan, no internal product owner, and no resourcing intent, treat this as a material weakness in impact/ implementation.

c. Proactive Commission/Agency oversight during implementation

While the first two sections focus on the pre-project phase, IP valorisation should be a continuous effort during the implementation of the action – not just a late-stage task. Proactive oversight from both the beneficiaries and the European Commission's appointed policy officer is necessary to prevent failure early on.

1. Exploitation compliance checks at each reporting period

At periodic reporting/reviews, check the following: KER register updated, stage-gates held; decisions recorded; agreed protection actions initiative; dissemination clearances documented; IP budget ring-fence, maintained and progressing.

2. Formal "IP gate" reviews at fixed milestones

Introduce dedicated exploitation reviews at agreed months (e.g. M6, M24/M30, M42/end), requiring evidence packs and producing corrective actions where progress is insufficient.

3. Corrective Action Plans (CAPs) with deadlines

Where exploitation is drifting (not merely technical), require a CAP, assign owners, adjust evidence plan, accelerate filings, resolve access rights, strengthen validation activities.

4. Payment leverage for material exploitation non-compliance

Where governance obligations (gates, disclosure, dissemination discipline) are not implemented, record formal findings and link continuation/ratings to remediation.

5. Protect the ring-fence during amendments

When amendments are requested, ensure exploitation resources and patent budgets are not eroded without strong justification and governance approval.

6. Rapid intervention for consortium IP/access deadlocks

Where IP/access disputes block exploitation, require escalation and time-bound resolution (mediation/arbitration as needed), rather than allowing prolonged stalemate.

7. Post-project follow-up enforcement

Require the standardised annual updates, persistent non-reporting becomes a negative signal in future assessments where legally feasible.

8. Programme-level analytics to tune calls

Track portfolio KPIs (time-to-IP decision, patents filed vs. expected, pilots/LOIs/deployments) to identify systematic bottlenecks and repeat underperformance, and use this to adjust future calls and evaluation criteria.

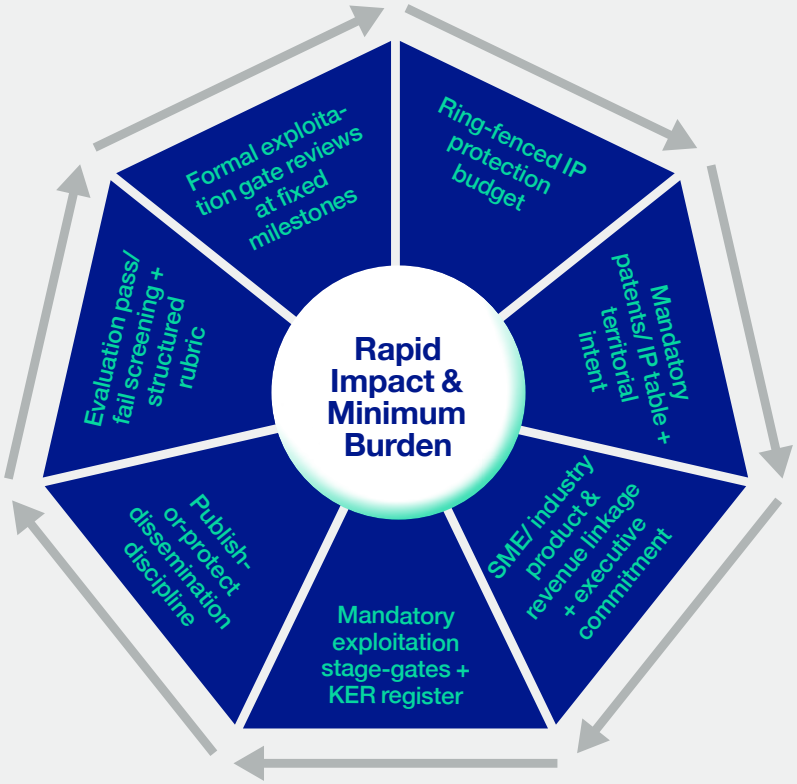
In short, the following points should be implemented as a minimum baseline to achieve rapid impact without over-burdening projects:

- Ring-fenced IP protection budget
- Mandatory patents/IP table with territorial intent + triggers
- SME/industry product and revenue linkage table + executive commitment
- Mandatory exploitation stage-gates + KER register
- Publish-or-protect dissemination discipline
- Evaluation pass/fail screening for the above + structured rubric
- Formal exploitation gate reviews at fixed milestones

Expected benefits of implementing this baseline:

- Higher rate of protected, investable results
- Fewer impact “narrative only” proposals funded
- Earlier detection and correction of exploitation drift

Minimum implementation for rapid impact



• Reduced dominance of chronic non-exploiters in SME/industry cohorts
• Better private co-investment and stronger European competitiveness outcomes

Ultimately, ESNA's Working Group suggests these steps with the intent of achieving:
• **A balanced ecosystem** protect open-source values while aggressively incentivising commercial outputs to drive ROI on public funding.
• **An accelerated commercialisation:** rapidly transition R&D concepts from "pilot purgatory" to market-ready products.
• **A sustainable revenue:** shift projects from grant-dependency to generating self-sustaining commercial revenue streams.
• **Higher success rates:** transform commercial outputs from a "rare occurrence" into a standard, repeatable deliverable.
• **De-risked investment:** attract private capital by demonstrating a clear, rigorous path to monetisation early in the lifecycle.
• **Optimised IP capture:** stop value leakage by clearly defining proprietary assets within collaborative frameworks.
• **Market-led innovation:** align research objectives directly with verified market needs rather than theoretical interest.
• **Operational efficiency:** streamline the journey from concept to commercial income, reducing wasted effort on non-viable pilots.
• **Concrete asset management:** treat research outputs as tangible corporate assets with defined lifecycles and value targets.
• **Global EU leadership:** strengthen the EU's global competitiveness by converting research excellence into sustainable commercial impact.

In an effort to offer practical recommendations, specific changes that can be directly implemented in Horizon Europe' Annotated Grant Agreement may be found in the annexes.

d. Evaluator proposal screening checklist

The following checklist should be provided by the EC, to the evaluation panel evaluating proposals submitted for EC Funding for topics where exploitation and new IP beyond State-of-the-art is expected.

Tick YES/NO. If NO on any item- record as a material weakness/fail Impact threshold:

- Patents/IP Plan + Patents Table: Is there a concrete table listing KERs, protection route (patent/secret/open) and patent territorial intent?
- Ring-fenced IP budget: Is there a dedicated, credible budget line for IP protection (drafting/filing/fees + early prosecution/FTO as relevant)?
- Protect-or-justify discipline: Do they clearly commit to protect valuable results or document an evidence-based reason to go open/trade secret instead?
- For-profit SME/industry product & revenue linkage: For each profit SME/industry, is there a clear link to internal products/services and an economic pathway (revenue/cost) with an accountable owner?
- Senior management commitment: Is there an explicit executive-level commitment (internal ownership + intent/resourcing to exploit) for each of the for-profit SME

and industry partners?

- Stage-gates + KER register: Are there defined exploitation gates (triage -> protect/open-> validation/pilot-> end readiness) with evidence requirements and decision owners?
- Invention disclosure process: Is there a process and timeline to capture inventions early and avoid accidental loss of rights?
- Publish-or-protect dissemination controls: Do they describe a publication clearance process with bounded delay for filing where needed?
- Access rights won't block exploitation: Are background/results dependencies identified with a credible plan to secure needed access?
- Anti-shelving safeguard: Is there a mechanism to prevent valuable results being stalled by inaction (e.g., step-in/option/licence concept)?

e. EC "evaluation panel" checklist - for use in project implementation periodic reviews

The following checklist should be provided to the EC evaluation panel for use in assessing progress, by the EC, to the evaluation panel evaluating proposals submitted for EC Funding for topics where exploitation and new IP beyond SOTA is expected.

- Confirm the "must-have" artefacts exist early: Patents/IP Table, ring-fenced IP budget, KER register, stage-gate plan, invention disclosure workflow, publish-or-protect process, access-rights plan.
- Hold formal exploitation gate reviews at predefined milestones/stage-gates, specified for the KERs: require decisions for each KER (protect/open/ trade secret/ stop) with evidence packs.
- Check ring-fenced IP/patent budget integrity at each reporting period: no quiet erosion or repurposing without documented justification/amendment.
- Verify "protect-or-justify" is applied: for valuable KERs, is there a filing/strategy or a documented justification and alternative route?
- Publication/dissemination sampling: randomly sample outputs to confirm publish-or-protect clearance was followed and patentability wasn't destroyed.
- Access-rights risk check: identify any "blocking background/results" early; require time-bound resolution and escalation when exploitation depends on access.
- Validate for-profit SME/industry commercial ownership: confirm internal product owner exists and the product/revenue linkage table is updated with real progress (pilots/LOIs/validation).
- Trigger corrective action plans when exploitation drifts: set deadlines, named owners, and evidence requirements (not just narrative fixes).
- Use leverage where governance is non-compliant: if gates/records aren't happening, record formal findings and condition acceptance of reports on remediation.
- Track portfolio signals in parallel: time-to-IP decision, patents filed vs expected, pilots/LOIs/deployments use to spot systematic issues and repeat underperformance.

Main takeaways

Going beyond "one-size-fits-all" innovation policy

Software and deep tech follow different development logics, and treating them the same leads to weak commercialisation outcomes.

