EUROPEAN CLUSTER
COLLABORATION PLATFORM

Cluster Collaboration Lab (C2LAB)

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Input paper

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Introduction

The **primary purpose of this Input Paper is to provide a set of relevant information supporting the innovative efforts of the participants in the Cluster Collaboration Lab (C2Lab) that takes place in Strasbourg (France) on 25-26 September 2024**. This C2Lab offers a valuable opportunity for attendees from cluster organisations, companies, research organisations, civil society, and other interested parties to discover potential partners for collaboration, advance project concepts, and create business cases for innovative solutions and the development of joint applications for European calls. **The ideas for projects presented at this C2Lab shall strengthen the EU Twin Transition and boost the resilience of the European industry**. Thereby, the key focus is on the challenges related to meta-clustering, interregional investments as well as the Mobility, Health and Construction industrial ecosystems. These Mobility and Construction ecosystems show a special relevance for the Green Transition (e.g. by shifting towards low- and zero-emissions means of mobility or meeting long term energy targets). To further enhance pandemic preparedness, EU-wide networks in the Health industrial ecosystem need to be developed (e.g., by better connecting existing infrastructures and innovation agendas).

In view of the above, **the central objective of this paper is to offer suitable assistance and practical guidance for the development and implementation of innovative projects fostering greener, more digital, and resilient economies,** by focusing mainly on current funding schemes for innovation in the context of the topics mentioned above. **Chapter 1** sheds light on the economic profile of France, as well as its regional innovation ecosystems, its relevant cluster actors, and strategic innovation priorities, to gain a better understanding of the economic context. **Chapter 2** focuses on identifying the main challenges of meta-clustering and interregional investments as well as the main challenges of the Mobility, Health and Construction industrial ecosystems. **Chapter 3** informs about main steps to be taken when creating a project proposal. Building upon that, **Chapters 4 and 5** focus on showing how to put innovative project ideas into practice, thereby focusing explicitly on the topics of Mobility, Health and Construction. **Chapter 4** guides the readers through several public - EU, intergovernmental and national – funding programmes, outlined together with a list of concrete calls for proposals, types of topics funded, partner search platforms, advisory services, and diverse support tools. **Chapter 5** investigates numerous sources of private funds such as venture capital, corporate venture capital, business angels, banks, and impact investors that aim to help develop research outputs into market-ready products.

01

Context: Economic profile of France & its innovation ecosystem

1. Context: Economic profile of France and its innovation ecosystem

Since this C2Lab is taking place in Strasbourg and since C2Lab events have a supra-regional focus, France and the Grand Est region will be assessed in this chapter. **France**, with its mainland situated in Western Europe, plays a crucial role in the EU's economic and political landscape. It shares borders with Belgium, Luxembourg, Germany, Switzerland, Italy, Spain, and Andorra, and has coastlines along the Atlantic Ocean and the Mediterranean Sea. This strategic position enhances France's connectivity and access to major trade routes. As of 2024, the country has a population of approximately 68.4 million, making it the second-most populous EU Member State.[1]

Administratively, France is divided into 13 regions, making up Metropolitan France, as well as the overseas regions and territories of France.[2] The capital region of Île-de-France, which includes the city of Paris and its suburbs, is the largest by population, with roughly 12.4 million residents, accounting for 18 % of the country's total population. Other populous regions in France include the regions of Auvergne-Rhône-Alpes and Nouvelle-Aquitaine, with populations of around 8.2 million and 6.1 million, respectively.[3]

Grand Est, the region hosting the C2Lab event, is located in North-Eastern France and comprises the former regions of Alsace, Lorraine and Champaigne-Ardenne. The region exhibit a population of roughly 5.6 million, making it the sixth most populous region in the country, accounting for 8.2% of France's total population. [4] The region's proximity to Belgium, Germany, Luxembourg and Switzerland enhances its strategic importance for trans-European trade and collaboration.

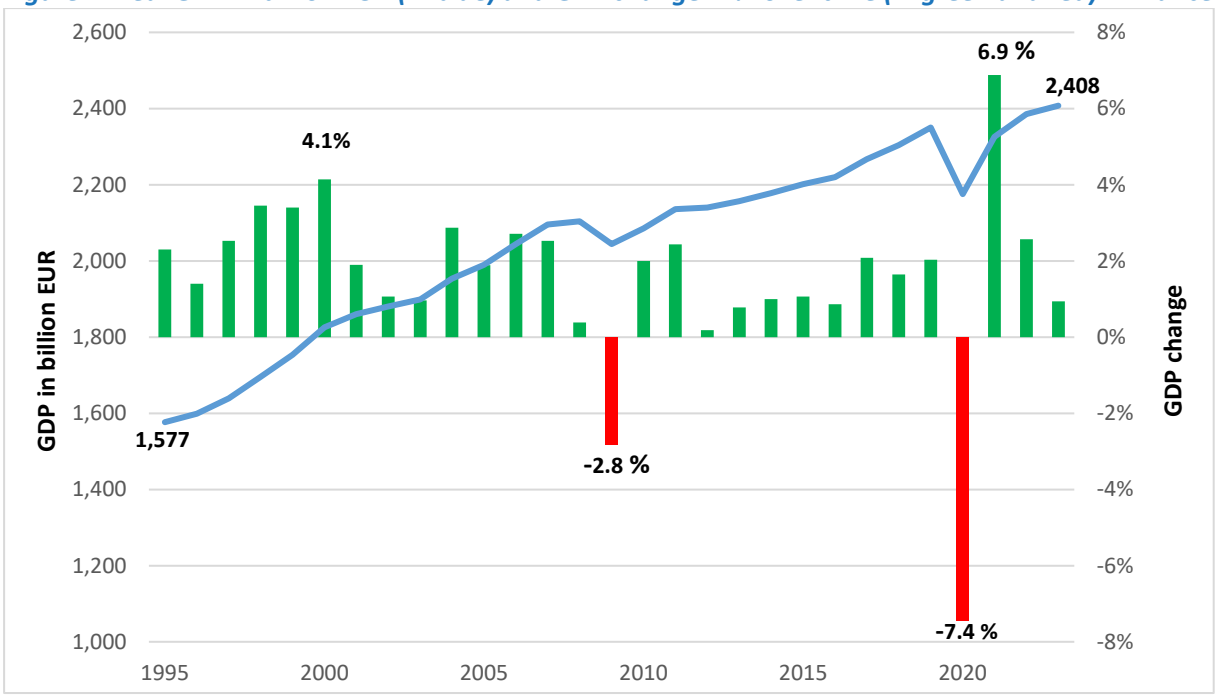
This section will provide a concise economic overview of France, encompassing key aspects, such as the macroeconomic profile, employment composition and its innovation performance. It further examines the country's cluster landscape and its strategic innovation priorities.

[1] Eurostat (2024): Population on 1 January. Available under: https://ec.europa.eu/eurostat/databrowser/view/tps00001/default/table?lang=en&category=t_demo.t_demo_pop (last access 07.08.2024).
[2] This does not include the overseas departments of France.
[3] Eurostat (2024): Population on 1 January by age, sex and NUTS 3 region. Available under: https://ec.europa.eu/eurostat/databrowser/view/demo_r_pjangrp3/default/table?lang=en (last access 07.08.2024).
[4] ibid.

France and its macroeconomic picture

France represents the second-largest economy among the EU27 Member States, following Germany. The country has demonstrated strong economic performance in terms of GDP in recent years, with a real GDP of EUR 2.4 trillion in 2023.[5] As shown in Figure 1, the French economy has shown **robust growth since the mid-1990s** with an average growth rate of 1.6% over the last 30 years but remains below the EU average of 2%. However, it has experienced occasional downturns, such as the global economic slowdown following the financial crisis in the late 2000s, resulting in a 2.8% annual growth downturn in 2009. The French economy rebounded in the subsequent year and surpassed the pre-crisis level of 2008 in the following year. In 2020, the economy faced another contraction, with GDP shrinking by 7.4% due to the COVID-19 pandemic, but it recovered swiftly with a 6.9% growth rate in the following year. Overall, France's sustained economic growth over the years is a testament to its resilience and adaptability in the face of global challenges.

Figure 1: Real GDP in billion EUR (in blue) and GDP change in % over time (in green and red) in France



Source: ECCP (2024), own elaboration based on Eurostat.

In 2022, France exhibited a **GDP per capita (PPS) of EUR 35,500**, slightly higher than the EU27 GDP average of EUR 35,400, and ranked 11th among the EU27 Member States.[6] However, in this regard, it is important to acknowledge significant regional disparities across the 18 administrative regions (including 5 overseas regions) of France. The most populated region of Île de France, in which Paris is

[5] Eurostat (2024): GDP and main components (output, expenditure, and income. Available under: https://ec.europa.eu/eurostat/databrowser/view/nama_10_gdp__custom_12801476/default/table?lang=en (last access 07.08.2024).

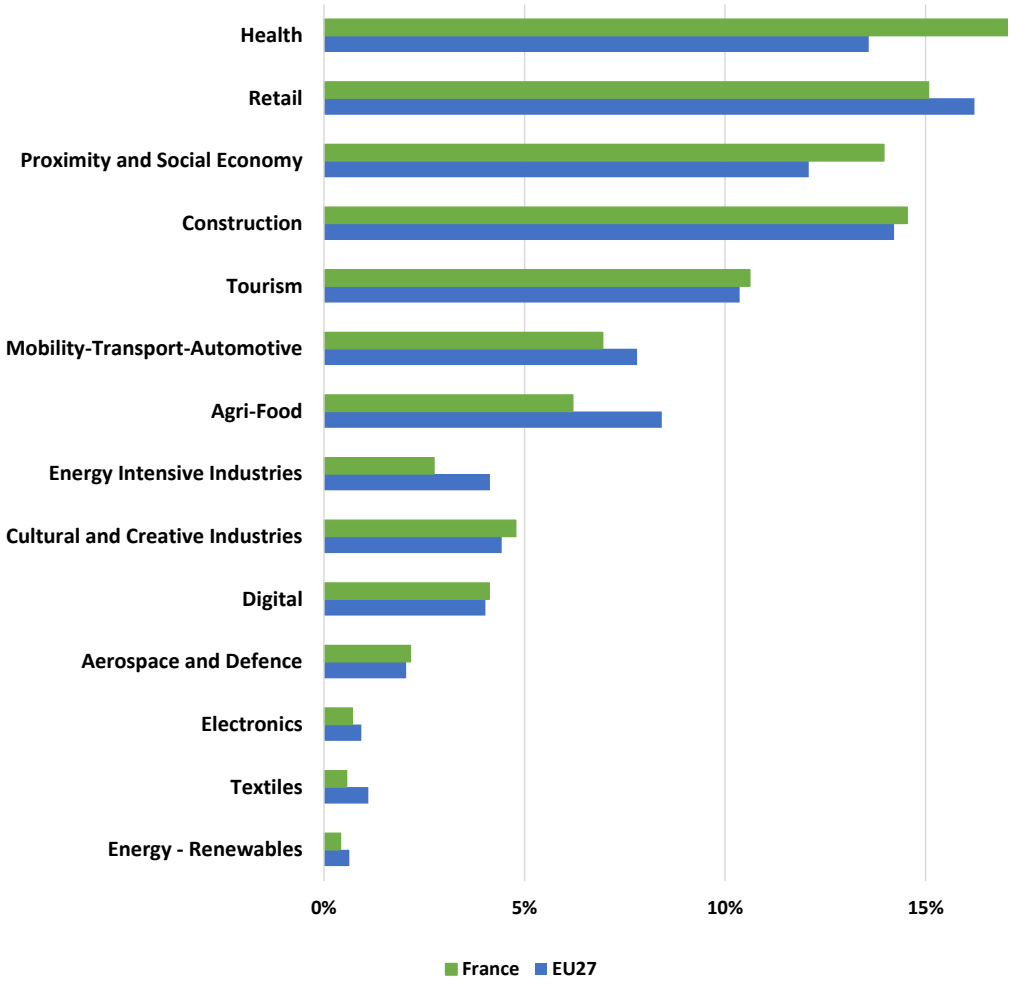
[6] Eurostat (2024): Gross domestic product (GDP) at current market prices by NUTS 2 regions. Available under: https://ec.europa.eu/eurostat/databrowser/view/nama_10r_2gdp__custom_12182511/default/table?lang=en (last access 07.08.2024).

located, stands out with a comparatively higher GDP per capita of EUR 57,900, well surpassing the national average as well as the European average. This can be attributed to France's centralised government structure and the capital region's significant contribution to the national economy. In contrast, the other regions exhibit a wider range of GDP per capita, spanning from EUR 20,400 to EUR 28,700 below the national and European average. The region of Grand-Est exhibited a nominal GDP of EUR 179 billion in 2022, accounting for 6.7% of the French economy. This corresponds to a GDP per capita of EUR 29,400, ranking it 6th among the regions in the country.[7]

To gain a better understanding of the French economic profile and its employment composition, it is useful to assess its positioning across the EU's **14 industrial ecosystems in terms of employment** (See Figure 2). These industrial ecosystems have been identified by the European Commission as part of its Industrial Strategy and encompass all players operating in a value chain.[8] The Health ecosystem leads in terms of employment, accounting for 17.2% of employment across the ecosystems, thus surpassing the EU27 average of 13.6%. This is followed by the Retail ecosystem, exhibiting 15.1% of the employment across the ecosystems and the ecosystem Proximity, Social Economy and Civil Security at 14.0%. The latter's significant employment share can be largely attributed to sectors like social work activities and residential care activities. Furthermore, there are other ecosystems that show a relatively high employment share compared to the European average. These include Tourism, Cultural and Creative Industries, Digital as well as Aerospace and Defence. On the contrary, ecosystems such as Retail, Agri-Food and Energy Intensive Industries play a comparatively smaller role in the French economy.

[7] ibid.
[8] see here for more information https://clustercollaboration.eu/in-focus/industrial-ecosystems (last access 16.08.2024).

Figure 2: Employment across the industrial ecosystem (in 2021)



Source: ECCP (2024), own calculations and elaboration based on data from Eurostat.

Innovation performance of France

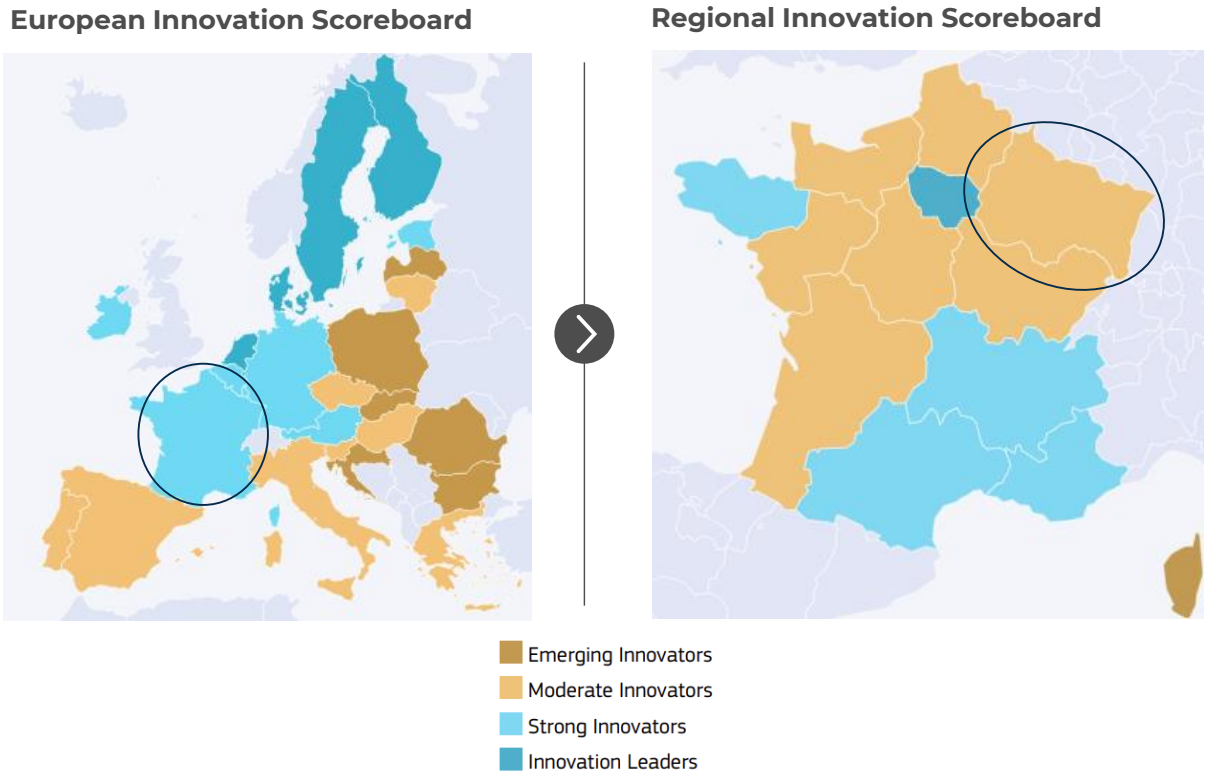
As a key component in assessing France's innovation performance, the **European Innovation Scoreboard (EIS)** provides valuable insights. The EIS is conducted annually to evaluate EU Member States' and selected third countries' research and innovation achievements, helping them identify strengths and weaknesses to enhance their innovation performance. Countries scrutinised in the EIS are classified into four performance categories—Innovation Leaders, Strong Innovators, Moderate Innovators, and Emerging Innovators—based on their performance relative to the EU average.[10]

Based on the most recent data from the EIS 2024, France continues to be a **"Strong Innovator"** (See Figure 3),as shown in the figure below, with a summary score of 104 (EU27 = 100), thus exhibiting a slightly higher innovation performance than the EU average, but below the average of the other countries that are classified as a "Strong Innovator". Over the past few years, France's innovation performance has displayed a modest improvement, with an increase of 1.7%-points. Thus, France has had a less increasing performance compared to the EU average (10%-points).[11]

France's above-average overall score can be attributed to **well-performing indicators across various innovation dimensions** (See Figure 10 in the Annex). France exhibits strength in the dimension of human resources, particularly in the percentage of the population with tertiary education and the population involved in lifelong learning. The high performance in the Finance and Support dimension is largely driven by the substantial direct and indirect government support for business innovation. Government R&D funding and tax incentives for R&D investments play a crucial role in fostering an environment conducive to innovation. The country also excels in the introduction of product and business process innovations by SMEs, with indicators showing performance above the EU average, indicating a dynamic and competitive business environment. The dimension Linkages can be considered another area of strength, with high levels of collaboration among innovative SMEs and a significant number of public-private co-publications exceeding the EU average. This indicates robust networks and cooperation between businesses, academia, and public research institutions, which are crucial for knowledge exchange and innovation.

[10] European Commission (2024): European Innovation Scoreboard 2024 Methodology Report Available under: https://research-and-innovation.ec.europa.eu/document/download/074d5495-433a-440f-bcf9-dc620fce7af1_en?filename=ec_rtd_eis-2024-methodology-report.pdf (last access 16.08.2024).
[11] European Commission (2024): European Innovation Scoreboard 2024 Country profile France Available under: https://ec.europa.eu/assets/rtd/eis/2024/ec_rtd_eis-country-profile-fr.pdf (last access 16.08.2024)

Figure 3: France in the EU (left) and Regional (right) Innovation Scoreboard



Source: European Commission (2024). European Innovation Scoreboard.

However, the EIS also highlights **specific weaknesses**, indicating a **need for improvements** to enhance France's overall innovation performance (See Figure 10 in the Annex). Indicators for international scientific co-publications and top 10% most cited publications are both below the EU average, with the latter in decline. R&D expenditure in both the public and business sectors remains slightly below the EU average, while non-R&D innovation expenditures are at a level comparable to those of an "Emerging Innovator", with a significant decline, suggesting insufficient investment in areas critical for the commercialisation and market uptake of innovations. Sales of new-to-market and new-to-firm innovations are also below the EU average and have been declining, underscoring the need for improvement in bringing innovative products and services to market.

When looking at France's **regional innovation performances**, there are differences in the performance depending on the region, as shown in the figure above. The Regional Innovation Scoreboard, which assesses the innovation performance of the 13 regions in Metropolitan France as well as the overseas territories, classifies these regions into all four categories: "Innovation Leaders", "Strong Innovators", "Moderate Innovators", and "Emerging Innovators". The region Île de France exhibits the highest overall score with 129.5, thus being classified as an "Innovation Leader". The regions Auvergne-Rhône-Alpes, Occitanie, Bretagne and Provence-Alpes-Côte d'Azur are classified as "Strong Innovators". The other regions in the mainland, including Grand Est are considered "Moderate Innovators", with overall scores ranging from 76.5 to 95.8. Corse and the overseas territories are both classified as "Emerging innovators".

The region of **Grand Est** on the other side is categorised as a "Moderate Innovator +" with a score of 93.2, thus ranking 7th in the country.[12] Over time the innovation performance has decreased by 5.9%. Indicators that drive the innovational performance of the region are "Innovation expenditures per persons employed", "Above average digital skills", "Employment innovative enterprises", and "Air emissions by fine particulates", all of which exceed the EU average. Additionally, compared to the national average, Grand Est shows strengths in the indicators "International scientific co-publications", "Non-R&D innovation expenditures", and "Sales of innovative products" (see Figure 11 in the Annex).

French innovation landscape & relevant cluster actors in France

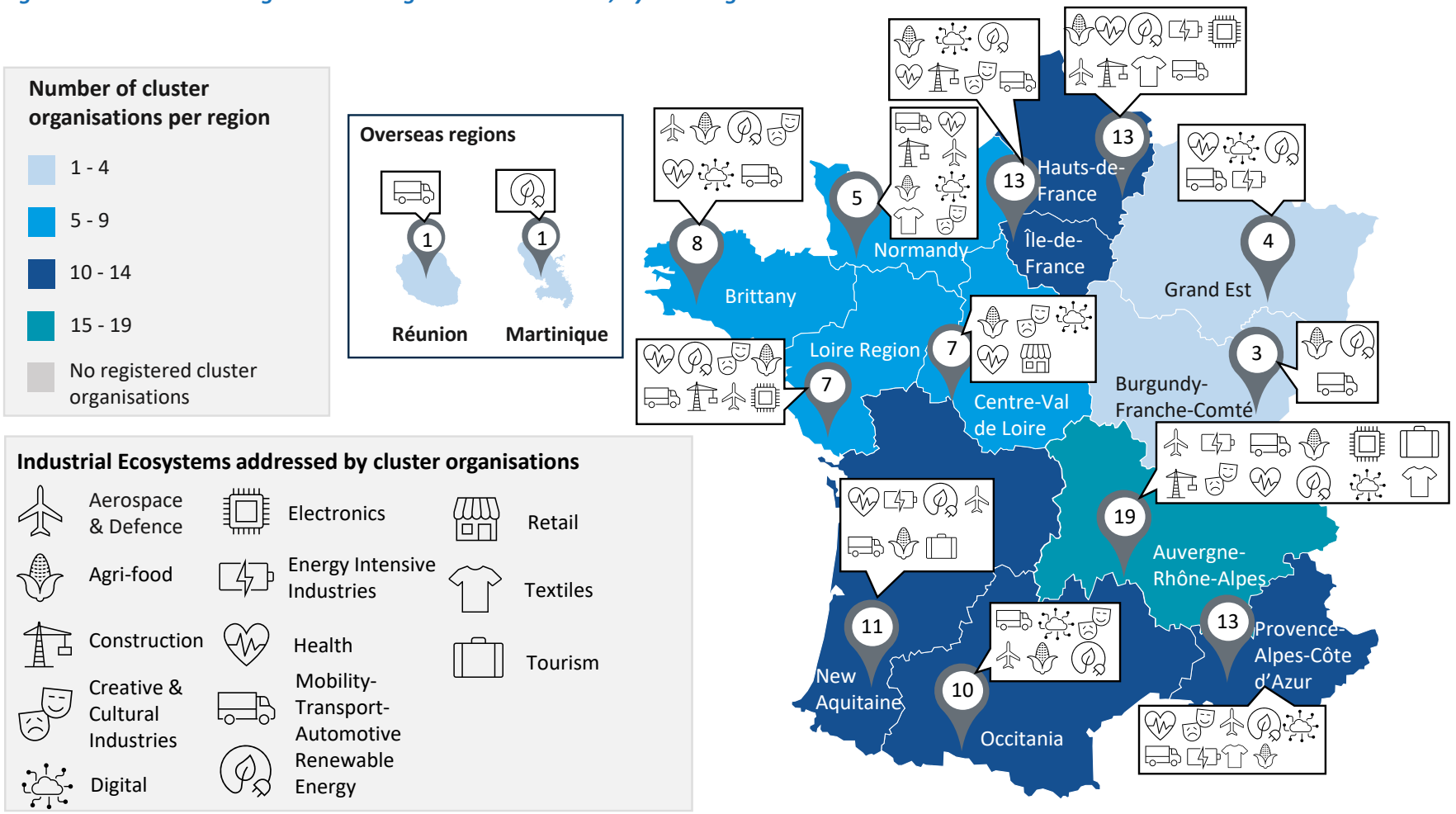
This section gives a brief outline of actors in the French innovation landscape and focuses especially on cluster organisations related to Mobility, Health and Construction. First, French cluster organisations are analysed, as cluster organisations play a key role as intermediaries in innovation ecosystems. Since the European Cluster Collaboration Platform (ECCP) serves as a one-stop-shop for cluster organisations at the European level, the number and sectoral orientation of ECCP registered cluster organisations in France provides a good overview of the French cluster landscape. Out of the current total of 1,196 registered EU27 cluster organisations on the ECCP, there are **115 cluster organisations** from France.

Figure 4 shows the geographical distributions of the ECCP registered cluster organisations from France as well as their correspondence to the EU Industrial Ecosystems.[13] It can be highlighted that cluster organisations are present in all French regions on the mainland. Regions in the south of France tend to have more ECCP-registered cluster organisations compared to the regions in the northeastern parts of the country. The region Auvergne-Rhône-Alpes (19 cluster organisations), followed by Hauts-de-France (13 cluster organisations), Île-de-France (13 cluster organisations) and Provence-Alpes-Côte d'Azur (13 cluster organisations) have the highest number of ECCP registered cluster organisations.

Thematically, the French cluster organisations are operating in **13 out of the 14 EU Industrial Ecosystems**. As also indicated in Figure 4, around 50 French cluster organisations are active within ecosystems related to **Mobility-Transport-Automotive, Health and Construction** (as shown in Table 1 in the Annex).

[12] European Commission (2024). Regional Innovation Scoreboard 2023 Regional profiles France. Available under: https://ec.europa.eu/assets/rtd/ris/2023/ec_rtd_ris-regional-profiles-france.pdf (last access 18.07.2024).
[13] See also https://clustercollaboration.eu/in-focus/industrial-ecosystems (last access 16.07.2024)

Figure 4: French cluster organisations registered on the ECCP, by their regional and sectoral distribution



Source: ECCP (2024), own elaboration based on the ECCP Mapping Tool (last access 16.07.2024). Table 1 in the Annex presents ECCP registered French cluster organisations that are operating in the EU industrial ecosystems Mobility-Transport-Automotive, Health and Construction.

In addition to the cluster organisations themselves, the two French **national cluster associations** of Association Francaise des Pôles de Compétitivité (AFPC) and France Clusters also need to be mentioned, as they play an important role in supporting clusters and networks, as well as the French innovation ecosystem overall. The AFPC was founded in 2013 and unites more than 45 French Competitiveness Clusters. In their role, the AFPC promotes and represents the interests of cluster organisations at both the regional and national levels in France, as well as at the European level. Furthermore, it provides dedicated support to the SME members of Competitiveness Clusters. France Clusters, on the other hand, represents around 300 French clusters and around 80,000 French companies. In their capacity, France Clusters offers a range of services to their members, including networking opportunities through a collaborative exchange platform, webinars, and events, as well as training, studies, consulting services, and more.