Software scaling up processes are reflected through speed and adoption

They depend less on patents; while policy bottlenecks may be inconvenient, they are rarely fatal.

Deep tech can scales thanks to protected IP + patient capital

It includes longer term development timeframe, heavy prototyping/testing/certification and significant regulatory constraints. Investors therefore need early certainty due to the capital being locked for a longer period before market validation.

ESNA's guidelines aim for a practical EU-wide standard

Spinouts will be more investor-friendly as the following bottlenecks are addressed: equity, time, speed, and transparency.

Pillar 1: Equity clarity

Universities should avoid excessive founding stakes. A ~5% baseline (3–10%) ensures investability while safeguarding public interest (higher bands may be justified in deep tech cases when tied to real support). Multi-university cases should designate a lead to prevent cap table complexity.

Pillar 2: Protected researcher time

Spinout creation must be recognised as legitimate and relevant work, with dedicated time windows and reduced teaching/admin load, especially in early stages.

Pillar 3: Speed and predictability

Clear milestones are essential from disclosure → IP evaluation → protection decision → licensing/assignment → company formation → first financing.

Cross-cutting: Transparency

Clear rules, criteria, and timelines (e.g., defined IP evaluation windows) should be made available in order to build trust and reduce friction.

These guidelines are about unlocking value by improving commercialisation and ROI on public research.

- Horizon Europe reform is about implementation: results remain under-protected and under-exploited, while repeated grant participation without exploitation negatively impacts competitiveness.
- Introduce a "protect-or-open" approach: protect what is strategically/commercially differentiating, open what can be disseminated by making evidence-based decisions.
- Minimum baseline for calls should combine ring-fenced IP protection budgets, mandatory IP plans/tables, product-revenue linkage, KER register + stage-gates, publish-or-protect controls, pass/fail screening, and milestone exploitation gate reviews.
- Expected impact: higher rate of protected investable results, fewer "narrative-only" proposals funded, earlier correction of exploitation drift, reduced participation of chronic non-exploiters, stronger private co-investment, and better EU competitiveness outcomes.

IV. Mapping national policies

Key themes

- National policies across Europe
- Universities initiatives' examples
- SNS Report 2025: Tech transfer policies substandard overview

1. National initiatives

European countries are increasingly implementing initiatives to bolster IP and tech transfer policies, aiming to stimulate innovation and knowledge transfer. Below is an overview of national policies:

The policies and initiatives illustrated reflect a broader European effort to accelerate technology transfer from public research institutions to the market. They demonstrate how governments are aligning institutional support mechanisms to transform research outputs into commercial and societal value.

France	**Practice:** Crédit d'Impôt Recherche
	Year: 1983
	Description: The Crédit d'impôt recherche (CIR) is a French fiscal incentive designed to support and encourage business investment in research and development (R&D). It takes the form of a tax credit that reduces the corporate tax owed by an eligible enterprise in proportion to its qualifying R&D expenditures. The tax credit is calculated as a percentage of eligible R&D expenditure, with common rates including (i) 30% of qualifying R&D costs for the portion up to a high threshold, and (ii) 5% on amounts exceeding that threshold.
France	**Practice:** France's SATT Network
	Year: 2012
	Description: Established in 2012, this network of 13 Technology Transfer Acceleration Companies has successfully linked over 150,000 researchers with businesses, fostering innovation and competitiveness through the support of 800+ startups.
France	**Practice:** PACTE Law 2019/Research Programming Act 2020
	Year: 2020
	Description: The PACTE Law and the Research Programming Law aim to facilitate, at the regulatory level, the creation of companies by researchers from public laboratories, or their provision of scientific assistance to businesses. The PACTE Law specifically includes measures to streamline administrative procedures and provide clearer guidelines for IP ownership and commercialisation.
Germany	**Practice:** Startup Secure
	Year: 2017
	Description: Funding of incubators, and the pre-seed and seed of R&D projects stages to promote the founding of startups in the area of IT security. The BMBF supports this in two funding phases: in a first phase, the development phase, it is worked out how the idea can be technically implemented. To accompany this, the research team is preparing a business plan. With the founding of the company, the second phase, the founding phase, begins. This is where creative marketing and sales strategies are needed for a successful startup.

Germany	**Practice:** SPRIN-D
	Year: 2023
	Description: In 2023, SPRIN-D (Federal Agency for Disruptive Innovation) developed a toolkit to streamline IP management and facilitate innovation commercialisation. The toolkit includes a question-based catalogue for assessing IP situations, the IP-Scorecard for standardised market valuation, a proposed three-month IP transfer process, and standardised contract templates for diverse IP transfer scenarios.
Germany	**Practice:** WissZeitVG 2027
	Year: 2025
	Description: The reform provides long-term contracts that lead to permanent professorships based on performance evaluations that consider research quality, teaching impact, and contributions to technology transfer. It allows extensions for third-party funded projects to align contract duration with project timelines.
Ireland	**Practice:** Technology Transfer Strengthening Initiative programme (TTSI)
	Year: 2007-2016
	Description: TTSI invested over €88 million to enhance TTOs in Irish universities. This funding improved infrastructure, hired skilled staff and provided extensive training in IP management, contract negotiation, and startup formation. Additionally, it facilitated collaborations between academia and industry.
Portugal	**Practice:** Patent Box
	Year: 2014
	Description: The Patent Box is a special corporate tax regime that allows companies to deduct a large portion of income from licences/uses of registered IP (patents, industrial designs and software) when calculating taxable Corporate Income Tax. To qualify, the income must come from the assignment or temporary use of eligible rights, and associated R&D expenses must be clearly identified in the company's accounts.
Switzerland	**Practice:** Federal Act on the Promotion of Research and Innovation (RIPA)
	Year: 2013
	Description: The RIPA provides a legal framework for promoting research and innovation, including specific regulations for spinouts. Establishes clear procedures for the creation and operation of spinoffs, reducing regulatory barriers.
United Kingdom	**Practice:** ICURe programme
	Year: 2013
	Description: The Innovate UK ICURe Programme gives researchers the chance to turn ground-breaking research into investment-ready spinout companies and license agreements. It provides funding and personalised support to test the commercial potential of an idea – while enabling researchers to take their first steps into the world of business.
United Kingdom	**Practice:** The Higher Education and Research Act
	Year: 2017
	Description: The Higher Education and Research Act 2017 is a UK legislation that reforms the higher education and research landscape, creating a new regulatory and funding framework. It establishes the Office for Students (OfS) to regulate universities and safeguard quality, choice and value for students, and creates UK Research and Innovation (UKRI) to unify research funding bodies. The Act also updates how institutions gain degree-awarding powers, promotes competition and transparency, and modernises student support and complaints mechanisms.

Table 3. Best practices at national level. ESNA analysis

A common objective is to reduce the administrative barriers that traditionally hinder researchers from engaging in commercialisation activities. Legislative reforms such as France's PACTE Law and the United Kingdom's Higher Education and Research Act establish clearer rules on IP ownership and commercialisation rights. By clarifying who owns research results and how revenues can be shared, they provide a relevant legal framework that ensures smooth licensing processes and spinout creation, thereby further guaranteeing transparency, accountability, and coordination between research funding bodies and TTOs.

In addition to these regulatory measures, initiatives such as France's SATT Network and Germany's Startup Secure are designed to translate academic knowledge into solid business opportunities. They combine IP training, business development support, and early-stage funding to help researchers move from invention to market-ready solutions. These programmes recognise that IP management goes beyond patent filing and also includes market validation, entrepreneurial skills, and access to investors. By providing mentoring, standardised processes, and dedicated funding, they reduce the risk associated with early-stage technology transfer.

Germany's SPRIN-D initiative focuses on standardising IP assessment and valuation, which in turns increases efficiency and predictability for all parties involved. These tools help professionalise technology transfer by covering both IP management negotiations with industry. This benefits professionals as they are building trust with companies and scaling technology transfer activities.

Fiscal incentives also play a role in strengthening IP commercialisation. Portugal's Patent Box regime demonstrates how tax policy can foster the exploitation of registered IP by reducing the effective tax burden on income derived from patents and other protected assets. Associating tax benefits with clearly identified IP rights incentivises companies to invest in research and formalise IP protection.

Reforms to academic career structures, such as Germany's WissZeitVG reform, indirectly support tech transfer by considering long-term engagement in research and innovation as an academic incentive, going beyond citations. More stable career paths and performance criteria that recognise technology transfer and industry collaboration encourage researchers to invest time and effort in IP development while continuing their steady academic progression.

Altogether, these legal reforms provide clarity and governance by offering programmes that build commercialisation capacity, as well as standardised tools that improve IP management, and fiscal and career incentives. The overall context is one in which IP is treated as a strategic resource for research valorisation, economic competitiveness, and societal impact.

2. Universities initiatives

As per university level practices, the table below summarises how these institutions create relevant programmes to implement IP management and technology transfer within their internal governance and support structures. They display a shift from ad hoc commercialisation activities to a more researcher-centric and ecosystem-oriented approach.