Moreover, the role of the **French Public Investment Bank** Bpifrance has to be mentioned since this institution acts as the national innovation agency of France. Bpifrance provides funding for innovators in different maturity stages: from acceleration, over seed funding to venture and growth capital. Besides providing funding, Bpifrance offers accelerator programmes for start-ups and SMEs, as well as internationalisation support services.

Strategic innovation priorities of France

Smart Specialisation like cluster policy is a place-based approach that aims at utilising the advantages of proximity and promoting economic growth and competitiveness[14], thereby concentrating resources into defined strategic priorities. [15] Due to the similarity of the two concepts, Cluster organisations (can) play an important role in the design and implementation of Smart Specialisation Strategies.

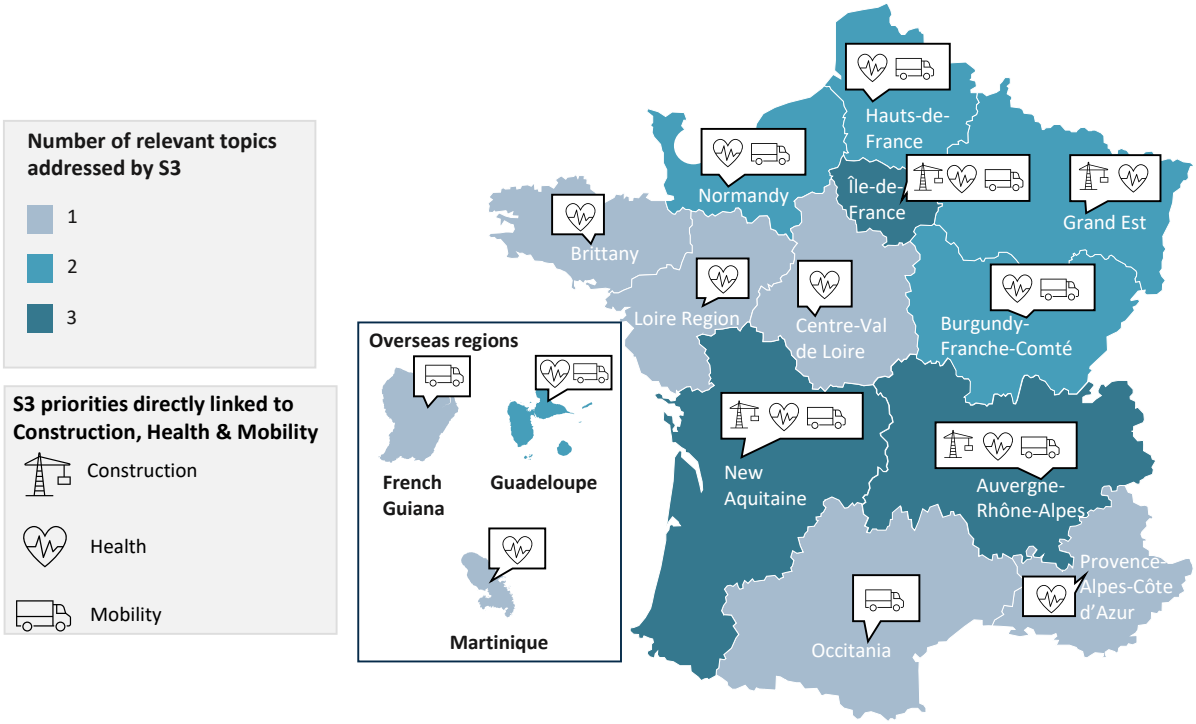
This section provides a brief overview of Smart Specialisation in France and focuses on **strategic priorities that are directly linked to the topics of Construction, Health & Mobility**. This assessment is based on the French Smart Specialisation Strategies of the 2021-2027 funding period. The information for this assessment is provided by the S3 CoP Observatory.[16] Based on this data source, 112 priority areas of the French regions can be identified. Out of those 112 priority areas, 28 show a direct link to the Construction, Health & Mobility-Transport-Automotive ecosystems. These regions and priority areas are depicted in Figure 5. A detailed overview is provided in Table 2 in the Annex.

[14] European Commission (2013): The role of clusters in smart specialisation strategies. Available under: https://op.europa.eu/o/opportal-service/download-handler?identifier=2fe44194-e5a8-42b7-ac14-9c9b8e157de3&format=pdf&language=en&productionSystem=cellar&part= (last access 17.07.2024)

[15] Prognos /CSIL (2021): Study on prioritisation in Smart Specialisation Strategies in the EU. Study on behalf of the European Commission. Available under: https://ec.europa.eu/regional_policy/en/information/publications/studies/2021/study-on-prioritisation-in-smart-specialisation-strategies-in-the-eu (last access 17.07.2024).

[16] see https://ec.europa.eu/regional_policy/assets/s3-observatory/index_en.html (last access 17.07.2024).

Figure 5: Overview of French regions with priority areas directly linked to the topics of Construction, Health & Mobility



Source: ECCP (2024), own elaboration based on the S3 CoP Observatory (last access 17.07.2024). The underlying information provided in in the Annex.

02

Challenges of meta-clustering, interregional investments & the Mobility, Health & Construction Ecosystems

EUROPEAN CLUSTER COLLABORATION PLATFORM

Strengthening the European economy through collaboration

2. Challenges of meta-clustering, interregional investments and the Mobility, Health & Construction Ecosystems

This chapter outlines key challenges for meta-clustering, interregional investments as well as for the Mobility, Health & Construction ecosystems.

Challenges of meta-clustering

Meta-Clusters[17] are large-scale networks that connect smaller, regional clusters across different sectors and disciplines, as well as across national borders. They provide a structured framework for collaboration, resource and knowledge sharing, fostering innovation, and achieving collective goals. Meta-clusters can be considered a form of meta-organisation.[18] As such, they enhance the capabilities and global competitiveness of their member clusters, addressing complex challenges that individual clusters might struggle to tackle alone. However, the formation of cross-sectoral, interdisciplinary, and trans-European meta-clusters presents several challenges in resource management, engagement, governance, legal structuring, innovation diffusion, and regulatory alignment, that can impact the ability to build resilience and accelerate the transition to a green and digital economy[19]. The challenges are further outlined below:

- **Diversity Challenges**
  - **Cross-Sectoral Collaboration**: Aligning different sectors, each with its own priorities and practices, is complex and requires careful coordination.
  - **Regional to Cross-border Networks**: Expanding engagement from regional clusters to cross-border networks introduces challenges in maintaining consistent participation and collaboration.
- **Governance and Legal Structure Challenges**
  - **Balancing Autonomy and Collaboration**: Governance structures must allow for both the independence of individual clusters and the overall coherence of the meta-cluster.

[17] see https://www.clustercollaboration.eu/content/eu-clusters-talk-innovation-through-integration-how-create-and-engage-meta (last access 26.08.2024).

[18] Berkowitz, Héloïse; Dumez, Hervé (2016): The Concept of Meta-Organization: Issues for Management Studies. European Management Review. 13 (2): 149–156 and Berkowitz, Heloise and Bor, Sanne (2024) "Meta-organizations for Sustainability Transformations: Navigating Tensions Between Imperatives of Transition and Meta-organizationality" Journal of Organizational Sociology, vol. 2, no. 1, pp. 29-58).

[19] For more information see https://www.clustercollaboration.eu/sites/default/files/event_calendar/20240424_ECCP_EU%20Clusters%20Talk_Meta-clustering_Summary.pdf (last access 26.08.2024); https://database.centralbaltic.eu/sites/default/files/CLUSME_metacluster_model.pdf (last access 26.08.2024); https://www.steinbeis-europa.de/files/steinbeis/dist/img/Mediathek%20%28Publikationen%29/books_en/CluStrat_Final-Brochure_final.pdf (last access 26.08.2024); https://medicnest.eu/wp-content/uploads/2024/04/Deliverable-3.5-Final-Version-of-Meta-Cluster-Strategy-in-Precision-Medicine-2022-2027.pdf (last access 26.08.2024); Amann, W., Nedopil, C. & Steger, U (2011): The meta-challenge of complexity for global companies. J Database Mark Cust Strategy Manag 18, 200–204; Brad & Brad (2019): Value Chain Planning in Cross-Industry Meta-Cluster Initiatives. Available online: https://www.researchgate.net/publication/341656224_Value_Chain_Planning_in_Cross-Industry_Meta-Cluster_Initiatives (last access 26.08.2024).

    - **Legal Frameworks**: Establishing legal entities that can operate across national borders is challenging due to differing national laws and regulations.
- **Technological Integration Challenges**
    - **Innovation Diffusion**: Facilitating the spread of innovation across sectors and regions is hindered by disparities in technological adoption and market readiness.
    - **Data Privacy and Security**: Managing data privacy, particularly in regulated fields (e.g. health), is critical yet challenging.
- **Resource Allocation Challenges**
    - **Financial and Human Capital**: Ensuring sufficient resources for long-term sustainability is critical. This includes both financial investment and active member participation.
    - **Strategic Goals and Activities**: Clear objectives and actionable plans are essential to keep the meta-cluster aligned and effective.
- **Regulatory Challenges**
    - **Policy and Regulation**: Differing regional and national policies can impede the formation and operation of meta-clusters, making regulatory harmonization essential for seamless operation.
- **Complexity Management Challenges**
    - **Dynamic Global Markets**: Meta-clusters must be agile to adapt to rapid changes and ambiguity in global markets, which adds layers of complexity to strategic planning and decision-making.

Challenges of interregional investments

To thrive in a connected, circular, and globalized economy, regions must innovate and create cross-border value chains to tackle competitive challenges. Enhanced interregional cooperation is now a key aspect of EU Cohesion policy. Smart specialisation leverages the unique strengths of each region, fostering collaboration between public and private sectors, research, and businesses across borders. Strengthening interregional cooperation and connecting regional ecosystems are essential for accelerating the market adoption of research and driving innovation. This approach helps companies scale their ideas within the EU single market and seize global opportunities while aligning cross-border investments to build new EU value chains.

Despite their high potential impact[20], interregional investments in Europe face several challenges[21], including fragmented regulatory environments, limited capacity among public authorities, difficulties in supporting innovation intermediaries, and the complexities of developing sustainable business cases, as outlined below:

[20] see https://single-market-economy.ec.europa.eu/industry/strategy/interregional-partnerships_en (last access 26.08.2024).
[21] see also https://akep.eu/allon-i3-alliance-on-interregional-innovation-investments-new-project/ (last access 26.08.2024).

- **Fragmented Regulatory and Policy Environment Challenges**
    - **Diverse Regional Policies**: Different regions in Europe often have varying regulatory frameworks, which complicates the establishment of cohesive interregional investment strategies. Aligning these regulations is essential but difficult to achieve.
    - **Need for Policy Harmonization**: Developing a harmonized policy environment across regions is crucial for facilitating interregional investments and ensuring that all regions, especially less developed ones, can participate fully.
- **Capacity Building for Public Authorities Challenges**
    - **Limited Expertise and Resources**: Many public authorities, particularly in less developed regions, lack the necessary expertise and resources to support large-scale interregional innovation projects effectively. This creates a need for focused capacity-building initiatives.
    - **Collaboration Between Regions**: Fostering collaboration between more developed, transition, and less developed regions is essential for creating new European value chains, but this requires significant capacity building.
- **Challenges in Supporting Innovation Intermediaries**
    - **Coordination Across Diverse Ecosystems**: Innovation intermediaries face difficulties in coordinating efforts across different regional ecosystems, especially when dealing with regions at varying levels of economic development.
    - **Building Effective Networks**: Establishing and maintaining effective networks among innovation intermediaries is crucial for successful interregional investment but can be hindered by differences in regional priorities and capacities.
- **Challenges in Identifying and Developing Business Cases for Interregional Projects**
    - **Market Alignment**: Aligning business cases with the specific needs and conditions of different regions is challenging, especially in regions that are less developed or in transition.
    - **Sustainability of Projects**: Ensuring the long-term sustainability of interregional projects requires careful planning and a focus on creating business cases that are adaptable to various regional contexts.
- **Challenges in Sustaining Long-term Interregional Collaboration**
    - **Inconsistent Funding Mechanisms**: Long-term collaboration is often undermined by inconsistent or unstable funding mechanisms. Stable and reliable financial support is necessary to maintain the momentum of interregional innovation efforts.
    - **Demographic and Economic Pressures**: Less developed regions face significant demographic challenges, such as depopulation and an aging population, which can impede their ability to participate fully in interregional projects. Addressing these challenges is key to ensuring equitable participation across regions.

Challenges of the Mobility Ecosystem

The Mobility-Transport-Automotive ecosystem is characterized by a few global enterprises at the top, alongside a vast network of suppliers/sub-suppliers organized across several Tiers (at least three), including around 1.8 million small and medium-sized companies, which make up over 99.7% of all businesses in the sector.[22] This ecosystem represents 7.5% of the total EU economy, directly employing about 15 million people and indirectly providing jobs to at least 16 million more, thanks to close collaboration with other industrial ecosystems (e.g. IT, electronics, etc). As the EU mobility industrial ecosystem struggles to maintain its competitiveness on the global stage in an era of rising intense competition from the USA and Asia (China, South Korea, Japan) while adapting to the twin transition it faces several challenges.[23] These are outlined below:

Transition to Sustainable Mobility Challenges

- **Defossilisation and Emission Reduction**: The mobility sector is under pressure to reduce carbon emissions and transition to low- and zero-emission vehicles. This shift requires substantial investments in electric vehicles (EVs), renewable electricity plants and grids, charging infrastructure, as well as into carbon-neutral/net zero, alternative/renewable fuels. However, high costs and infrastructure gaps pose significant challenges while rational choices are frequently hindered by a rushed move towards single technologies (e.g. EV) instead of a more balanced, mix-of-technologies approach.
- **Incentivising Sustainable Mobility Choices**: Developing recommendations to incentivise the uptake of sustainable mobility options is crucial. This includes policy measures, financial incentives, and public awareness campaigns to encourage the use of low-emission transportation.