A recurring theme across these practices is pairing academic freedom with commercialisation requirements. Policies such as the "right to publish" guidance at KU Leuven clearly address the collaboration between open science and third parties. By offering structured coaching on publication timing, confidentiality, and IP protection, universities enable researchers to safeguard patentability without undermining academic dissemination. This

Belgium	**Practice:** Right to publish	University	KU LEUVEN
	Year: Unknown		
	Description: KU Leuven offers guidance and coaching on how to reconcile publications with the restricitions and requirements of collaborating with third parties.		
Denmark	**Practice:** Spinouts Denmark		
	Year: 2021		
	Description: Spinouts Denmark is a national initiative organised by all Danish universities and funded by the Villum Foundation, designed to facilitate the creation and development of university spinouts. It offers a comprehensive one-year training initiative designed to equip researchers with the necessary skills to translate academic research into commercial success. The participants get their time funded for up to one year. The programme provides training sessions that cover IP rights, business development, and market entry strategies. Participants receive personalised mentoring from experienced entrepreneurs. Each university provides access to business developers who assist researchers in maturing their ideas, developing business strategies, and identifying potential market opportunities.		
Estonia	**Practice:** Provision of additional research funds	University	UNIVERSITY OF TARTU
	Year: Unknown		
	Description: The University of Tartu started a Feasibility Fund in order to support experimental projects that have potential.		
France	**Practice:** Polytechnique ventures	University	INSTITUT POLYTECHNIQUE DE PARIS
	Year: 2020		
	Description: Polytechnique Ventures is an alumni-backed venture fund from France's École Polytechnique that raises capital to invest in early-stage startups tied to the university ecosystem. It focuses on backing founders who are alumni, spinouts from Polytechnique labs, or participants in its incubator, with tickets at pre-seed and seed stages.		
Germany	**Practice:** Recognition	University	Technische Universität München TUM
	Year: Unknown		
	Description: Technical University of Munich (TUM) awards the honorary title Entrepreneur of Excellence.		
Iceland	**Practice:** Flexible employment conditions	University	HÁSKÓLINN Í REYKJAVÍK REYKJAVIK UNIVERSITY
	Year: Unknown		
	Description: The University of Reykjavik allows for sabbaticals and teaching and admin reductions.		

Italy	**Practice:** National Research Plan (PNR) 2021-2027		
	Year: 2021		
	Description: Measures to enhance the mobility of researchers and academic staff, including funding for international research visits and sabbaticals. The plan emphasises fostering university-industry collaboration through joint research projects and innovation hubs.		
Netherlands	**Practice:** UNL		
	Year: 2023		
	Description: In 2023, the Universities of the Netherlands (UNL) introduced standardised deal terms for transferring IP to spinouts. These terms aim to streamline negotiations, ensuring fair and transparent agreements that foster spinout growth. The terms include provisions for minority university shareholdings, which gradually decrease as additional investors join, enhancing the spinouts' attractiveness to investors.		
Spain	**Practice:** The CHARM'EU Alliance	University	CHARM-EU
	Year: 2019		
	Description: Co-financed by the Erasmus+ Programme, the alliance is formed by the University of Barcelona (coordinator), Trinity College Dublin, Utrecht University, the University of Montpellier, Eötvös Loránd University Budapest, Åbo Akademi University, Julius-Maximilians-University Würzburg, Ruhr West University of Applied Sciences and the University of Bergen. This alliance has adopted diverse strategies to foster academic spinouts. Shared services like administrative and legal support, alongside collaborations with incubators, are common practices within the alliance.		
United Kingdom (UK)	**Practice:** Oxford University - changes to streamline spinout formation	University	UNIVERSITY OF OXFORD
	Year: 2021		
	Description: Oxford is the UK's leading university for spinout creation. In September 2021, the University introduced a streamlined equity-sharing policy to further stimulate innovation and entrepreneurship. The policy offers upfront certainty to researchers and investors, assigns a modest and transparent equity stake to the University, and eliminates protracted case-by-case negotiations. This approach enables spinouts to better reward founding researchers, attract experienced management teams and investors, and form more efficiently. Under the policy, founding researchers typically retain 80% of the equity, with the remaining 20% held by the University.		
UK	**Practice:** TenU - University Spin-off Investment Terms		
	Year: 2023		
	Description: TenU is an international consortium of leading TTOs, including institutions such as Oxford, Cambridge, and MIT, in collaboration with investors and legal experts. Its objective is to standardise terms for university spinout investments, streamlining negotiations and improving efficiency.		
UK	**Practice:** Promotion and Tenure	University	UNIVERSITY OF BIRMINGHAM
	Year: Unknown		
	Description: The University of Birmingham has Enterprise, Engagement and Impact as one of the five separate contribution areas for academic promotion.		

Table 4. Best practices at university level. ESNA analysis

broad institutional recognition stresses that effective IP management must coexist with other academic values rather than replace them.

Many universities are also providing key resources for TTOs. Initiatives such as Spinouts Denmark and the University of Tartu's additional research funds demonstrate how institutions de-risk early-stage ventures. By funding experimental projects and proof-of-concept activities, universities increase the quality and maturity of IP

assets early on, which in turn improves the likelihood of technology transfer.

Access to capital is another key dimension of these practices, with Polytechnique Ventures showing how universities are leveraging alumni networks and institutional credibility to create dedicated venture funds. As such, academia helps bridge the gap between invention and investment. This model acts as a glue between IP utilisation and long-term institutional engagement, thereby ensuring that spinouts remain tied to the university's research strengths and talent pipeline.

Several practices focus on incentives and career structures as levers to promote technology transfer. The recognition of entrepreneurial achievements at institutions such as the Technical University of Munich, and the inclusion of enterprise and impact as promotion criteria at the University of Birmingham, mark a cultural shift in academia. By valuing commercialisation and collaboration with industry alongside teaching and research, universities put an emphasis on IP and spinouts as a genuine part of an academic career.

Policies allowing sabbaticals, reduced teaching loads, or administrative relief, such as those at the University of Reykjavik, enable researchers to dedicate time needed for company formation or industry collaboration. These measures indicate that technology transfer requires long-term effort that are not in keeping within traditional academic schedules.

The Universities of the Netherlands' standardised IP terms, Oxford University's spinout equity policy, and the TenU initiative all aim to reduce negotiation complexity and uncertainty. Clarifying equity shares and licensing conditions lead to lower transaction costs and make spinouts more attractive to prospective investors, while protecting academic founders by ensuring fair outcomes.

Finally, collaborative approaches such as the CHARM-EU Alliance, demonstrate how universities can pool resources across borders to further technology transfer activities. Shared incubators, as well as coordinated legal and administrative support help overcome fragmentation and bolster best practices.

3. SNS Report 2025: Tech transfer policies substandard overview

In the SNS Report 2025[24], the implementation of technology transfer policies is assessed through Indicator 5.4.1 – "Existence of Policies for Smooth Tech Transfer", which evaluates whether countries have established institutional frameworks enabling the effective commercialisation of research outputs from universities and research institutes.

In 2025, the ESNA average rose significantly from 77% to 96%, reflecting strong momentum in the adoption of technology transfer policies across participating countries. This progress was driven primarily by two groups. Bulgaria, Estonia, and Poland, previously scoring 0%, advanced to full implementation, showcasing their institutional transformation. On the other hand,

[24] European Startup Nations Alliance (ESNA). (2026). Startup Nations Standard (SNS) report 2025. ESNA. https://www.esnalliance.eu

Bulgaria	**Practice:** Fund for Startups by Students and PhD Candidates
	Description: The instrument aims to encourage student and PhD-led startups through equity and quasi-equity support, strengthening innovation and commercialisation within higher education institutions. It develops entrepreneurial skills through hands-on, learning-by-doing experience and enhances collaboration between education, research, and business in the digital economy.
Estonia	**Practice:** Action Plan for the Development of the Deeptech Startup Ecosystem 2023-2027
	Description: Estonia's DeepTech strategy (2023–2027), led by Startup Estonia, aims to transform the nation into a global hub for research-intensive technologies. The initiative targets 500+ DeepTech startups by 2030, focusing on five key pillars: human resources, ecosystem skills, capital markets, networking, and a favourable business environment.
Poland	**Practice:** Act on Higher Education and Science
	Description: It requires evaluating scientific achievements, including knowledge and technology transfer, during periodic assessments for promotions and state procedures like habilitation and professorship. The assessment includes information on cooperation with the socio-economic environment, technological achievements, collaboration with the economic sector, patents, and implemented technologies.

Table 5. Best practices highlighted from ESNA EU SNS Report 2025. ESNA analysis

Germany, Italy, and Ukraine strengthened existing frameworks by improving from 50% to 100%. The table above describes in detail the initiatives from Bulgaria, Estonia and Poland, which enabled the indicator's significant increase.

Bulgaria's Fund for Startups by Students and PhD Candidates provides equity and quasi-equity funding to student and PhD-led startups. By implementing such measure, Bulgaria strengthens the commercialisation pipeline at its source, within higher education institutions.

Estonia's Action Plan for the Development of the DeepTech Startup Ecosystem 2023–2027 integrates technology transfer into a broader strategy that ranges from talent development and capital access to international networking.

Poland's Act on Higher Education and Science integrates knowledge and technology transfer outcomes into the evaluation of scientific achievements, and therefore institutionalises commercialisation as a core academic function.

This Chapter reflects the existing efforts steered by various entities, from local to national, all the way to the European level, to propel IP utilisation. It is worth highlighting that many initiatives are created and implemented by universities themselves, demonstrating their grasp of the many issues related to technology transfer today. Policymakers have also been focusing on this point increasingly, as competitiveness became a greater priority. Turning theory into practice is not only beneficial to the researcher and academic community, but its eventual social impact makes these processes all the more worthwhile.