[22] see https://monitor-industrial-ecosystems.ec.europa.eu/industrial-ecosystems/mobility-transport-automotive (last access 26.08.2024).

[23] see https://monitor-industrial-ecosystems.ec.europa.eu/sites/default/files/2023-12/EMI%20Mobility%20industrial%20ecosystem%20report_0.pdf (last access 26.08.2024); Pantazi, T., Vlachos, V. (2019): European Union Transport Policy. In: Vlachos, V., Bitzenis, A. (eds) European Union; Mebarki B, Draoui B, Allaoua B, Draoui A. Road Transportation Industry Facing the Energy and Climate Challenges (2018): Renewable Energy - Resources, Challenges and Applications. IntechOpen; 2020. Available online: http://dx.doi.org/10.5772/intechopen.92299 (last access 26.08.2024); Sitar et al. (2023): Investigating Challenges to Industry 4.0 Technology Transition in Automotive and Mobility Industries from Multi-stakeholder Perspective. Available online: http://dx.doi.org/10.1109/ETFA54631.2023.10275634 (last access 26.08.2024); FVV (2022): Follow-up study: Transformation of Mobility to the GHG-neutral Post-fossil Age. Available online: https://www.fvv-net.de/fileadmin/Storys/Wie_schnell_geht_nachhaltig/FVV_H1313_1452_Future_Fuels_FVV_Fuel_Study_IVb_2022-12.pdf (last access 26.08.2024); Available online: https://www.fvv-net.de/fileadmin/Storys/Wie_schnell_geht_nachhaltig/FVV_H1313_1452_Future_Fuels_FVV_Fuel_Study_IVb_2022-12.pdf (last access 26.08.2024); Konstandopoulos, A. G. (2022): Heliosynthesis: A Stairway to Energy Heaven, in Global Challenges of Climate Change, Vol. 1: Green Energy, Decarbonization, Forecasting the Green Transition (T. Devezas, Ed.), 99-107, Springer. Available online: https://doi.org/10.1007/978-3-031-16470-5_7 (last access 26.08.2024); Smil, V. (2020): Papeles de Energía, N.º 8 Energy Transitions: Fundamentals in Six Points; Smil, V. (2021): Grand Transitions: How the Modern World Was Made, Oxford University Press, New York; Sovacool. et al. (2019): Decarbonization and its discontents: a critical energy justice perspective on four low-carbon transitions. Climatic Change 155, 581–619. Available online: https://doi.org/10.1007/s10584-019-02521-7 (last access 26.08.2024).

Technological Innovation and Adoption Challenges

- **Digitalization and Automation**: The adoption of digital technologies such as autonomous vehicles, smart traffic management systems, and connected infrastructure is essential for the future of mobility. However, these innovations require significant investments and face challenges related to regulatory approval and public acceptance.
- **Support for Low-Emission Mobility**: Encouraging the development and adoption of low-emission transportation options, such as EVs (if powered by renewable electricity), carbon-neutral fuels and public transit, is key to achieving sustainable mobility. This also involves supporting infrastructure development and creating favourable market conditions for clean technologies.
- **Just Transition:** A just energy transition needs to be inclusive not only of people but also of all de-fossilized energy carrier-powered technologies that can deliver fast abatement to adverse climate changes. By adopting a holistic approach that recruits all powertrain technologies that are compatible with all carbon-neutral energy carriers we can expect a faster and more affordable approach to de-fossilization.

Workforce and Skills Development Challenges

- **Reskilling and Upskilling**: The transition towards electric vehicles and automation is creating a demand for new skills in the mobility sector. Workers need to be reskilled or upskilled to adapt to the evolving industry, which requires targeted training programs and educational initiatives while ensuring a just transition by maintaining the large investments in a highly skilled workforce in the automotive sector which is currently facing the spectre of unemployment if rushed moves towards single technology paths are followed.
- **Attracting Talent**: The mobility sector faces competition from other high-tech industries in attracting skilled talent, particularly in areas like software development, data analytics, and engineering. Creating attractive career pathways and offering competitive incentives are necessary to draw talent to the sector.

Challenges of the Health Ecosystem

The Health industrial ecosystem represents one of the biggest and fastest growing industries globally and it plays a fundamental role for both society and the economy, contributing about 10% to the total EU economy and employing about 25 million people directly, with a clear upward trend in employment expected over next decade.[24] As the Health industrial ecosystem moves through the twin transition and considering its important contribution towards maintaining a resilient society the following challenges can be identified[25]:

Regulatory and Compliance Challenges

- **Complex Regulatory Environment**: The health sector is heavily regulated, with complex compliance requirements that vary across regions. This can hinder innovation and the adoption of new technologies, particularly in areas like digital health and precision medicine.
- **Data Privacy and Security**: Ensuring data privacy while facilitating data sharing across borders is a major challenge, particularly with the increasing use of digital health technologies and the need for interoperability across systems.

Innovation and Technological Adoption Challenges

- **Slow Integration of Digital Health**: The adoption of digital health technologies, including telemedicine, AI, and big data analytics, is vital for improving healthcare delivery. However, regulatory barriers, infrastructure gaps, and varying levels of digital literacy across regions slow down integration.
- **Pandemic Preparedness and EU-wide Network**: Developing an EU-wide network to enhance pandemic preparedness is crucial. This involves better connecting existing infrastructures, aligning innovation agendas, and standardizing data across the EU to improve responsiveness and coordination during health crises.
- **Research and Development (R&D) Constraints**: The health sector requires continuous investment in R&D to keep up with rapid technological advancements. However, funding constraints and the high costs associated with clinical trials and regulatory approvals can limit innovation.

Healthcare Workforce Challenges

- **Shortages and Skill Gaps**: The health sector is facing a shortage of healthcare professionals, particularly in rural and underserved areas as well as in areas with high seasonality in their population (islands, tourist areas). Additionally, there is a growing need for professionals trained in digital health and data analytics.

[24] see also https://monitor-industrial-ecosystems.ec.europa.eu/industrial-ecosystems/health (last access 26.08.2024).
[25] see also https://monitor-industrial-ecosystems.ec.europa.eu/sites/default/files/2023-12/EMI%20Health%20industrial%20ecosystem%20report.pdf (last access 26.08.2024).

Challenges of the Construction Ecosystem

Based on the European monitor of industrial ecosystems[26] the Construction industrial ecosystem contributes about 10% to the EU total economy and employs more than 25 million people, mostly in SMEs. Traditionally seen as low-tech with a high environmental impact due to energy use, GHG emissions, and waste generation, the construction industry now faces additional challenges like climate change, demographic shifts, and the need for improved recycling and resource recovery, all requiring technological and industry-driven solutions.[27] These challenges are outlined below:

Environmental Impact Challenges

- **High Energy Consumption and greenhouse gas (GHG) Emissions**: The construction industry is responsible for a significant portion of Europe's energy consumption and greenhouse gas emissions. Addressing these issues requires major investments in energy-efficient designs and materials, as well as a shift towards low-carbon construction practices.
- **Waste Generation and Circularity**: Construction and demolition waste is the largest waste stream in Europe. While recovery rates are improving, the industry must transition towards circular construction practices that prioritise reuse, recycling, and resource efficiency. This involves innovative workflows for deep renovation and sustainable building materials to meet long-term climate and energy targets.

Technological Adoption Challenges

- **Slow Uptake of Advanced Technologies**: The construction industry is traditionally considered low-tech, with slow adoption rates for digital and green technologies. SMEs, which dominate the sector, often lack the resources to invest in new technologies, limiting the industry's capacity to innovate.
- **Digital Transition Challenges**: The adoption of Building Information Modelling (BIM), advanced manufacturing, and robotics is crucial for improving efficiency and reducing waste, but these technologies are not yet widely adopted across the industry.

[26] see https://monitor-industrial-ecosystems.ec.europa.eu/industrial-ecosystems/construction (last access 26.08.2024).
[27] see https://monitor-industrial-ecosystems.ec.europa.eu/sites/default/files/2023-12/EMI%20Construction%20industrial%20ecosystem%20report.pdf (last access 26.08.2024); Alsharef et al. (2024): Biggest Challenges Facing the Construction Industry. Available online https://www.researchgate.net/profile/Abdullah-Alsharef/publication/379064007_Biggest_Challenges_Facing_the_Construction_Industry/links/6604864f390c214cfd14fcc5/Biggest-Challenges-Facing-the-Construction-Industry.pdf?_tp=eyJjb250ZXh0Ijp7ImZpcnN0UGFnZSI6InB1YmxpY2F0aW9uIiwicGFnZSI6InB1YmxpY2F0aW9uIn19 (last access 26.08.2024); Ersenkal, K. (2023): Environmental, Social and Governance-related Challenges in the Construction Industry. Available online: https://journals.qu.edu.qa/index.php/CIC/article/view/3709 (last access 26.08.2024); Basar, O. & Basar P. (2023): Challenges in Construction Industry. Available online: http://www.pressacademia.org/archives/pap/v17/37.pdf (last access 26.08.2024).

Workforce and Skills Challenges

- **Aging Workforce**: The construction sector faces a significant challenge in attracting new talent, with an estimated need for 1 million new workers by 2025. The industry's aging workforce and the need for digital and green skills exacerbate this issue.
- **Skill Gaps for Transition to Circularity**: As the industry shifts towards circularity, there is a growing demand for workers skilled in sustainable construction practices and the use of innovative materials and technologies. Developing these skills will be essential for supporting the industry's twin transition.

03

Developing a project proposal

3. Developing a project proposal

In this chapter, we first provide some guidelines for SMEs to enhance their chances of securing funding and successfully implementing their projects. Second, the use of a business model canvas to promote a project idea is presented.

A well-prepared **project proposal** should clearly demonstrate the value and impact of the project while meeting any specific requirements of the funding source. Needless to say, a prerequisite is the nucleation of a project idea for a product or process. For developing project ideas, inspiration can come from global challenges society faces, from customers and stakeholders as well as from the technical/scientific literature or by monitoring specific Calls aimed at SMEs and intermediaries (such as Clusters) e.g. from Horizon Europe (including those from European Innovation Council), I3 and/or SMP and other relevant funding sources.

Along with the project idea, it is important to have an initial identification of relevant actors that need to be engaged (collaborators, suppliers, etc), required material resources (e.g. hardware, software, access to specialized infrastructure) and human resources (skilled personnel), key performance indicators for the product or process that is under consideration vs existing solutions/state-of-the-art and broad knowledge of required funds for the various stages of development. In this respect classification of the product or process along the Technology Readiness Level (TRL), Manufacturing Readiness Level (MRL) and Investment Readiness Level (IRL) scales is a must. While TRL focuses on the readiness of the technology itself, MRL focuses on the capability to manufacture the technology at scale and IRL provides a structured approach to evaluating the maturity of a product/process made by an enterprise, from the perspective of potential investors.

Some useful material on proposal preparation can also be consulted here:

- Practical pointers for developing a proposal for Horizon Europe project funding
- INFO Session Erasmus+ Alliances for Innovation 2023: Tips on how to write a good project proposal. Do's and Don'ts
- How to write a winning proposal for Horizon Europe
- Develop your Interreg project proposal
- Interreg NEXT MED – Guide for project preparation

A concise summary is provided below, tailored to applicants with little experience in proposal writing (e.g. SMEs, Clusters, etc), helping them navigate the process with confidence.

Guidelines for Proposal Development

1. Start Early and Understand the Requirements

- **Begin the Process Early**:

- Start the proposal writing process well in advance of the submission deadline. This allows time for refining ideas, gathering necessary information, and collaborating with partners.
- Early preparation helps avoid last-minute issues and ensures that all aspects of the proposal are thoroughly considered.

- **Familiarise Yourself with the Call for Proposals**:
  - Carefully read the call for proposals to understand the objectives, eligibility criteria, and evaluation criteria. This will guide the development of your project and ensure it aligns with the funder's expectations.
  - Review relevant documents such as program guides, funding guidelines, and evaluation criteria to ensure compliance.

2. Define Your Project Clearly

- **Clarify Objectives and Needs**:
  - Clearly define the objectives of your project. Ensure they are Specific, Measurable, Achievable, Relevant, and Time-bound (SMART).
  - Conduct a thorough needs analysis to justify the project. Clearly articulate the problem your project addresses and provide evidence to support its significance.
- **Align with Strategic Goals**:
  - Make sure your project aligns with broader strategic goals, such as those outlined in EU policy frameworks and other relevant documents, such as the Call documents. This alignment can strengthen your proposal by demonstrating its relevance to the funder's priorities.

3. Build a Strong Consortium

- **Select the Right Partners**:
  - Choose partners with complementary skills and expertise that cover all aspects of the project. This includes technical knowledge, market access, and implementation capabilities.
  - Involve partners early in the proposal development process to build trust and ensure alignment on project goals.
- **Diversity and Collaboration**:
  - A diverse consortium with a mix of SMEs, large enterprises, research institutions, and other stakeholders can enhance the proposal's appeal. Ensure that all partners contribute meaningfully to the project.

4. Develop a Detailed Work Plan

- **Structure the Proposal with Clear Work Packages**:
  - Divide the project into clear work packages, each with specific tasks, responsibilities, and deliverables. Use tools like Gantt charts or PERT diagrams to visualise the timeline and dependencies.

    - Ensure that the work plan is logical, realistic, and directly aligned with the project's objectives.
- **Write a Compelling Work Plan**:
    - The work plan should be detailed, clear, and convincing. Avoid overly complex language and focus on presenting a coherent narrative.
    - Include key milestones, performance indicators, and a risk management plan to demonstrate the project's feasibility.

5. Create a Realistic Budget

- **Develop a Detailed and Justified Budget**:
    - Prepare a budget that includes all necessary costs such as personnel, travel, materials, and equipment. Ensure that the budget aligns with the project's scope and timeline.
    - Justify each budget item, explaining why it is necessary for the project's success. Be transparent about how funds will be used.

6. Focus on Impact and Sustainability

- **Demonstrate the Project's Impact**:
    - Clearly articulate the impact your project will have, both during and after its implementation. Highlight how the project will contribute to societal, economic, or environmental goals.
    - Include measurable outcomes and Key Performance Indicators (KPIs) to track the project's success.
- **Plan for Long-term Sustainability**:
    - Include a sustainability plan that outlines how the project's outcomes will be maintained beyond the funding period. This could involve follow-up funding, partnerships, or commercialisation strategies.

7. Write and Refine Your Proposal

- **Draft a Clear and Concise Proposal**:
    - Write the proposal in clear, simple language. Avoid jargon and ensure that the narrative is easy to follow, even for those not familiar with the topic.
    - Address all sections required by the funder, ensuring that each part of the proposal is consistent and coherent.
- **Review and Seek Feedback**:
    - Review the proposal multiple times, checking for clarity, consistency, and alignment with the call's objectives.
    - Seek feedback from colleagues or experts to identify areas for improvement. Consider having a native speaker proofread the proposal if it is not in your first language.
- **Ensure Timely Submission**:
    - Submit your proposal well before the deadline to avoid any last-minute technical issues or omissions.
    - Double-check that all required documents are included and correctly formatted.

Developing your Business Model with a Canvas

This part gives a short introduction on how to use a business model canvas to promote a project idea. The Business Model Canvas (BMC) is a **strategic visualisation tool** for developing and displaying a business model. It helps to get a clear view of a company's operations and identify key business components. A BMC does not replace a formal business plan but provides a bird's-eye perspective on the business model that allows for further strategic development as well as easy understanding and communication.

It can provide the structure for the **collaboration** of different stakeholders and facilitate discussions and brainstorming sessions, allowing everyone to contribute their ideas and insights. At the same time, it is **flexible** enough to allow for an **iterative** process when rapidly developing and testing different business models. In its focus on creating and delivering **value** to customers, it is useful to both new ventures and existing businesses and can be applied to a wide range of business scenarios.

A typical BMC comprises the following sections as shown in Figure 6 below.

Figure 6: Structure of a Business Model Canvas

<table>
<tr><td rowspan="2">Key Partners</td><td>Key Activities</td><td rowspan="2">Value Propositions</td><td>Customer Relationships</td><td rowspan="2">Customer Segments</td></tr>
<tr><td>Key Resources</td><td>Channels</td></tr>
<tr><td colspan="3">Cost Structure</td><td colspan="2">Revenue Streams</td></tr>
</table>

Source: Own elaboration by Prognos (2024).

Detailed **guides for constructing a BMC** can be obtained from the following sources:

- Strategyzer explains the structure and building blocs of the BMC.
- Indeed has a detailed walkthrough of what a BMC should contain and how it can be elaborated.
- **Templates** for a BMC can be found, for example, at miro or canvanizer.

Further helpful **resources** on **scaling up**:

- **Tech Nation**'s guide to scaling provides useful an abundance of checklists, tips, and explainers for businesses at the early, mid, and late stage.
- '**An Entrepreneur's Guide to Surviving the "Death Valley Curve"**' (see also the Annex for an elaboration on the "Valley of Death" by Thomas Ritter and Carsten Lund Pedersen in the Harvard Business Review.

04

Turn your project idea into practice: public funding instruments for innovation

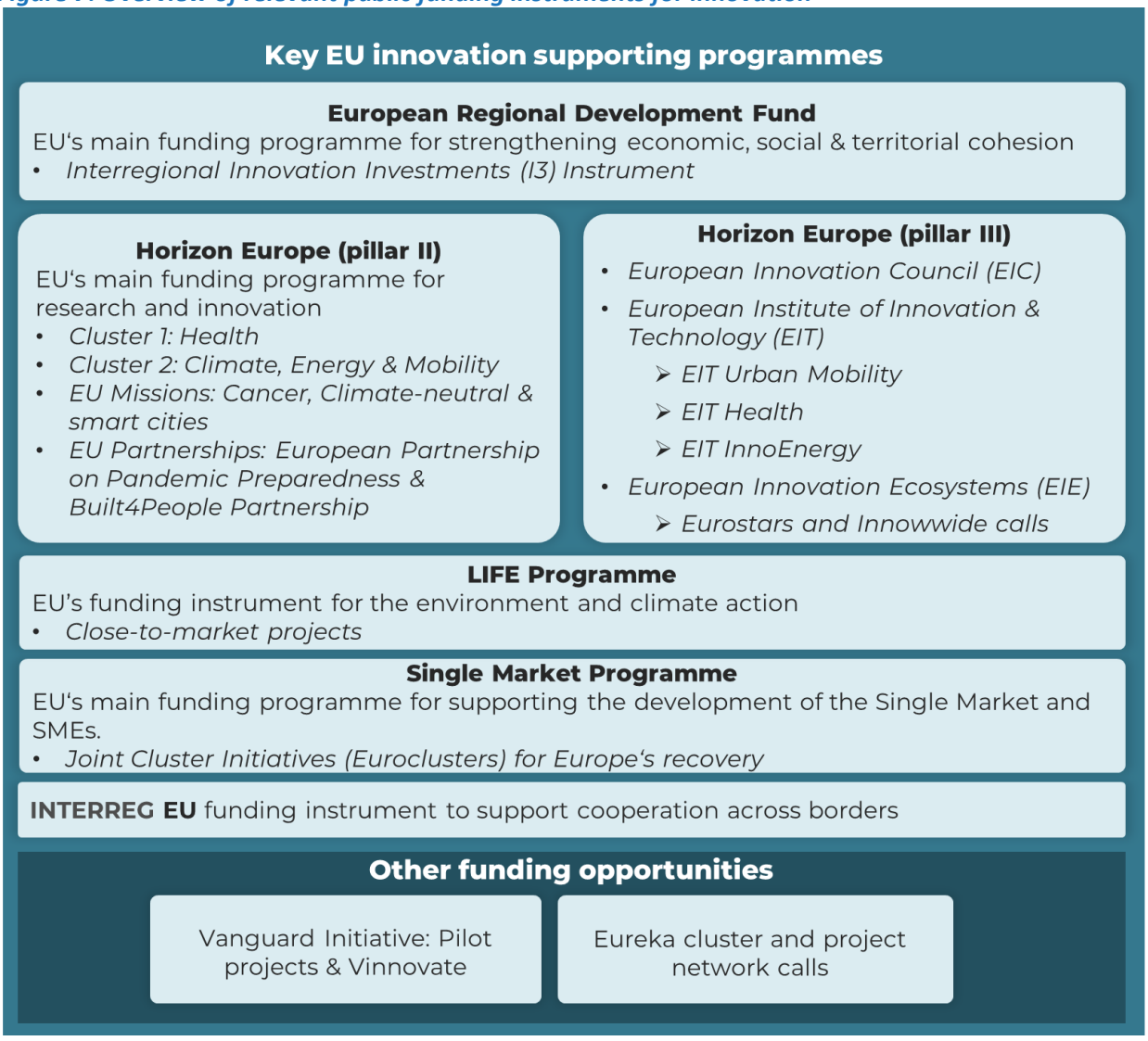
EUROPEAN CLUSTER COLLABORATION PLATFORM

Strengthening the European economy through collaboration

4. Turn your project idea into practice: public funding instruments for innovation

Public funding schemes play a pivotal role in strengthening innovation in Europe. In order to raise awareness of cluster community and seed ideas for future proposals, this chapter outlines diverse funding opportunities for projects primarily in the domains of interregional investments, Mobility, Health and Construction. Thereby, the funding opportunities should support addressing the challenges that are outlined in Chapter 2. This chapter lists budgets of the selected programmes, concrete calls for proposals, topics funded, partner search and networking opportunities, as well as advisory services and supporting tools, relevant for cluster organisations. Figure 7 gives an overview of relevant funding schemes that are presented in the chapter.

Figure 7: Overview of relevant public funding instruments for innovation



Source: ECCP (2024).

Key EU innovation supporting programmes

Interregional Innovation Investments (I3) Instrument

Total programme budget within the work programme 2023 - 24

EUR ~159 million

Participating countries

Thematic priorities

Green transition

Digital transition

Smart Manufacturing

More information on the I3 Instrument:

- I3 website
- Upcoming calls for proposals will be published on the Funding & Tenders portal.

General description

In the 2021-2027 funding period, the **Interregional Innovation Investments (I3) Instrument** is a new funding instrument under the European Regional and Development Fund (ERDF) with a yearly budget of EUR 75.8 million to EUR 80.4 million. The calls for proposals are divided into **two different call strands** aiming both to invest in **interregional project consortia with innovation projects**. The focus of project strands is on the commercialisation and scale-up of investment projects with a specific focus on the **smart specialisation** priorities areas of the involved regions and interregional cooperation. Moreover, project consortia should involve **major stakeholders of the quadruple innovation helix** like public and private sector stakeholders as well as research organisations and SMEs.

Types of topics funded

The Interregional Innovation Investments (I3) Instrument is offering **two different support strands** for interested organisations. Both strands only fund projects which belong to one of the **thematic areas**: green transition, digital transition, and smart manufacturing. While **strand 1** aims at supporting more mature partnerships to commercialise and scale-up innovation investments, **strand 2** calls set the focus on less developed regions and their capacity building and integration in global value chains.

- **Strand 1:** Financial and advisory support for investments in interregional innovation projects
- **Strand 2a**: Financial and advisory support to the development of value chains in less developed regions
- **Strand 2b:** Financial and advisory support to test new approaches in order to increase the capacity of regional innovation ecosystems in less developed regions

Call for proposals

Under the Interregional Innovation Investments Instrument (I3), the following calls for proposals are open:

- Interregional Innovation Investments Strand 1: deadline: 05.12.2024. Total available call budget: EUR 31 million
- Interregional Innovation Investments Strand 2a: deadline: 05.12.2024. Total available call budget: EUR 36 million
- Capacity Building Strand 2b: deadline: 14.11.2024. Total available call budget in 2024: EUR 13 million. Projects are required to range between 18 and 24 months with an expected budget between EUR 500,000 – EUR 1.5 million per project

Partner search & networking

Partner search is offered through the call website on the Funding and Tenders portal for each individual call. For instance, partners for the open call on "Capacity Building Strand 2b" can be found here.

Advice services and support tools

Interested organisation can find information on the I3 website of the European Innovation Council and SMEs Executive Agency.

- Guidelines for applicants incl. an FAQ section.
- Presentation and recording of the I3 Instrument Info session (Strand 1 & 2a).

Horizon Europe (Pillar II)

Total programme budget 2021-2027

EUR **95.5** billion

Participating countries

+ third countries associated to HE + other third countries

Pillar II of HE

Relevant Clusters:

Cluster 1: Health

Cluster 5: Climate, Energy & Mobility

Relevant EU Missions:

Cancer

Climate-neutral & smart cities

Relevant European Partnerships:

European Partnership on Pandemic Preparedness

Built4People Partnership

Support tools

- Partner Search Services
- Online manual guide on the procedures from proposal submission to managing your grant.
- Materials from HE Cluster 1 Info Day
- Materials from HE Cluster 5 Info Day
- Factsheet Tips and tricks to apply for Horizon Europe calls

General description

Horizon Europe is the EU's key funding programme for research and innovation that aims to tackle climate change, boosts the EU's growth, and promotes industrial competitiveness and optimises investment impact within a strengthened European Research Area. The Programme targets to invest approximately EUR 10 billion in R&I related to food, bioeconomy, natural resources, agriculture, fisheries, aquaculture, and environment in line with the objectives of the European Green Deal related to the Biodiversity Strategy to 2030, the Farm to Fork strategy, as well as the long-term vision for rural areas, and the Sustainable Development Goals. Apart from the EU members, the third countries associated to HE and participants with low- or middle-income third countries are eligible for funding (the full list can be accessed here).

Types of projects funded

Projects funded under HE can be divided into three main types: 1) **RESEARCH, AND INNOVATION ACTIONS (RIA**) aim at establishing new knowledge or exploring a new or improved technology, product, process, service or solution (the EU funding covers up to 100% of the project costs); 2) **INNOVATION ACTIONS (IA)** aim at producing plans or designing for new or improved products, processes or services including prototyping, testing, demonstrating, piloting, large-scale product validation and market replication (the EU funding covers up to 70% of the project costs); 3) **COORDINATION AND SUPPORT ACTIONS (CSA)**

that aim at improving cooperation among EU and associated countries to strengthen the European Research Area including standardisation, dissemination, awareness-raising, communication, and networking activities (up to 100% of the project costs).