Main takeaways

1. Strong policy momentum across Europe

European countries are increasingly strengthening their IP and technology transfer frameworks, with major progress reflected in the SNS Report 2025 (with average rising from 77% to 96%)

2. Legal framework as a foundation for commercialisation

Legislative reforms clarify IP ownership and revenue sharing, thereby mitigating uncertainty and ensuring smoother processes for spinouts.

3. From IP protection to full commercialisation

National programmes keep on combining IP management with business development, proof-of-concept funding, mentoring, and investor access, acknowledging that IP alone does not create impact.

4. Professionalisation and standardisation of tech transfer

Tools for IP valuation, standardised tech transfer terms, and streamlined spinout policies improve efficiency and transparency, which eventually leads to greater trust between all parties involved.

5. Incentives and career reforms are critical enablers

Both national and university-level reforms pair academic careers with technology transfer by embedding entrepreneurship and industry collaboration in academic systems.

6. Universities are becoming active ecosystem players

Universities expand TTOs' roles by providing early-stage funding, venture capital access, flexible employment conditions, and researcher-friendly structures.

7. Shift toward ecosystem and cross-border approaches

Initiatives like Estonia's DeepTech strategy and alliances such as CHARM-EU highlight coordinated, transnational innovation ecosystems, going beyond isolated institutional efforts.

V. Suggested solutions and KPIs

Key themes

- Specific recommendations for each action
- Cross-action suggestions for improved frameworks
- Key Performance Indicators per action

The actions proposed in this chapter reflect ESNA's IP & Tech Transfer Working Group's assessment of the bottlenecks impacting Europe's ability to translate publicly funded research into scalable economic and strategic value. Drawing on inputs from ESNA Partners, Advisory Board Members, and reputable external sources, these actions focus on investment conditions, institutional incentives, governance models, and funding rules that shape IP valorisation outcomes.

Action #1 Spinout investment terms reform

a. Description

The initiatives proposed by ESNA and its Working Group aim to update and harmonise investment terms applied to academic spinouts across Europe. Current models frequently rely on rigid equity expectations or inadequate royalty frameworks that undermine founders' incentives, deter private investors, and limit the long-term success rate of research-based ventures. This action intends to rebalance risk, reward, and ownership between researchers, institutions, and investors.

The following points are essential to be investor ready:

A) Solid business plan (market and customer are understood + revenue proposition)
B) Patent protection (ideally giving exclusivity)
C) Proof of concept demonstrator to pilot scale
D) Team composition

b. Rationale

Spinouts are critical for transforming research outcomes into market-ready innovations, particularly in deep tech and strategic sectors[25]. However, universities/RTO claims on early-stage ventures may unbalance capital structures or delay follow-on funding. Introducing more flexible and transparent investment terms enables

[25] Please see ESNA's Talent and Entrepreneurial Culture Volume for further details on critical industries.

faster company formation, improves investor confidence, which eventually increases the likelihood of successful scaleup and potential exits.

c. EU level vs. national level – Specific sub-actions

Equity models

EU level (EU funding)

- Promote best practice (see Chapter IV) equity frameworks through policy coordination instruments, such as the Best Practices Catalogue developed by ESNA and peer-learning platforms, like the Knowledge Valorisation Platform.
- Integrate spinout equity principles into EU-supported knowledge-transfer recommendations and innovation policy dialogues.
- Support comparative data collection on spinout equity outcomes across Member States to inform future reforms.
- In consortia/shared results, clearly define who leads exploitation.

National level (national funding)

- Develop national guidelines for university equity participation in spinouts, including recommended equity ranges and clear dilution pathways.
- Encourage the adoption of deferred or milestone-based equity allocation models, reducing upfront burden on founders.
- Introduce transparency obligations requiring TTOs to publish standard spinout term sheets and historical benchmarks.

Royalty agreements

EU level (EU funding) / **National level** (national funding)

- Support harmonised principles for fair and proportionate royalty arrangements through EU innovation policy frameworks.
- Incorporate multiple royalty models into one consistent model to avoid a pile of multiple royalties from multiple institutions.
- Limit the use of universities and research centres' royalties as a default mechanism in early-stage spinouts, particularly where equity participation already exists.
- Encourage time-limited or revenue-capped royalty structures aligned with company maturity and cash-flow capacity.
- Ensure royalty terms are subject to periodic review and adopt a royalty renegotiation approach that is proportional to company revenues.

d. Key Performance Indicators

Equity models

A

- **% of universities adopting a standard equity range** for spinouts (target benchmark: ~5% within a 3-10% range).
- **Average university equity stake at spinout creation**, measured annually.
- **X number of spinouts with x valuation after 24 months.**
- **Repeat investment rate:** % of investors backing more than one spinout from the same institution.

Royalty agreements

B

- **% of spinouts** using royalty-free or time-limited royalty structures.
- **Number of tiered royalty agreements.**
- YoY reduction of spinouts evidencing multiple concurrent royalty agreements.
- Compare spinouts with private, public should fare as well as private.
- Survival rate after X years of spinouts relative to industry norms
- % of spinouts with multiple concurrent royalty agreements.
- +50–100% increase in annual spinouts per proactive institution within 5-7 years.
- ≥35% reduction in time-to-term-sheet (longer-term ambition: up to 3.5x improvement).

Action #2 Academic culture and TTO transformation

a. Description

This action focuses on reshaping academic culture and modernising TTOs to align incentives and skills with contemporary innovation and market realities. ESNA's Working Group identifies institutional culture as a decisive factor in determining whether IP is duly valorised or remains underexploited. As per the cultural mindset highlighted by the Working Group, which is relevant to the implementation of this action, the topic was not explored in depth, as it had already been analysed in detail in the Talent & Entrepreneurial Culture Volume.

b. Rationale

TTOs often operate with limited autonomy, insufficient market expertise, and misaligned performance metrics. Transforming academic culture and fostering spinout-focused TTOs is essential to unlock Europe's research-driven innovation potential.

c. EU level vs. National level - Specific sub-actions

EU level (EU funding)

- Support EU-wide training and certification programmes for TTO professionals.
- Fund pilot programmes testing new TTO governance and incentive models.
- Promote cultural change through EU-level recognition of excellence in knowledge transfer.
- Foster knowledge exchange and peer learning via university alliances.

National level

(national funding)

- Reform academic evaluation systems to recognise entrepreneurship, licensing, and spinout creation.
- Professionalise TTO staffing through market-oriented training and competitive recruitment.
- Grant TTOs greater operational autonomy and performance-based incentives linked to long-term impact.

d. Key Performance Indicators

KPIs

- **TTO performance metrics weighted to successful spinout outcomes vs ownership (%)**, YoY results.
- **% of universities embedding spinouts, investment attracted, and impact into performance review,** YoY results.
- **Average number of spinouts per TTO FTE, over 24 months.**
- **Follow-on funding attracted per spinout (€), over 24 months.**
- **5-year survival rate of university spinouts, relative to industry norms**
- **Number of TTO staff secondments** to startups, scaleups or business advisors, per year, YoY results.
- **Presence of external advisors (see Chapter III) in spinout governance committees** (% of negotiations that include a 3rd party industry expert), YoY results.
- **Founders' satisfaction score** (qualitative KPI via structured survey), YoY results.

Cultural shift indicators

- **Treatment of spinouts as positive, trackable outcomes.**
- **Portfolio concentration ratio** (dependency on few licensing wins vs diversified spinout portfolio).

Action #3 Investment and funding frameworks for IP valorisation

a. Description

The initiatives under this action aim to improve access to finance for IP-driven innovation by recognising intellectual property as a financial asset and by adapting grant rules to better support the full patent lifecycle. ESNA's Working Group highlights the need for funding systems that reflect the realities of IP development timelines and costs.

b. Rationale

Lack of suitable financing mechanisms and rigid grant rules frequently prevent promising research results from reaching market readiness. Treating IP as a bankable asset and aligning grant frameworks with patent procedures can significantly reduce the "valley of death" between research and commercialisation.

c. EU level vs. national level - Specific sub-actions

IP as collateral

EU level (EU funding)

- Explore EU-level guarantees or blended-finance instruments supporting IP-backed funding.
- Promote best practices (see Chapter IV) on IP valuation and collateralisation across Member States.

National level

(national funding)

- Enable pilot schemes allowing IP to be used as collateral for innovation financing.
- Support valuation standards and risk-sharing mechanisms involving public funding.
- Encourage collaboration between TTOs, financial institutions, and investors.

Updating the grants system – Proposed Annotated Grant Agreement (AGA) modification

EU level

(EU funding)

- Amend EC grant rules to allow eligibility of patent prosecution and grant costs beyond the action end date, where justified.
- Ensure best-value principles through competitive procurement and allow for multiple criteria to be considered, beyond lowest price.
- Increase legal certainty for beneficiaries investing in long-term IP protection strategies.

National level

(national funding)

- N.A.

d. Key Performance Indicators

IP as collateral

A

- **Number of pilot schemes allowing IP-backed financing.**
- **Total volume of loans/investment secured using IP as collateral (€).**
- **Average valuation uplift of IP-backed ventures vs non-IP-backed peers.**
- **Default rate on IP-backed financing instruments.**
- **Participation of public development banks in IP-backed instruments (%).**
- **% of patent filed in Europe vs outside Europe/EMEA**

Updating the grants system (AGA modification)

B

- **Number of patents granted per projects.**
- **Number of patents filed per projects.**
- **Number of patents granted & abandoned per projects.**

Cross-cutting KPIs

Below are KPIs explicitly mentioned or implied in the document that should be implemented across multiple actions. These KPIs relate to funding governance, regulatory design, and evaluation systems, rather than a single operational action.

Horizontal / System-level KPIs

- **EU leaderboard of universities prioritising spinouts** (utilising U-Multirank's ranking).
- **Survey results from EC-funded SMEs** on actual commercial impact vs grant recycling.
- **Share of EC funding flowing to institutions with strong spinout track records.**
- **Compliance cost per successful commercialisation (€).**
- **Improved proposal evaluation scores linked to IP and commercial readiness criteria.**
- **Adoption rate of standardised tech transfer templates across Member States (%).**

Systematic tracking of researchers and exploitable results

Europe's capacity to translate research excellence into economic, industrial, and societal value depends not only on the quality of its science, but also on its ability to connect and follow the people and results that generate that knowledge. Systematic tracking of researchers and exploitable results should therefore be understood as a foundational reference layer for the European innovation ecosystem, rather than a standalone policy action.

This approach acknowledges a structural reality: Europe produces world-class research, yet too often lacks continuity between discovery and exploitation. Research outputs with clear commercial potential frequently remain dormant due to fragmented data, limited institutional visibility, and the absence of follow-up mechanisms. As a result, promising IP is under-utilised, duplicated across institutions, or even lost when researchers move across borders or sectors.

Establishing systems that link researchers, research outputs, and potential exploitation pathways is therefore critical to allow TTOs, universities, investors, and policymakers to act strategically. Therefore, ESNA's Working Group frames this as a crucial highlight of this Volume.

When researchers are visible alongside the results they generate, institutions can better identify when to support spinout formation or licensing (see Chapter III) while respecting academic freedom and mobility.

Europe requires a shared reference logic: a common understanding of what should be tracked, why it matters, and how such information can inform strategic decisions across the innovation lifecycle. Without this framework, efforts to improve IP valorisation, strengthen tech transfer, or scale deep tech ventures will continue to operate in isolation, limiting their societal impact.

At policy level, systematic tracking enables more informed decision-making on funding allocation and critical technology development. At institutional level, it strengthens accountability, reduces inefficiencies, and supports evidence-based technology transfer strategies. At ecosystem level, it creates the conditions for continuity to ensure that Europe's most valuable research assets remain connected to those best positioned to transform them into impact.

Main takeaways

The chapter proposes **three actions** to remove bottlenecks that prevent publicly funded research from turning into economic and societal value: 1) spinout terms, 2) academic/TTO transformation, and 3) financing + grant-rule alignment.

• Action 1: Reform spinout investment terms
Making ventures investor-ready by fixing cap table that deter private capital and standardising equity and royalty models across Europe. Spinouts need credible market plan, protected IP/exclusivity, proof-of-concept pilot, and a capable team - terms must enable these conditions.

• Action 2: Transform academic culture and modernise TTOs
Incentives and governance reward commercialisation outcomes (instead of focusing on publications only), thereby enabling consistent execution.

• Action 3: Treat IP as a financeable asset
Enabling IP-backed financing and adapting public funding frameworks to match the full patent lifecycle will help mitigate the "valley of death" between research and market.

• The **proposed Horizon Europe/AGA updates** suggest clear compliance mechanisms (e.g., ring-fenced IP budgets, protect-or-justify logic, staged exploitation governance). Furthermore, allowing certain patent prosecution costs after project end (under strict conditions) addresses the timing mismatch that currently discourages robust IP strategies.

• **Systematic tracking of prospective entrepreneur-researchers and exploitable results** is a foundational layer to reduce value loss due to fragmentation.

Conclusions

Europe is now at a turning point – with a world-class research base and a growing spinout ecosystem, yet still at risk of failing to convert this strength into sustained global competitiveness. While the continent has made significant progress in fostering collaboration and advancing its innovation agenda, structural bottlenecks in intellectual property management and technology transfer continue to limit the full realisation of its potential. In an increasingly competitive global landscape, the ability to translate knowledge into scalable economic value is a defining condition for Europe's sovereignty and long-term resilience.

Innovation, particularly in deep tech and critical industries, depends on efficient lab-to-market pathways. Europe has the scientific excellence and talent pool to lead in these domains, but it must better align its systems to support this transition. The solution lies in treating IP as a strategic and financial asset that underpins venture creation and attracts investment, anchoring value within the region. Strengthening the link between research, patents, and commercialisation is therefore essential to ensure that publicly funded innovation delivers tangible societal and economic returns.

With the ongoing development of the EU Startup & Scaleup Strategy, the European Innovation Act, and broader initiatives linked to the Single Market and Capital Markets Union, the European Union has clearly signalled its ambition to address these challenges. Existing instruments, such as Horizon Europe and the European Innovation Council, already provide a strong foundation. However, as highlighted throughout this Volume, targeted reforms are needed to align grant frameworks with patent lifecycles, improve investment conditions for spinouts, and modernise the governance of Technology Transfer Offices.

Across Member States, a wide range of initiatives has emerged to support tech transfer and IP valorisation. These efforts reflect a shared recognition of the importance of research commercialisation, yet their impact remains uneven due to fragmentation and inconsistent implementation. Greater coordination and knowledge sharing will be essential to unlock scale and ensure that best practices spread across the European ecosystem.

ESNA's Advisory Board and Partners have played a key role in shaping this Volume, bringing together perspectives from academia, industry, and investment communities. Their insights highlight a common objective: to build an innovation system where intellectual property, capital, talent and industry operate in a coherent and mutually reinforcing manner. ESNA's contribution lies in translating these insights into actionable recommendations that support a more efficient and transparent approach to IP and technology transfer across Europe.

Ultimately, Europe must treat intellectual property and technology transfer as strategic infrastructure, on par with capital and talent. This requires aligning governance models and funding frameworks at both EU and national levels. By doing so,

Europe can move beyond fragmented practices towards a cohesive system that accelerates spinout creation and ensures that the value generated by its research is retained, exploited, and reinvested within Europe. As such, IP and tech transfer can become central pillars of a competitive, sovereign, and resilient European innovation ecosystem.

Definitions

Intellectual property (IP) refers to creations of the mind, such as inventions; literary and artistic works; designs; and symbols, names and images used in commerce.

IP is protected in law by, for example, patents, copyright and trademarks, which enable people to earn recognition or financial benefit from what they invent or create. By striking the right balance between the interests of innovators and the wider public interest, the IP system aims to foster an environment in which creativity and innovation can flourish.[26]

A **patent** is an exclusive right granted for an invention. Patents benefit inventors by providing them with legal protection of their inventions. However, patents also benefit the society by providing public access to technical information about these inventions, and thus accelerating innovation. An invention is a product or a process that provides a new way of doing something or offers a new technical solution to a problem that surpasses trivial solutions.[27]

Knowledge transfer Knowledge transfer is a process that allows research results, discoveries, scientific findings, intellectual property (IP), technology, data and knowhow to flow between different stakeholders. Most commonly, the term refers to the transfer of such assets from universities and research institutions to industry or governmental institutions, thereby generating economic value and industry development.

Formal and informal channels: Knowledge transfer occurs via both formal and informal channels. Formal channels typically involve a legal arrangement through which the parties clearly establish the terms of the transfer of given intellectual assets. Common examples are licensing, startups and spinouts, contracts, research projects, etc. Informal channels, on the other hand, refer to personal contacts and hence to the tacit dimension of knowledge transfer. Examples include human capital mobility, publications, teaching, interactions in conferences and seminars, informal exchanges between researchers or academia and industry, students entering the workforce, etc.[28]

Knowledge valorisation is the process of creating social and economic value from knowledge by linking different areas and sectors and by transforming data, know-how and research results into sustainable products, services, solutions and policies that benefit society.[29]

Exploitation is the use of results in developing, creating and marketing or improving a product or process, or in creating and providing a service in standardisation activities or shaping a policy. Exploitation can be commercial, societal, political, or aimed at improving public knowledge and action. It also includes recommendations

[26] World Intellectual Property Organization. (n.d.). What is intellectual property? https://www.wipo.int/en/web/about-ip

[27] World Intellectual Property Organization. (n.d.). Patents. https://www.wipo.int/en/web/patents

[28] World Intellectual Property Organization. (n.d.). Frequently asked questions: Knowledge transfer for universities and research institutions. https://sl1nk.com/qc6qv26

[29] European Commission. (2022). Guiding principles for knowledge valorisation. Publications Office of the European Union. https://sl1nk.com/refy2gp

for policy making through feedback to policy project partners or facilitating uptake by others e.g. through making results available under open licences. Exploitation focuses on the actual use of the results, translating research concepts into concrete solutions that have a positive impact on the public's quality of life.[30]

The **commercialisation** of public research results refers to turning publicly funded research into a product or service that can be sold in the market. This process promotes the use of public research results to create better products and services that ultimately promote competitiveness, create new jobs, and benefit society. Governments often encourage the commercialisation of public research results to increase business competitiveness. Policies can, for example, support the transfer of academic inventions by providing regulatory frameworks, institutional conditions, and incentives for the sale, transfer, or licensing of intellectual property to firms or new ventures, such as academic spinouts. Institutional incentives include initiatives such as technology transfer offices and licensing offices at universities and public research institutes (PRIs).[31]

Spinout small, new technology-based firms whose intellectual capital originated in universities or other public research organisations.[32]

IP licensing VS assignment 'Through the assignment, the IP is transferred and becomes the property of the spinout and hence part of its capital. The transfer is done according to the internal company procedures and defined by corporate agreement, in the case of contribution in kind. In case of licensing the parent organisation retains full ownership of the licensed IP and therefore keeps a certain amount of control over it and the rights to use it in the future.'[33]

[30] European Commission. (n.d.). Dissemination and exploitation of research results. https://l1nq.com/jznio71

[31] Organisation for Economic Co-operation and Development (OECD) & European Commission. (n.d.). STIP Compass interactive dashboard: Theme TH43. https://l1nq.com/d01a20j

[32] Olivari, M., Jolly, C., & Undseth, M. (2021). Space technology transfers and their commercialisation (OECD Science, Technology and Industry Policy Papers No. 116). OECD Publishing. https://doi.org/10.1787/0e78ff9f-en
Space technology transfers and their commercialisation
This paper examines space technology transfers and their commercialisation, focussing on transfers from publicly funded space programmes to different sectors of the economy.