Topics of calls for proposals

As part of work programmes for 2023-2025 for, different calls for proposals will be launched in the Cluster 1: Health and Cluster 5: Climate, Energy & Mobility, also in the areas of Health, Mobility and Construction. For the **Health** cluster, the topics centre around the following destinations:

- Staying healthy in a rapidly changing society
- Living & working in a health-promoting environment
- Tackling diseases & reducing disease burden
- Ensuring access to innovative, sustainable & high-quality healthcare
- Unlocking the full potential of new tools, technologies & digital solutions for a healthy society

For the Cluster 5: **Climate, Energy & Mobility**, the topics centre around the following destinations:

- Climate sciences & responses for the transformation towards climate neutrality
- Cross-sectoral solutions for the climate transition
- Sustainable, secure & competitive energy supply
- Efficient, sustainable & inclusive energy use
- Clean & competitive solutions for all transport modes
- Safe, resilient transport & Smart Mobility services for passengers & goods

Call for proposals (non-exhaustive list)

Calls under Cluster 1: Health

Opening date: 25 April 2024

One-stage calls' deadline: 26 November 2024

- HORIZON-HLTH-2024-DISEASE-12-01: European partnership for pandemic preparedness
- HORIZON-HLTH-2024-DISEASE-13-01: Implementation research for management of multiple long-term conditions in the context of non-communicable disease
- HORIZON-HLTH-2024-CARE-14-01: Pre-commercial procurement for environmentally sustainable, climate neutral and circular health and care systems

Calls under Cluster 5: Climate, Energy & Mobility calls

Opening date: 17 September 2024

One-stage calls' deadline: 04 February 2025

- HORIZON-CL5-2024-D3-02-02: Development of next generation synthetic renewable fuel technologies
- HORIZON-CL5-2024-D3-02-03: Development of smart concepts of integrated energy driven bio-refineries for co-production of advanced biofuels, bio-chemicals and biomaterials

- HORIZON-CL5-2024-D3-02-05: PV-integrated electric mobility applications
- HORIZON-CL5-2024-D3-02-11: CCU for the production of fuels
- HORIZON-CL5-2024-D3-02-13: Support to the activities of the SET Plan Key Action area Renewable fuels and bioenergy
- HORIZON-CL5-2024-D4-02-01: Industrialisation of sustainable and circular deep renovation workflows
- HORIZON-CL5-2024-D4-02-02: Robotics and other automated solutions for construction, renovation and maintenance in a sustainable built environment
- HORIZON-CL5-2024-D4-02-03: BIM-based processes and digital twins for facilitating and optimising circular energy renovation
- HORIZON-CL5-2024-D4-02-04: Design for adaptability, re-use and deconstruction of buildings, in line with the principles of circular economy
- HORIZON-CL5-2024-D4-02-05: Digital solutions to foster participative design, planning and management of buildings, neighbourhoods and urban districts

Current **calls for proposals** include the following**:**

Opening date: 17 September 2024

One-stage calls' deadline: 11 February 2025

- HORIZON-MISS-2024-CIT-01-01: Rethinking urban spaces towards climate neutrality
- HORIZON-MISS-2024-CIT-01-02: Zero-pollution cities
- HORIZON-MISS-2024-CIT-01-03: Mobility Management Plans and Behavioural Change
- HORIZON-MISS-2024-CIT-01-04: Zero-pollution cities

Advisory services

To obtain information about the abovementioned calls, please reach out to your National Contact Point here.

EU Climate neutral and smart cities

Horizon Europe funds EU Missions to deliver practical solutions to some of our greatest challenges. The EU Mission entitled "EU Climate neutral and smart cities" **aims at delivering 100 climate-neutral and smart cities by 2030** and ensuring that these cities act as experimentation and innovation hubs to enable all European cities to follow suit by 2050. For further info and updates, please keep an eye on the website of this EU Mission: EU Climate neutral and smart cities.

Funding for innovative start-ups under Horizon Europe (Pillar 3)

European Innovation Council (EIC)

Total programme budget 2021-2027

EUR **10.1** billion

Participating countries

+ third countries associated to HE + other third countries

Thematic priorities

Support for **any technologies and innovations** that cut across scientific, technological, sectoral and application fields or represent novel combinations.

General description

The European Innovation Council is one of the flagship programmes of the HE programme to support breakthrough innovations of SMEs and start-ups. A majority of the funding is awarded through "open" calls with no pre-defined thematic priorities. Support from the EIC goes beyond funding as all beneficiaries receive access to a range of tailor-made EIC Business Acceleration Services.

The EIC consists of three different support strands:

- EIC Pathfinder offers support for scientific, technological, or technology-oriented research and development in the earliest stages of development for SMEs and research consortia (TRL[28] 1-4). Each project can receive up to EUR 4 million.
- EIC Transition funds innovative activities of SMEs, start-ups and spin-offs that go beyond experimental proof of the principle in the laboratory (validation) with TRL 4-6. Each project can receive up to EUR 2.5 million.
- EIC Accelerator supports single companies' innovations in later stages of development (TRL 6-9). Each project can receive a grant of up to EUR 2.5 million and additional max. EUR 15 million of equity.

Call for proposals (non-exhaustive list)

Opening date: 20 June 2024

One-stage calls' deadline: 16 October 2024

- HORIZON-EIC-2024-PATHFINDERCHALLENGES-01-01: Solar-to-X devices for the decentralized prosumption of renewable fuels, chemicals and materials as climate change mitigation pathway
- HORIZON-EIC-2024-PATHFINDERCHALLENGES-01-02: Towards cement and concrete as a carbon sink

Support tools

EIC FAQs: overview of the most asked questions from the EIC applicants and beneficiaries.

[28] Technology Readiness Level; for reference please see the scale here.

Advisory services

Reach out to your HE National Contact Point or to Access 2 EIC network supporting EIC applicants

European Institute of Innovation and Technology (EIT)

Total programme budget 2021-2027

EUR **3** billion

EIT funding for EIT Food

EUR 354 mln

Participating countries

+ third countries associated to HE + other third countries

Thematic priorities

- **Urban Mobility**
- Climate Change
- Cultural & Creative Sectors
- Digitisation
- Future of Food
- **Health Innovation**
- **Sustainable Energy**
- Added-Value Manufacturing
- Raw Materials

Call for proposals

The **EIT Urban Mobility** opened a targeted call on August 14 which has a deadline on the 15th October 2024. The call has a budget of EUR 5 million and focuses on the following 4 topics:

- The uptake of hydrogen refuelling
- stations for sustainable urban transport.
- Mitigating non-exhaust pollution stemming from urban transport.
- Achieving Vision Zero and safety for vulnerable urban road user.
- Promoting a competitive and sustainable European cycling industry.

More information is provided here.

The **EIT InnoEnergy** has an open call which will close on 31 December 2024. Seven thematic areas are in the focus of the call. These thematic areas encompass the topics such as “Energy for transport & mobility” and “Smart & efficient buildings and cities”. More information on this call by the EIT InnoEnergy is available here.

Information on calls for proposals published by the EIT and its flagships are available here.

General description

As part of Pillar 3 “Innovative Europe”, the European Institute of Innovation & Technology (EIT) primarily aims to strengthen sustainable innovation ecosystems across Europe, foster the development of entrepreneurial and innovation skills, and bring new solutions to global societal challenges to the market.

It brings together organisations across business, education, and research in order to find and commercialise solutions to pressing global challenges. For each global challenge, there is an ecosystem of partnerships called Knowledge and Innovation Communities (KICs). There are currently nine KICs that operate in the areas of climate change, cultural & creative sectors & industries, digital transformation, sustainable energy, food, health, raw materials, urban mobility and added-value manufacturing.

EIT Urban Mobility

The EIT Urban Mobility aims at boosting the uptake of sustainable mobility. EIT Urban Mobility provides relevant stakeholders such as enterprises, start-ups, research organisations and the public sector with access to new markets, human capital and funding. Thereby, innovative solutions to overcome mobility challenges in European cities are to be developed and implemented. The EIT Urban Mobility encompasses a partnership of more than 250 key organisations and collaborates with a larger network of more than 950 organisations coming from 35 countries.

EIT Health

The EIT Health as a Knowledge and Innovation Community brings together key actors from research, business & education and focuses on innovations in the area of health and aging. Several objectives are pursued by this EIT. First, it aims removing innovation barriers to strengthen healthcare systems in Europe. Second, awareness raising and knowledge sharing to promote the health of citizens. Third, developing health enterprises and innovative products and services to support the health economy in the EU. The EIT Health can draw upon around 120 partner organisations and works with thousands of start-ups to pursue the beforementioned objectives.

EIT InnoEnergy

The EIT InnoEnergy follows the objective of leading the way to the decarbonisation of Europe by 2050. Thereby, the EIT InnoEnergy is focusing on three industrial value chains which include the European Battery Alliance, the European Green Hydrogen Acceleration Center and the European Solar PV Industry Alliance. This EIT encompasses more than 1,200 partners and has supported more than 500 companies and more than 300 products have been launched via the EIT InnoEnergy.

European Innovation Ecosystems (EIE)

Total programme budget 2021-2027

EUR **~527** million

Participating countries

\+ third countries associated to HE

Thematic priorities

CONNECT

INNOVSMES

Call for proposals

- The **Eurostars** funding programme call 7 has been closed on September 12th 2024. Future calls for proposals will be published here
- Two recent **CONNECT** calls were closed in early September. Future calls for proposals will be published here
- A **Innowwide** call for market feasibility projects was opened on 23rd of July 2024 and will be closed on October 15th 2024. Information on the call is provided here

Partner search & networking

Partner search is offered through the call website on the Funding and Tenders portal for each call. Also the national funding body can help you to find project partners by contacting other national funding bodies in Eureka's network (consisting of over 45 member countries).

General description

As part of the Horizon Europe programme, the European Innovation Ecosystems aim at building interconnected, inclusive innovation ecosystems across Europe, encompassing national, regional and local ecosystems, to undertake and achieve collective ambitions towards the benefit of society, including the green, digital, and social transitions. Objectives are based on the New European Innovation Agenda. In this context, one can also mention the Regional Innovation Valleys that were created after a call in 2023.

Types of topics funded

Calls for proposals are divided into two focus areas. The **CONNECT calls** aim at elaborating interconnected European innovation Ecosystems through the existing capacities of national, regional, and local ecosystems. A special characteristic is that capacities and skills should be shared with less-represented actors and territories. In addition, the **European Partnership on Innovative SMEs/EUROSTARS-3** supports innovative SMEs to increase their research and innovation capacity and productivity as well as to access new markets by offering Eurostars and Innowwide funding.

EUROSTARS funding

Eurostars is a funding instrument that supports innovative SMEs and project partners (large companies, universities, research organisations and other types of organisations) by funding international collaborative R&D and innovation projects. **By participating, organisations can**

access public funding for international collaborative R&D projects in all fields. To apply, several criteria must be fulfilled, for instance:

- The project consortium needs to be led by an innovative SME from a Eurostars country[29] and is composed of at least two entities that are independent of one another.
- The project consortium includes entities from at least two Eurostars countries with at least one organisation coming from an EU or Horizon Europe Associated Country[30].
- The budget of the SMEs from the participating countries (excluding any subcontracting) is 50% or more of the total project cost.
- The project duration is 36 months or less.

The amount of funding your organisation receives when you participate in a project is managed by your national funding body.

INNOWWIDE funding

Innowwide provides 6-month grants of EUR 60,000 to assist innovative small and medium-sized enterprises (SMEs) in evaluating the feasibility of their research or business aspirations in global markets. In other words, Innowwide funding could be used to assess whether your local partner (or subcontracted organisation) can cooperate with you in a future international R&D project or to understand whether your product-, process- or service-market combination could be commercialised in selected target market.

Innowwide funding is available only for SMEs in European Union Member States or Iceland, Israel, Norway or Türkiye. However, you are allowed to subcontract to your partner in your selected target country in Africa, the Americas, Asia or Oceania. Subcontracted partners sign a commitment before you submit your project application.

To stay updated on open calls for projects, please follow the Eureka website.

[29] **Eurostars countries:** Austria, Belgium, Bulgaria, Canada, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Singapore, Slovakia, Slovenia, South Africa, South Korea, Spain, Sweden, Switzerland, Türkiye, and the United Kingdom.

[30] **Eurostars countries which are not an EU member state or a Horizon Europe Associated Country**: Canada, South Korea, Singapore, South Africa, Switzerland, and the United Kingdom.

LIFE Programme: close-to-market projects

Total programme budget 2021-2027

EUR **5.4** billion

Participating countries

Three relevant LIFE subprogrammes

- Climate Change Mitigation and Adaptation
- Circular Economy and Quality of Life
- Clean Energy Transition

Call for proposals

Every year the EC publishes LIFE calls for proposals. Applicants for close-to-market projects can apply in both abovementioned areas. An overview of call for proposals in 2024 is provided here

Support tools

- Dedicated page on **support for applicants**
- Materials from **EULife23 INFO DAYS**

Advisory services

Get in touch with your national contact point national contact point for the LIFE programme.

General description

The LIFE Programme is the EU's funding instrument for the environment and climate action. Its close-to-market part supports private and public entities bring their green products, technologies, services, and processes to the market. LIFE close-to-market projects launch innovative, demonstrative solutions e.g., in waste management, the circular economy, resource efficiency, water, air or climate change mitigation. They also need to present a high level of technical and business readiness which means that solutions could be implemented in close-to-market conditions (at industrial or commercial scale) during the course of the project or shortly after its completion.

Relevant topics funded included reductions in CO2 emissions, business coaching as well as up- and reskilling and many more. To get inspired, find more examples of completed close-to-market LIFE projects here.

Joint Cluster Initiatives (Euroclusters) for Europe's recovery as part of the SMP

Total programme budget between 2021-2027

EUR ~42 million

Participating countries

Thematic priorities

- Tourism
- Aerospace & Defence
- Retail
- Digital
- Creative-cultural industry
- Textiles
- Proximity/Social economy
- **Construction**
- Energy-intensive industry
- Electronics
- Agri-food
- Renewable Energy
- **Mobility-Transport**
- **Health**

Call for proposals

The next Eurocluster call is schedule for Q3/Q4 2024 (see also the Work Programme). Upcoming calls for proposals will be published on the Funding & Tenders portal.

General description

As part of the European Single Market Strategy, the Eurocluster call aims at strengthening the resilience of cluster networks within the EU industrial ecosystem through the establishment of value chain interlinkages through European cluster networks. Moreover, the Eurocluster calls foresee to enable cluster organisations to speed up twin transition processes and to improve up- and re-skilling of the skilled workers as well as the increase internationalisation. In September 2022, the first 30 Euroclusters have started their activities.

Types of topics funded

The focus of the Euroclusters projects should be at least on one of the 14 EU Industrial Ecosystems. As part of the open strand, project proposals can include several elements of different EU Industrial Ecosystems (Cross-Innovation).

Target audience

Eurocluster projects focus on supporting cluster organisations and cluster networks. The current 30 Euroclusters offer regularly third-party support for SMEs. Open call opportunities for SMEs can be found here.

Additional information

More information can be found on the dedicated Eurocluster website on the ECCP.

INTERREG Europe

Total programme budget 2021-2027

EUR 379 million

Participating countries

Topics

Smarter Europe

Greener Europe

More connected Europe

More social Europe

Europe closer to citizens

Better regional governance

Call for proposals

Currently, there are no open calls. The third call was closed in June 2024. Next calls for projects can be found on this website.

Support tools

- Online library of project ideas
- The self-assessment tool to verify whether the suggested project idea is relevant to the programme
- A tailored guidance for project development

General description

Interreg Europe is the interregional cooperation programme that aims to reduce disparities in the levels of development, growth, and quality of life in and across Europe's regions. This instrument mainly targets local, regional, and national public authorities, institutions governed by public law (e.g., regional development agencies, business support organisations, universities), private non-profit bodies.

Types of topics funded under Smarter and Greener Europe themes

Smarter Europe:

- Research & innovation capacities
- Digitization
- SME competitiveness
- S3, industry and entrepreneurship
- Digital connectivity

Greener Europe:

- energy efficiency
- renewable energy
- smart energy systems
- circular economy
- climate change

The list of projects approved in the first three call can be found here.

Advice services

Please see a list of national contact points

INTERREG specific programmes

INTERREG has three types of programmes: cross-border, transnational and interregional. From the perspective of cluster organisations, primarily two first ones need to be highlighted. Interreg cross-border cooperation, known as Interreg A, supports cooperation between NUTS 3 regions from at least two different Member States lying directly on the borders or adjacent to them, whereas Interreg transnational cooperation, formerly known as Interreg B, involves regions from numerous countries of the EU in order to promote better cooperation and regional development within the Union by a joint approach to tackle common issues. Both sources of funding could be considered by clusters wherever they are located. In order to find the right programme that covers geographical area of your interest, please visit a dedicated portal with all Interreg programmes.

Due to the fact that C2Lab takes place in France, two Interreg subprogrammes – North-West Europe and Alpine Space - are briefly presented below.

Total programme budget 2021-2027

EUR ~107 million

Participating countries

Thematic priorities

- Climate resilient & green alpine region
- Carbon neutral & resource sensitive alpine region
- Innovation & digitalisation supporting a green alpine region
- Cooperatively managed & developed alpine region

Call for proposals

Calls for proposals are opened every 12 to 18 month. The last call ended in June 2024. Calls for proposal is found here.

Support tools

- Information for applicants with a self-assessment tool, videos, FAQ & partner search
- Project library to learn more about the previously funded ideas.

General description

The Interreg Alpine Space Programme supports cooperation projects among seven Alpine countries. The Programme is aligned with the EUSALP (European Union Strategy for the Alpine Region) and it targets public authorities at local, regional and national levels, business support organisations, higher education institutions, NGOs and associations as the main forces responsible for the structural transition into a more resilient and innovative region. Regarding geographical composition of the project partnerships, only organisations from the countries covered by the EUSALP can be included (please see Programme Manual).

Specific objectives of the thematic priorities

Climate resilient & green alpine region

- Promoting climate change adaptation and disaster risk prevention, and resilience, taking into account eco-system based approaches.
- Enhancing protection and preservation of nature, biodiversity and green infrastructure, including urban areas, and reducing all forms of pollution.

Carbon neutral & resource sensitive alpine region

- Promoting energy efficiency and reducing greenhouse gas emissions.
- Promoting the transition to a circular and resource efficient economy.

Innovation & digitalisation supporting a green alpine region

- Developing and enhancing research and innovation capacities and the uptake of advanced technologies
- Reaping the benefits of digitalisation for citizens, companies, research organisations and public authorities

Cooperatively managed & developed alpine region

Action: Enhance institutional capacity of public authorities and stakeholders to implement macro-regional strategies and sea-basin strategies, as well as other territorial strategies

Partner search & networking

If you seek partners to support your project idea, please check the dedicated partner search platform.

Advisory services

Should you need any further assistance, please see national contact points in the Interreg Alpine Space.

Types of grants

Under this funding scheme **classic** and **small-scale projects** can be financed, involving at least 3 organisations from 3 Programme area countries. **Core projects** (up to 36 months and budget up to EU 3 million) are the primary tool. **Small-scale projects** (max. 18 months and budget up to EUR 750,000) aim at "setting-the-scene" as idea laboratories with high innovative contents.

Total programme budget 2021-2027

EUR ~310 million

Participating countries

Thematic priorities

- Climate and environment
- Energy transition
- Circular Economy
- Innovation and resilience
- Inclusive Society

Call for proposals

Calls 5 of the Interreg North-West Europe is currently open and will close on January 16th 2025. More information on this call can be found here.

All calls for proposals as well as a call calendar are available here.

Support tools

- Guidance for applicants in applying for a project
- Frequently Asked Questions on themes, types of projects and more
- Project library to learn more about the previously funded ideas.

General description

The Interreg North-West Europe programme follows the aim of supporting transnational cooperation thereby promoting green, smart and just transition as well as resilience in the regions of North-West Europe. The programme targets stakeholders from the publica and private sector, universities, research organisations as well as the civil society. The calls for proposal follow a two-step process which involves a light application (step 1) followed by a fill application (Step 2). Please see the Programme Manual for more information.

Sub-topics of the thematic priorities

Climate and environment

- Climate adaptation & disaster risk prevention.
- Nature protection & biodiversity

Energy transition

- Energy efficiency
- Renewable energy

Circular economy

- Circular & resource efficient economy

Innovation & resilience

- Innovation capacities & uptake of technologies

Inclusive society

- Access to employment
- Access to healthcare
- Culture & sustainable tourism

Partner search & networking

The Interreg North-West Europe provides an online community in which users can interact and contact other users across the regions. It allows to contact potential partners for calls of proposals.

Advisory services

Should you need any further assistance, please see national contact points in the Interreg North-West Europe.

Types of grants

According to North-West Europe programme, the programme focuses on funding small-scale projects. However, it is mentioned that the programme is open to all kinds of project sizes. Applicants are to define their number of project partners, budget, scope & duration of the project.

Other intergovernmental and national funding for innovation

Vanguard Initiative / Vinnovate

The Vanguard Initiative, launched in 2014, is a network of 39 European regions (also from Danube Region countries), which is dedicated to **advancing industrial innovation in Europe.** By bringing innovation ecosystems together and sharing knowledge and facilities across its member regions, the Vanguard Initiative facilitates interregional collaboration, fosters interregional innovation investments, strengthens open innovation, and accelerate the introduction and market-uptake of new products and innovations in Europe.

The Vanguard Initiative is currently focused on thematic interregional **Pilot Projects** which have been developed through the active participation of clusters, science parks, research institutes and universities in the member regions. The Pilot Projects aim to speed up the market uptake of innovations in following eight domains:

- advanced manufacturing for energy related applications in harsh environments
- bioeconomy
- efficient and sustainable manufacturing
- high performance production through 3D-printing
- new nano-enabled products
- artificial intelligence
- hydrogen (H2)
- smart health/ personalised medicine

All Pilot Projects are close to the market (> TRL5) and therefore have a high potential for full market deployment in a time span of 3 to 5 years. In order to develop concrete results by the Pilot Projects, a 4-step methodological approach is applied: **learn, connect, demonstrate, commercialise.**

Overview of the Pilot Projects supported by the Vanguard Initiative can be found here.

In this context, one can outline the new initiative Vinnovate which is part of the Vanguard Initiative. This initiative is focused on funding innovative projects that have the objective generating industry-led and strategic interregional projects. A Vinnovate call 2024 has been launched and will support projects at TRL6-8. Projects costs need to be a minimum of EUR 100,000 and projects need to run for at least 36 months. At least one of the eight thematic domains of the Vanguard Pilots need to be addressed by the projects. More information about the Vinnovate application procedure is available here 2024 and on eligible projects is available here.

EUREKA cluster calls

EUREKA is a transnational network consisting of 47 member countries and the European Commission. EUREKA offers support programmes in the context of international R&D activities of companies. In this context, EUREKA also provides funds to mixed large consortia with large companies as part of the EUREKA cluster programme and the EUREKA network projects.

As part of the **EUREKA clusters**, the network offers support for collaboration projects of SMEs, knowledge institutes and end-user organisations for projects in fields such as low-carbon energy and advanced manufacturing. The focus of EUREKA clusters should be on close-to-market community activities. The average project budget is around EUR 6.75 million and calls follow the bottom-up approach. Upcoming calls will be published on the EUREKA website or national partner websites.

Besides the EUREKA cluster calls, the EUREKA Network projects offer funding for R&D projects in international cooperation consortia. The average costs per project are in average around EUR 1.34 million. The final Deadline for the EUREKA Network projects is the 31 December 2025 at 20:00h CET.

05

Turn your project idea into practice: private funds for innovative business

EUROPEAN CLUSTER COLLABORATION PLATFORM

Strengthening the European economy through collaboration

5. Turn your project idea into practice: private funding for innovative businesses

The recently published 2024 edition of the European Innovation Scoreboard shows that as the EU's innovation ecosystems are progressing, global competitors – and China in particular – are catching up quickly. While the EU performs strongly on indicators like doctoral graduates, international scientific co-publications, public sector R&D expenditure, and the share of SMEs introducing product innovations, it is looking more sluggish when it comes to private sector R&D expenditure, public-private co-publications, the collaboration between innovative SMEs and trademark applications.[31] It is therefore **paramount to intensify the utilisation of private sector R&D investments**, public-private research collaboration, innovation collaboration among SMEs and the translation of research into commercially valuable IP rights. Clusters are the right place to make this happen not only since they can promote the use of private funding and provide relevant contacts (e.g., business angel networks), thereby supporting smaller companies in particular, but also established companies that need to be taken to the next level of development.

This chapter will give an overview of private funding opportunities and how they relate to innovation activities. It will thereby focus mainly on the Mobility, Health, and Construction industries and on the French context.

- The first part will then provide an overview of different sources of private funding for innovative businesses in the Mobility, Health, and Construction industries centred on equity and debt financing. It will also point to business support services that help these firms to network and find markets for their products.
- The second part gives a short glimpse on the support coming from the EU for the activities of private financing actors, mostly in the form of co-financing and guarantees through the EIB and EIF.

[31] European Commission (2024): Press release on the 2024 edition of the European Innovation Scoreboard (EIS). https://ec.europa.eu/commission/presscorner/detail/en/ip_24_3666 (last access 28.08.2024); see also Greenacre, Martin; Francica, Eleonora (2024): Innovation report delivers 'wake-up call' for Europe. Science Business. 10.07.2024. https://sciencebusiness.net/news/horizon-europe/innovation-report-delivers-wake-call-europe (last access 28.08.2024)

Overview: Sources of private funding and business support services

Sources of (external) private financing for innovative businesses can be divided into equity and debt. Equity comes in different forms and from different actors. This chapter covers the most important variants for innovative businesses, including venture capital, corporate venture capital, business angels and family offices. Furthermore, debt financing through bank loans is still the by far dominant form of business financing in the European Union and will be covered in the second part of this overview.[33] Finally, the third part gives a short glimpse of available business support services facilitating the acquisition of financing for innovation projects.

Equity financing

Equity financing means to raise capital by selling ownership stakes (equity) in a company to investors. In exchange for their investment, shareholders become partial owners of the business and may receive a portion of its profits or have voting rights in decision-making. There are **different sources of equity financing**, including venture capital firms, corporate venture capital, business angels, as well as family offices.

General market intelligence on private equity and venture capital actors can be consulted at the following sources:

- **InvestEurope**, the European private equity association, provides data and reports on fundraising, investment and divestment from over 1,800 private equity and venture capital firms in Europe.
- **Dealroom**, a market intelligence provider with a focus on European venture capital, monitors startup and venture capital developments and provides reports, briefings and other materials.
- Further recent insights into the European investment landscape can be found in the annual State of European Tech report.
- France Invest, the French investors' association, provides comprehensive information on the French capital market. Its 2023 report shows that the French capital market has withered the global downturn after the Covid boom years rather well.[34]

[33] Hobza, Alexandr et al. (2022): The financing of innovation. Quarterly R&I literature review 2022/Q2. Directorate-General for Research and Innovation. Available under: https://research-and-innovation.ec.europa.eu/system/files/2022-09/ec_rtd_quarterly-ri-review_022022.pdf (last access 28.08.2024).

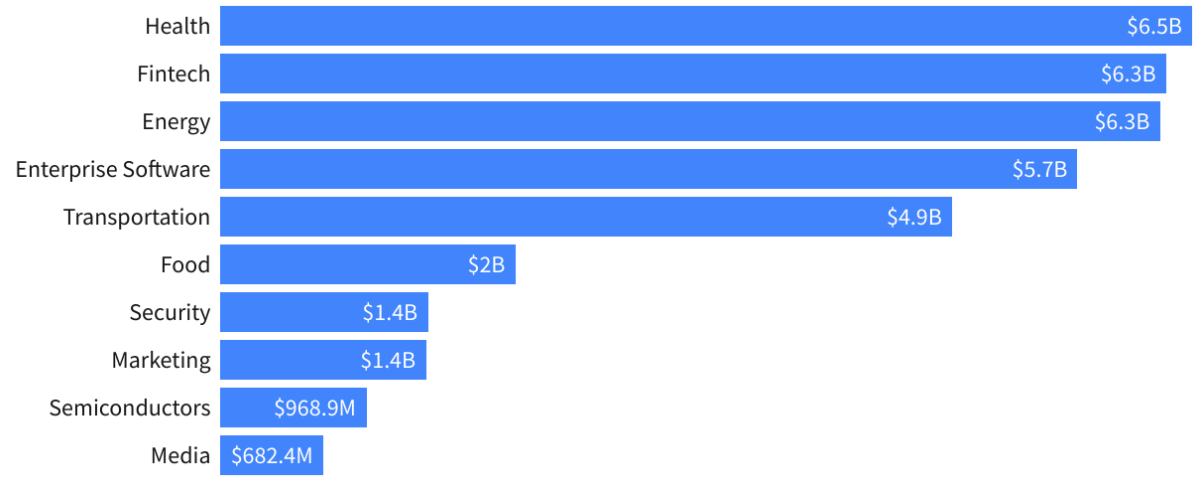
[34] France Invest, Grant Thornton (2024) : Activité des acteurs du capital-investissement français 2023. Mars 2024. Available under: https://www.franceinvest.eu/activite-du-capital-investissement-francais-en-2023/ (last access 28.08.2024).