[33] European Commission. (2024). EU eco-innovation index 2024. Publications Office of the European Union. https://sl1nk.com/kyvnmmb

Acronyms

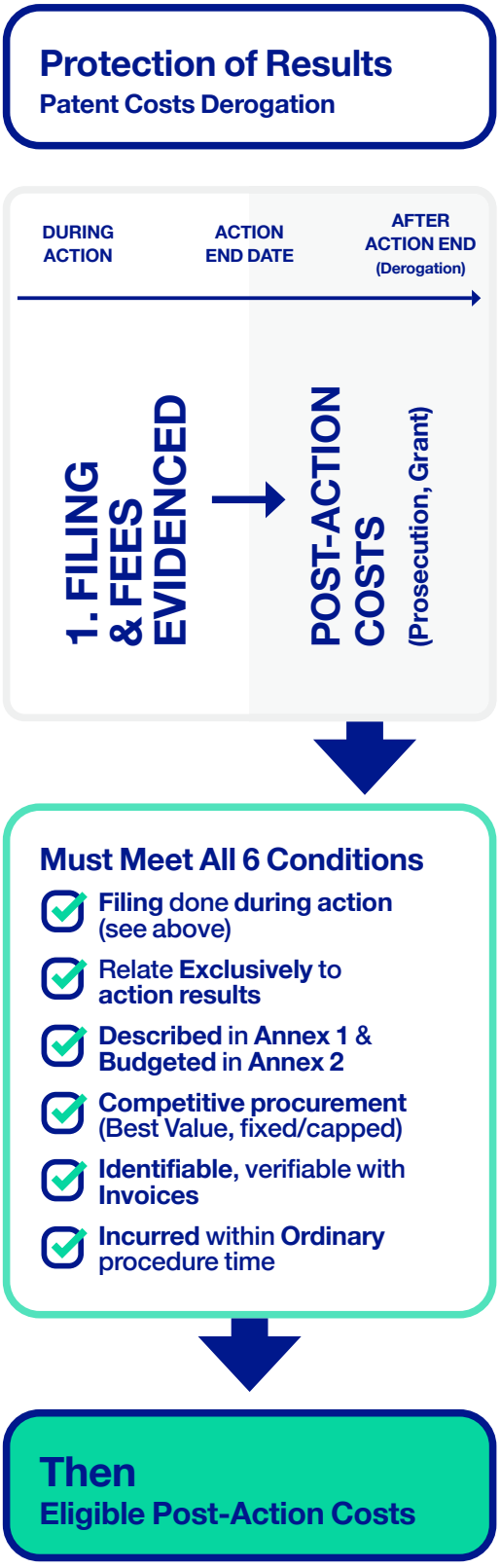
AI | Artificial Intelligence
CAP | Common Agricultural Policy
CC TT | Competence Centre on Technology Transfer
CMU | Capital Markets Union
DG | Directorate General
EC | European Commission
ECF | European Competitiveness Fund
EIB | European Investment Bank
EIC | European Innovation Council
EIF | European Innovation Fund
EIT | European Institute of Technology
EPO | European Patent Office
ERA | European Research Area
ERC | European Research Council
EMEA | Europe Middle East & Africa
ESOP | Employee Stock Ownership Plan
ESNA | Europe Startup Nations Alliance
EU | European Union
EUIPO | European Union Intellectual Property Office
FP | Framework Programme
FTE | Full Time Equivalent
FTO | Freedom to Operate
IPO | Initial Public Offering
IP(R) | Intellectual Property (Rights)
KER | Key Exploitable Results
KPI | Key Performance Indicators
LOI | Letter of Intent
PCT | Patent Cooperation Treaty
PE | Private Equity
R&D | Research & Development
R&I | Research & Investment
ROI | Return On Investment
RTO | Research and Technology Organisations
SME | Small and Medium Entreprises
SNS | Startup Nations Standards
STEM | Science, Technology, Engineering, and Mathematics
TRL | Technology Readiness Level
TTO | Technology Transfer Office
USA | United States of America
USIT | University Spinout Investment Terms
VC | Venture Capital
YOY | Year-on-year

Appendix - Suggested legal text to Horizon's Grant Agreement

Reference text: Latest EC's Grant Agreement for EU Fund Programmes 2021-2027 Version 2.0, dated 01/04/2025

Protection of results

Patent costs after the action end date (derogation): By way of derogation from the requirement that the generating event must take place during the action duration, costs for the protection of the action's results in the form of patent prosecution and grant/issuance formalities (including, where applicable, unitary patent effect related steps) may be eligible even if the corresponding services are supplied after the end of the action, provided that: (i) the patent drafting and filing (including the filing receipt and related patent office fees) took place and are evidenced during the action duration; (ii) all such costs relate exclusively to results generated under the action; (iii) they are described in Annex 1 (Description of the Action) and budgeted in Annex 2 (Estimated Budget) under the relevant cost category; (iv) they arise from a competitive procurement/tender ensuring best value for money and a fixed or capped price; (v) they are identifiable and verifiable and supported by invoices and evidence of delivery; and (vi) they are incurred within the ordinary time period of the patent granting procedure before the competent national or regional patent office(s), in accordance with applicable procedural rules and deadlines.



Topic

IP protection budget ring-fence (Patents/IP Plan and Patents Table (for actions that aim for commercial exploitation results).

Section

Annex 5 (Horizon Europe)

"Protection of results" (right after the paragraph(s) that explain protection is expected where appropriate/justified and that protection-related costs are eligible if Article 6 conditions are met).

Add a cross-reference note under Article 6 (Eligible costs) - actual costs / budgeting indicating that, for IP-critical actions, the ring-fenced IP protection budget is an implementation requirement, and changes normally require an amendment.

Content

For actions where the call/topic objectives anticipates commercial exploitation of some of the results, for-profit and SME beneficiaries must plan, allocate and maintain a dedicated IP protection budget in Annex 2. This budget is ring-fenced for eligible patent protection activities directly linked to the action's results including, as applicable: filed patents, novelty/patentability assessment, licensability assessments, FTO (freedom to operate) assessments and other necessary steps to secure protection and commercial advantages.

*The IP protection budget may not be reduced, reallocated or used for other purposes without: **(i)** a documented justification demonstrating that protection is no longer appropriate for the relevant result(s) (e.g. negative patentability assessment, decision to adopt an open strategy as the exploitation route), and **(ii)** where the change affects Annex 2 or the Description of the Action, prior approval by the granting authority through an amendment.*

Where this requirement applies, a beneficiary may not justify failure to protect commercially/strategically valuable results on the basis of insufficient budget or late budgeting, since a ring-fenced allocation is a condition of proper implementation. Evidence of the allocation, use, and any authorised changes (including gate decisions and supporting assessments) must be retained in accordance with Article 20 and may be verified at periodic reviews.

Topic

Patents/IP Plan and Patents Table (for actions that aim for commercial exploitation results)

Section

Annex 5 (Horizon Europe)

"Protection of results" (immediately after the existing guidance that beneficiaries must examine the possibility of protecting results and that protection costs may be eligible if Article 6 conditions are fulfilled).

Article 21 (Reporting)

Continuous reporting section (AGA commentary), explicitly stating that the Patents Table/Plan is a required controlled record/deliverable for exploitation actions and is to be submitted/updated through the portal as part of continuous reporting.

Content

*For actions where the call/topic objectives anticipates commercial exploitation of the results, for profit SMEs and Industry beneficiaries must (i) prepare and maintain a Patents/IP Plan and (ii) complete and maintain a Patents Table as a controlled project record. The Patents Table is recommended and should, as a minimum, include for each Key Exploitable Result (KER) or KER family: **(a)** short description/title; **(b)** intended protection route (patent/utility model/design patent/trade secret/copyright/open source/other); **(c)** the evidence trigger for the protect/open decision and the decision date (or planned date); **(d)** intended filing route and indicative territorial scope (e.g., national, PCT, EPO, USA, APAC; and expected territories at national phase); **(e)** Patent budget reserved centrally and used for the IP protection objective;*

Timing and updates The initial Patents/IP Plan and Patents Table must be delivered early in the action (no later than month 6 unless the call specifies otherwise) and must be updated at each reporting period to reflect new KERs, protection decisions, filings (with filing receipts), and any justified changes of route (e.g., switch to trade secret or open strategy).

*Review and verification The granting authority may verify at periodic reviews that: **(i)** the Patents Table exists and is complete; **(ii)** decisions are evidence-based and documented; and **(iii)** the table is consistent with Annex 1 (Description of the Action) and Annex 2 (Estimated Budget). Failure to produce or maintain the Patents/IP Plan/Patents Table where required may be treated as insufficient implementation of exploitation/protection obligations.*

Topic

"Protect-or-justify" rule for valuable results (for actions that aim for commercial exploitation results)

Section

Annex 5 (Horizon Europe)

"Protection of results": insert immediately after the existing explanatory text that beneficiaries must examine whether results can/should be protected and that protection must be pursued where appropriate/justified.

Article 17 (Dissemination) (AGA commentary)

Add a short cross-reference clarifying that dissemination should not occur before a protect-or-justify decision is documented for KERs, and that publication clearance records form part of verifiable evidence.

Content

*For actions where the call/topic objectives anticipate commercial exploitation of the results, for-profit SMEs and Industry beneficiaries must apply a "protect-or-justify" approach to Key Exploitable Results (KERs). Where a result is assessed (through the project's KER identification and review process) as commercially and/or strategically valuable, the beneficiary(ies) owning the result must either: **(i)** initiate appropriate protection on a defined and timely basis (e.g., patent filing and related steps), or **(ii)** document a clear and evidence-based justification for not protecting (e.g., trade secret strategy, open-source strategy adopted as the exploitation route, lack of novelty, insufficient inventive step, or a cost/benefit decision supported by objective analysis). The justification must be verifiable and must include: **(a)** the basis for the value assessment by an IP expert, **(b)** the reason protection is not pursued, **(c)** the alternative route selected (where relevant) and how it supports exploitation and/or Open Science, and **(d)** measures to prevent inadvertent loss of rights (e.g., dissemination controls, confidentiality controls for trade secrets). Where an IP protection ring-fence applies, "no budget" and "no time" will not be accepted as stand-alone justifications for failure to protect commercially/strategically valuable results. Documentary evidence supporting the protect-or-justify decision (e.g., novelty / patentability / FTO / licensability assessments, gate minutes, IP expert instruction records, publication clearance records) must be retained and made available on request during reviews and audits.*

Topic

For-Profit SME/Industry "Product & Revenue Linkage" table (for actions that aim for commercial exploitation results)

Section

Article 21 (Reporting)

Continuous reporting / Periodic reporting (AGA commentary): insert as a mandatory controlled record/deliverable for exploitation-critical topics (submitted and updated via the portal).

Annex 1 (Description of the Action) / Exploitation planning guidance (AGA commentary)

Add a cross-reference that the table is the required means of demonstrating the realism of impact pathways for for-profit industrial/SME participants.

Content

*For actions where the call/topic objectives anticipate commercial exploitation of the results, each for-profit industrial beneficiary and for-profit SME must complete and maintain a Product & Revenue Linkage Table that clearly evidences how the action is intended to strengthen the beneficiary's economic circumstances through uptake of the results. The table must be verifiable and must, as a minimum, specify for each relevant beneficiary: **(a)** the beneficiary's existing product(s)/service line(s) and/or internal value chain activity that the action will improve; **(b)** the specific new product, feature, service, process improvement or capability expected to result from the action; **(c)** the expected economic pathway (e.g., sales revenue, licensing revenue, service revenue, cost reduction, productivity gains); **(d)** the expected timeframe for uptake (e.g., 12-36 months after the action end, where relevant); **(e)** the internal accountable owner (role/function) responsible for uptake; and **(f)** a proportionate post-action continuation plan (internal resourcing, funding intent, partner/customer engagement pathway). The table must be provided at project start (or at the latest by month 3-6) and must be updated at each periodic reporting period to reflect progress, changes in strategy, and evidence gathered (e.g., pilots, LOIs, customer validation, deployment plans). The granting authority may verify this table during periodic reviews as part of assessing credible exploitation planning and proper implementation.*

Topic

Project board-level exploitation commitment for for-profit industrial/SME beneficiaries and for actions that aim for commercial exploitation of some of the results

Section

Annex 5 (AGA commentary under Exploitation of results)

Continuous reporting (AGA commentary): insert as a required declaration/deliverable for exploitation related topics, submitted via the portal early in the project.

Annex 1 Exploitation planning guidance (AGA commentary)

Add a short cross-reference that this statement is a required assurance of internal ownership for exploitation pathways in for-profit industrial/SME participants.

Content

For actions where the call/topic objectives anticipate commercial exploitation of the results, each for-profit industrial beneficiary and for-profit SME must provide a short Senior Management Exploitation Commitment Statement signed by an authorised representative (e.g., CEO/MD/CTO/CFO or equivalent delegated authority). The purpose is to ensure that exploitation intent is owned internally and is not limited to the project team alone.

*The statement must be verifiable and must confirm, as a minimum, that: **(a)** an internal accountable owner (role/function) is assigned for exploitation decision-making and uptake of relevant results; **(b)** the beneficiary intends to pursue exploitation of results relevant to its products/services/value chain (or, where not applicable, sets out a clear alternative route consistent with Open Science and dissemination obligations); **(c)** the beneficiary will make proportionate internal efforts and resources available to support exploitation planning and uptake during the action (including participation in exploitation stage-gates where required); and **(d)** the beneficiary commits to provide post-action exploitation updates where required by the Grant Agreement/call conditions (e.g., for up to four years after the end of the action for Horizon Europe exploitation obligations).*

The statement must be submitted at project start (or no later than month 3-6). Failure to provide or maintain this statement where required may be treated as a weakness in credible implementation and may be raised as a finding during periodic review.

Topic

Exploitation stage-gates and KER Register (for actions that aim for commercial exploitation results)

Section

Article 21 (Reporting) Continuous reporting / Periodic reporting (AGA commentary):

Insert as a mandatory governance deliverable/controlled record for exploitation-critical topics, updated each reporting period (and submitted via the portal where required).

Annex 5 (Horizon Europe) "Exploitation of results / Protection of results" (AGA commentary)

Add a cross-reference that stage-gates and the KER Register are the practical means of demonstrating systematic compliance with the exploitation/protection best-efforts obligation.

Annex 1 Exploitation planning guidance (AGA commentary) - add a short text as part of the methodology or impact section requiring initial KER to be included and stage-gates approach to be considered.

Content

For actions where the call/topic objectives anticipate commercial exploitation of the results, for-profit beneficiaries must implement a formal Key Exploitable Results (KER) Register and an associated exploitation stage-gate process to ensure timely, evidence-based decisions on protection, dissemination and exploitation pathways.

*The KER Register must be verifiable and must, as a minimum, record for each KER (or KER family): **(a)** a short description; **(b)** owner(s) and accountable commercial lead; **(c)** maturity/TRL status; **(d)** intended route (patent / trade secret / open source / publish / other); **(e)** key dependencies (background/third-party rights) and access-rights risks; **(f)** planned dissemination items that could affect protectability; and **(g)** the current stage-gate status and next decision date.*

*The stage-gate process must include, at minimum, the following decision points (or equivalent): **(i)** early identification and triage of potential KERs; **(ii)** a protect-or-open / publish decision gate supported by proportionate evidence; **(iii)** a validation/pilot readiness gate (where applicable); and **(iv)** an end-of-action exploitation readiness gate. Each gate must produce a dated decision record supported by a proportionate evidence pack (e.g., technical robustness/repeatability, novelty/patentability indication, market validation evidence, cost envelope/manufacturability assumptions, regulatory/compliance pathway where relevant, and IP position).*

The initial KER Register should be established early in the action (no later than month 6, unless otherwise specified) and should be updated at each stage-gate and presented at reporting period. Gate outputs and evidence records must be retained and made available during reviews and audits. The granting authority may treat failure to operate the required KER Register and stage-gates as a finding on implementation of exploitation obligations.

Topic

Invention disclosure process and decision timelines (for actions that aim for commercial exploitation of results)

Section

Annex 5 (Horizon Europe) "Protection of results" (AGA commentary)

insert immediately after the existing guidance that beneficiaries must examine whether results can/should be protected and that dissemination should not occur before a protection decision.

Article 17 (Dissemination) (AGA commentary)

Add a short cross-reference stating that, for exploitation-critical actions, dissemination clearance should be linked to the invention disclosure decision record.

Article 20 (Record keeping) (AGA commentary) - add a short cross-reference that invention disclosures and protection decisions are part of the verifiable record set for exploitation compliance

Content

*For actions where the call/topic objectives anticipate commercial exploitation of the results, for-profit beneficiaries must operate a documented Invention Disclosure Process to ensure that potentially protectable results are identified early, assessed for protection, and not inadvertently disclosed before a protection decision is taken. The process must be verifiable and must include, as a minimum: **(a)** a standard invention disclosure form capturing inventors, description, enabling details, novelty pointers, dependencies on background/third-party rights, and intended dissemination; **(b)** a requirement that potentially protectable results are disclosed internally within 60 calendar days of identification; **(c)** a documented protection decision (protect / trade secret / open / publish) within 8 weeks of disclosure, including the rationale and any required protection actions; and **(d)** linkage to the dissemination clearance process to prevent loss of rights. Evidence supporting the invention disclosure and decision process (e.g., disclosure forms, decision records, filing receipts, and publication clearance records) must be retained and made available on request during periodic reviews and audits. Failure to operate this process where required may be treated as a weakness in the implementation of the action's exploitation and dissemination obligations.*

Topic

Publish-or-protect dissemination discipline clearance process (for actions that aim for commercial exploitation results)

Section

Article 17 (Dissemination) AGA commentary

insert immediately alongside the existing dissemination notice/objection logic (and the guidance that dissemination should not happen before a protection decision). This is the natural "home" for the clearance and timing rules.

Annex 5 (Horizon Europe) "Protection of results" (AGA commentary)

Add a short cross-reference that the publish-or-protect process is the operational means of ensuring protection decisions occur before public disclosure.

Content

For actions where the call/topic objectives anticipate commercial exploitation of the results, beneficiaries must apply a mandatory "publish-or-protect" clearance process before any dissemination that could reasonably affect the ability to protect or exploit results.

*This process must be verifiable and must ensure, as a minimum, that: **(a)** any planned dissemination (including publications, conference abstracts, preprints, public presentations, websites, open repositories, open-source releases, and public demonstrations) is notified in writing to the consortium (via the coordinator or defined governance body) at least 45 calendar days in advance, together with sufficient content to allow an IP assessment; **(b)** any beneficiary with a legitimate interest may object within 15 calendar days on protection/exploitation grounds and request protection actions; **(c)** where protection is justified, dissemination must be delayed for a time strictly necessary to complete the protection step(s) (e.g., filing); the delay period must be agreed with the result owners; **(d)** the final decision (publish / protect / trade secret / open strategy) is documented, including the rationale and any conditions (e.g., redactions, removal of enabling detail, coordinated release timing); and **(e)** records of the notices, objections, decisions and any filing receipts are retained and made available for review and audit.*

Failure to comply with the publish-or-protect clearance process where required may be treated as non-compliance with dissemination/protection obligations and may result in review findings and corrective measures under the Grant Agreement.

Topic

Exploitation-enabling access rights (no “blocking background/ results”) (for actions that aim for commercial exploitation results)

Section

Article 16 / Annex 5 (Horizon Europe)

Access rights / Background and results (AGA commentary) insert alongside the existing guidance on agreeing background in writing, defining what is “needed” for exploitation, and ensuring access rights are workable.

Annex 1 / Exploitation planning guidance (AGA commentary)

Add a short cross-reference that access rights risks must be reflected in the Patents/IP Plan and KER Register and managed through time-bound resolution.

Content

Exploitation-enabling access rights (no “blocking background/results”) (for actions that aim for commercial exploitation results)

For actions where the call/topic objectives anticipate commercial exploitation of the results, beneficiaries must ensure that access rights to background and results are arranged in a manner that is sufficient to enable exploitation of the Key Exploitable Results (KERs) described in Annex 1 and recorded in the project’s Patents/IP Plan and KER Register.

In particular, arrangements must be verifiable and must ensure, as a minimum, that:

(a) *each beneficiary identifies any background needed for exploitation early (and no later than month 3), and confirms whether it is made available for exploitation;* ***(b)*** *any restriction on background or results that would materially prevent exploitation of a KER is identified, documented, and addressed through mitigation (e.g., licensing terms, scope limitations, alternative technical route), or reflected as a justified change to the exploitation plan;* ***(c)*** *where exploitation depends on access to essential background/results controlled by another beneficiary, the parties implement a time-bound negotiation and escalation process (e.g., escalation to the project governance body within 10 business days, resolution target within 20-30 business days), to avoid exploitation being stalled by prolonged negotiations; and* ***(d)*** *the final access arrangement (or documented inability to agree and its impact on exploitation) is recorded and retained for review/ audit.*

Failure to ensure exploitation-enabling access arrangements where required may be treated as a weakness in the credibility of exploitation implementation and may lead to corrective actions requested by the granting authority.

Topic

Anti-shelving safeguard (step-in mechanism to protect/exploit valuable results) (for actions that aim for commercial exploitation results)

Section

Annex 5 (Horizon Europe) - "Exploitation of results / Protection of results" (AGA commentary)

Insert as a best-practice requirement for exploitation-critical actions, immediately after the guidance explaining the duty to examine/protect results and pursue exploitation.

Article 16 / Annex 5 - Transfer/licensing/access rights (AGA commentary)

Add a cross-reference that the step-in mechanism is implemented contractually through transfer/licensing constructs and must preserve legitimate interests and confidentiality.

Content

*For actions where the call/topic objectives anticipate commercial exploitation of the results, the consortium arrangements must include an anti-shelving safeguard to ensure commercially/strategically valuable Key Exploitable Results (KERs) do not remain unprotected or unexploited due to inaction by the owning beneficiary. The safeguard must be verifiable and must ensure, as a minimum, that: **(a)** where a KER is recorded as commercially/strategically valuable and designated for protection/exploitation through the project's stage-gate process, the owning beneficiary must either pursue the agreed protection/exploitation actions within the agreed timelines or document a protect-or-justify decision; **(b)** if the owning beneficiary declines to protect/exploit without a justified decision, or unduly delays transpire beyond the agreed stage-gate timelines, another beneficiary (or an agreed exploitation vehicle) may trigger a step-in procedure; **(c)** the step-in procedure includes **(i)** a written notice and a defined cure period, **(ii)** documented decision criteria, and **(iii)** step-in outcomes limited to what is necessary to protect/exploit the KER (e.g., a licence, an option, or a transfer/assignment) under fair and reasonable conditions, safeguarding legitimate interests and confidentiality; and **(d)** the step-in outcome and the basis for it are documented and retained for review/audit.*

This safeguard is intended to operationalise the exploitation objective(s) and ensure that action results that are assessed as valuable are not left "on the shelf" due to non-action. Where required by call conditions, reviewers may request evidence that the safeguard exists and is workable (process description, triggers, timelines, and decision records).

Topic

Standardised post-project exploitation updates (lightweight, time-limited) (for actions that aim for commercial exploitation results)

Section

Annex 5 (Horizon Europe) "Exploitation of results" (AGA commentary)

Insert alongside the existing explanation that certain exploitation obligations can extend beyond the action end (e.g., up to four years) and clarify that the updates operationalise that period.

Article 25 (Audits) (AGA commentary)

Add a cross-reference that the post-project updates are a standardised reporting obligation for exploitation-critical calls, defined in the call conditions / Data Sheet and provided through the portal in the specified format.

Content

*For actions where the call/topic objectives anticipate commercial exploitation of the results, the granting authority may require beneficiaries to provide standardised post-project exploitation updates for a defined period after the end of the action, in order to evidence continued best-efforts exploitation and to support programme impact assessment (e.g. through an EC audit or other EC means). Where required, the updates must be verifiable, time-limited, and must, as a minimum, cover for each Key Exploitable Result (KER) (or KER family): **(a)** protection status (applications filed, prosecution status, grants, unitary effect steps where applicable, maintenance/ abandonment and reasons); **(b)** exploitation route and progress (licensing/ assignments, pilots/ deployments, standardisation, product integration); **(c)** material progress indicators appropriate to the action (e.g., customer validation, pipeline milestones, investment follow-on, adoption metrics); and **(d)** reasons for discontinuation where exploitation is no longer pursued.*

Follow up may be requested for up to 4 years after the action end (aligned with the Horizon Europe exploitation obligation period, where applicable), using a short standard template. Failure to provide required updates may be taken into account for monitoring and impact assessment and, where legally feasible, may inform enhanced scrutiny in future participation assessments.

Topic

Enabling “draft -> file -> prosecute -> grant -> unitary effect” costs where best value is evidenced by competitive tender

Section

Primary insertion point (as this is a timing/eligibility problem)

AGA commentary under Article 6.1 (Eligible actual costs - general eligibility conditions) - Add this as a clearly labelled “special case / derogation” for protection of results costs where services are supplied after the action end date, to override the normal timing logic in strictly controlled circumstances.

AGA commentary under Annex 5 (Horizon Europe) “Protection of results”

Add a cross-reference stating that, for patent strategies requiring prosecution-to-grant beyond the action end date (including the EPO/unitary route), the derogation in Article 6.1 applies, subject to conditions (i)–(vi) above.

AGA commentary under Article 20 (Record-keeping)

Add a short note that beneficiaries must retain the documentary “anchor” evidence (instruction to counsel, filing receipt, filing fees) and procurement evidence (tender, fixed/capped package scope) plus prosecution evidence, to satisfy “identifiable and verifiable” requirements.

Content

Patent costs after the action end date (AGA/AMGA derogation): By way of derogation from the requirement that the generating event must take place during the action duration, costs for the protection of the action’s results in the form of patent prosecution and grant/issuance formalities (including, where applicable, unitary patent effect related steps) may be eligible even if the corresponding services are supplied after the end of the action, provided that: ***(i)*** the patent drafting and filing (including the filing receipt and related patent office fees) took place and are evidenced during the action duration; ***(ii)*** all such costs relate exclusively to results generated under the action; ***(iii)*** they are described in Annex 1 (Description of the Action) and budgeted in Annex 2 (Estimated Budget) under the relevant cost category; ***(iv)*** they arise from a competitive procurement/tender ensuring best value for money and a fixed or capped price; ***(v)*** they are identifiable and verifiable and supported by invoices and evidence of delivery; and ***(vi)*** they are incurred within the ordinary time period of the patent granting procedure before the competent national or regional patent office(s), in accordance with applicable procedural rules and deadlines.

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