Venture capital

Venture capital (VC) is generally expected to play a crucial role in the commercialization of innovative technologies and product ideas. VC firms provide early-stage funding to startup companies in exchange for equity in the company, with the goal of generating a return on investment through an eventual exit, such as an initial public offering (IPO) or acquisition by a larger company. VC firms that are focused on specific sectors or innovation ecosystems can also provide valuable support beyond funding, including business strategy guidance, mentorship, and network connections.

Although VC certainly plays its role in financing cleantech innovation, it also comes with some limitations that are worth keeping in mind.[35] Those limitations derive from the typical business model of VC firms which aim for fast growth and high returns. The type of company that suits these expectations best is usually in software or services that are rapidly scalable and come with the promise of market domination and monopoly profits. Recently, however, VC funds are increasingly focussing on deep tech – a development that is actively supported by the European Commission.[36] In general, within each sector, start-ups that focus on scalable technologies are best positioned for VC investment.

Figure 8: Industries by VC investment, Europe, H1 2024



Source: Dealroom

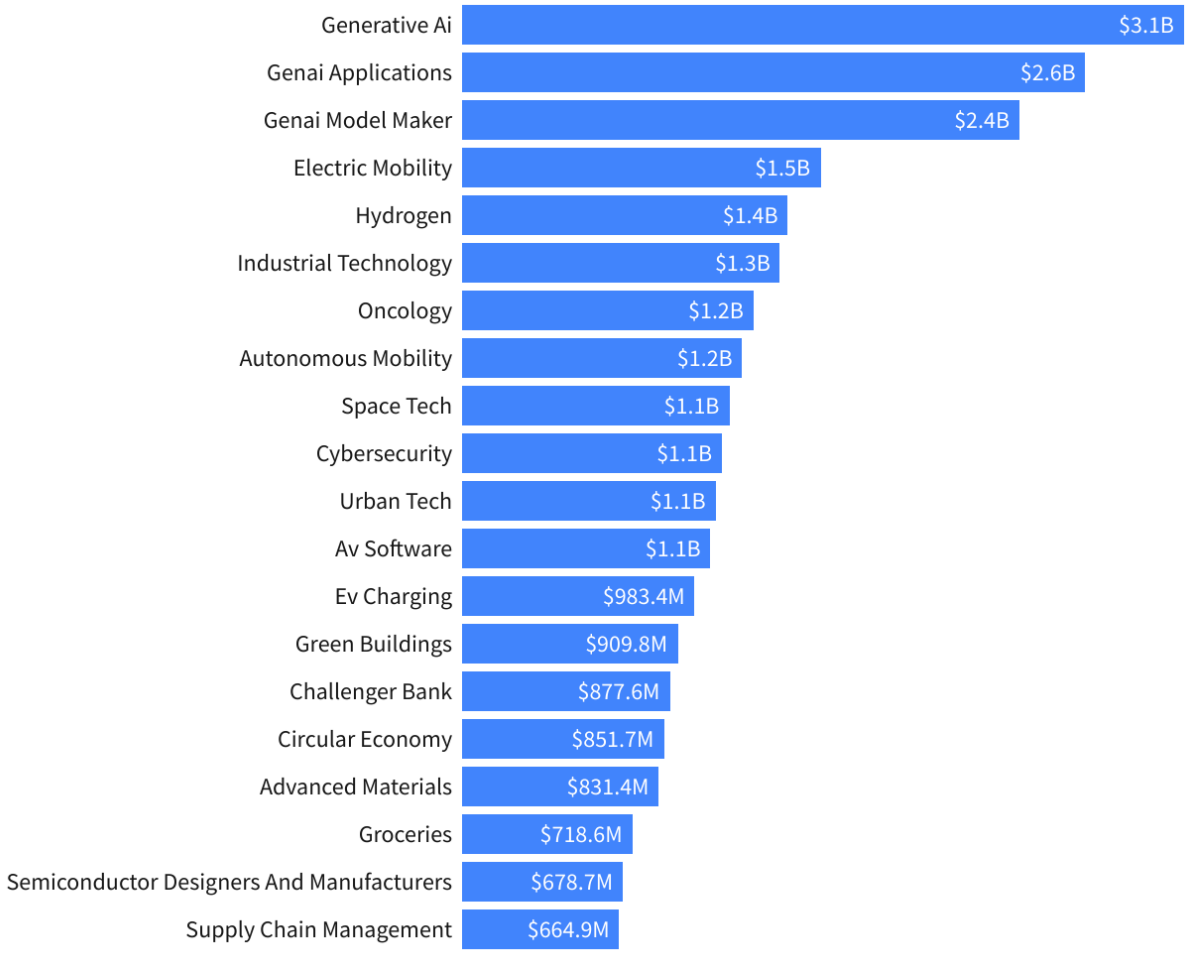
The European VC landscape has been developing dynamically over the last decade, although the size of VC investment flows as a share of GDP is still far behind the US and banks remain the dominant providers of capital for the moment. Within the EU, France has the largest VC market and Paris is the

[35] For a more general evaluation of VC's role in financing innovation, see Lerner. J. & Nanda, R. (2020): Venture Capital's Role in Financing Innovation: What We Know and How Much We Still Need to Learn, Journal of Economic Perspectives, 34:3, 237-61. Available under: https://www.aeaweb.org/articles?id=10.1257/jep.34.3.237 (last access 28.08.2024).
[36] European Commission (2024): Commission announces first steps towards a network of VC investors in deep-tech innovation. Directorate-General for Research and Innovation. Available under: https://research-and-innovation.ec.europa.eu/news/all-research-and-innovation-news/commission-announces-first-steps-towards-network-vc-investors-deep-tech-innovation-2024-06-13_en (last access 27.08.2024).

leading VC city ecosystem.[37] During the first half of 2024, France has solidified its position as the largest national VC market in the European Union.[38]

Figure 8 shows the amount of VC investment per industry for the first half of 2024. While the health sector comes out on top with USD 6.5 billion of investment and transportation ranks fourth with a solid USD 4.9 billion. Construction did not make it in the European top 10 (yet), but the potential in architecture, engineering and construction (AEC) tech is increasingly realised.[39] On the French risk capital market, investment has been strongest in software and information services, green tech, and life sciences.[40]

Figure 9: Technology segments by VC investment, Europe, H1 2024



Source: Dealroom

[37] Dealroom (2024): Europe. Available under: https://dealroom.co/guides/europe (last access 27.08.2024). Data for H1 2024. If non-EU locations are included, France/Paris come second only to the UK/London.
[38] https://www.ey.com/fr_fr/news/2024/07/ey-publie-son-barometre-du-capital-risque-en-france
[39] Blanco, Jose Luis; Rockhill, David; Sanghvi, Aditya; Torres, Alberto (2023): From start-up to scale-up. Accelerating growth in construction technology. McKinsey & Company. Available under: https://www.mckinsey.com/industries/private-capital/our-insights/from-start-up-to-scale-up-accelerating-growth-in-construction-technology (last access 27.08.2024).
[40] See https://www.ey.com/fr_fr/news/2024/07/ey-publie-son-barometre-du-capital-risque-en-france (last access 27.08.2024).

Figure 9 focuses on VC investment in specific technology segments. After the leading segments around the generative AI boom, mobility-related segments including electric mobility, autonomous mobility and urban tech come out strong. Health is represented most significantly by investments into oncological innovation. Construction is strong in green buildings and has stakes in segments such as circular economy and advanced materials.

Corporate Venture Capital

A specific form of VC is provided by established, large companies in the form of corporate venture capital (CVC).[41] CVC therefore is a type of venture capital investment made by established corporations in emerging startups that are seen as strategically relevant to the corporation's core business or long-term growth objectives. CVC is gaining importance across sectors.

- CVC plays a big role in the **Health** innovation ecosystem. Leading pharmaceutical corporations like Roche or Sanofi all operate CVC programmes. Increasingly, CVC is also becoming more prevalent in health tech.[42]
- CVC is becoming more important in the **mobility** sector, providing the sector with resilience as VC investment overall contracts from its pandemic high.[43] Examples include Peugeot Invest and the Siemens Ecosystem.
- CVC is also present in **Construction** through corporate venture arms such as Holcim Maqer Ventures or Hilti Ventures.

Business Angels

Business angels are typically high-net-worth individuals who invest their own capital in startups in exchange for equity or convertible debt and can be an important source of financing in the early stages of a company's development. Beyond financial support, business angels can offer strategic guidance, mentorship and access to their networks which can be critical to overcoming the 'valley of death' and navigating the challenges of developing and commercialising innovative sustainable technologies.

- In France, the Business Angels sector has developed strongly in 2023, especially in refinancing operations. Business Angels are most active in IT, medicals and biotech, and consumer products. The medical and biotech sector has seen the strongest development, nearly doubling its investment volume from 2022 to 2023 (EUR 7.7 million to EUR 12.5 million).[44]
- French Business Angels are organised in the French Federation of Business Angels or France Angels. Its website provides entrepreneurs with a guide on how to get support.

[41] See also Siota, J.; Alunni, A-; Riveros-Chacón, P.; Wilson, M. (2020): Corporate Venturing: Insights for European Leaders in Government, University and Industry. European Commission, Joint Research Centre, Publication Office of the European Union, Luxembourg. Available under: https://publications.jrc.ec.europa.eu/repository/handle/JRC119084 (last access 28.08.2024).
[42] See https://www.halletecco.com/blog/strategic-cvc-healthcare-investors (last access 28.08.2024).
[43] via iD, Dealroom (2024): State of European Mobility Startups 2023. January 2024, p. 3. Available under : https://www.via-id.com/wp-content/uploads/2024/01/European-Mobility-report-2023_-Via-ID-1.pdf (last access 28.08.2024).
[44] France Invest, Grant Thornton (2024). https://www.franceinvest.eu/activite-du-capital-investissement-francais-en-2023/ (last access 28.08.2024).

- On the European level, business angels are organised in the European Business Angels Network (EBAN) and Business Angels Europe.

Family offices

Family offices are entities that manage the wealth of wealthy families. Some family offices invest in startups and venture capital as part of their investment portfolio. The Association Française du Family Office is the industry association in France. In 2023, family offices and physical persons were responsible for 23% of investment capital raised in France.[45]

Debt financing

Debt financing in the form of loans, credit lines or – more recently – quasi-equity is important for businesses that want to scale up their production, modernise and digitalise their structures, or bring new products to the market.

- The most recent round of the Survey on the Access to Finance of Enterprises (SAFE) in the euro areas, conducted by the ECB in May and June 2024 and focussing on SMEs, shows positive developments regarding access to bank loans.[46]
- While borrowing costs were exceptionally high in 2023[47], by mid-2024 European companies enjoy significantly lower borrowing costs over their US competitors.[48] At the same time, European businesses expect the availability of external financing to improve further.[49]
- Under these improving conditions, financing innovation projects through bank loans becomes more feasible again after a difficult phase of rising interest rates.
- Access to bank financing further increases for small firms that receive a public innovation subsidy.[50] (see also Ch. 4 and below on *The role of EU support for private funding*)

[45] Investment capital (infrastructure funds excluded). See France Invest, Grant Thornton (2024), p. 13. https://www.franceinvest.eu/activite-du-capital-investissement-francais-en-2023/ (last access 28.08.2024).
[46] ECB (2024): Survey on the Access to Finance of Enterprises in the euro area. Second quarter of 2024. July 2024. Available under: https://www.ecb.europa.eu/stats/ecb_surveys/safe/html/ecb.safe202407~58a9f48351.en.html (last access 28.08.2024).
[47] Kraemer-Eis, Helmut et al. (2023): The European Small Business Finance Outlook 2023. EIF Research and Market Analysis. Working Paper 2023/96. Available under: https://www.eif.org/news_centre/publications/eif_working_paper_2023_96.pdf (last access 28.08.2024).
[48] Healy, Euan (2024): 'Reverse Yankee' deals boom as Europe's low borrowing costs lure US groups. Financial Times. 17.05.2024. Available under: https://www.ft.com/content/b5260974-be06-4e56-a792-1b07b20de4cc (last access 28.08.2024).
[49] ECP (2024)
[50] Chiappini, Raphael et al. (2022): Can direct innovation subsidies relax SMEs' financial constraints? Research Policy 51:5. Available under: https://www.sciencedirect.com/science/article/abs/pii/S004873332200021X (last access 28.08.2024).

Business support services

Business support services, in a broad sense, for both startups and established SMEs are provided by a variety of actors.

- The European Institute for Innovation and Technology's (EIT) 'communities' focused on 'global challenges', such as EIT Health or EIT Urban Mobility are organising different stakeholders around their innovation ecosystem and regularly collaborate with private investors to organise networking and matchmaking events with startups and young enterprises. EIT officies, community hubs and members can be discovered via the EIT ecosystem map.
- Specific support for startups is offered by EIT Urban Mobility in the form of the Mobility Corporate Venture Builder. It supports entrepreneurs in designing and validating their business case.
- Bpifrance offers extensive business service support for entrepreneurs and companies on how to finance growth and innovation via its online business tools, guides, and knowledge base.
- The French Tech Mission is a unit within the Ministry of the Economy, Finance and Industrial and Digital Sovereignty supporting the development of the French Tech ecosystem of innovative technology start-ups.

The role of EU support for private funding

The **European Union** provides a range of important instruments (see also Ch. 3) to finance innovation, expansion, and modernisation in startups and SMEs. Next to direct grants, loans or – most recently – direct equity investment, a large part of EU funding is earmarked to back up and facilitate private investment.[51] The European Commission also acts to facilitate matching processes and provide information about access to finance.

The European Investment Bank (EIB) is a key financing partner for SMEs and Mid-caps as well as for startups. The EIB supports businesses through loans for on-lending and partial portfolio guarantees to banks, advisory services with a broad range of assistance to urban and regional development. Mid-cap companies can receive direct support for R&D investments. An adjacent line of financing is provided through venture debt for SMEs and Mid-caps developing highly innovative technologies, solutions or platforms. The 2023 report on EIB activities in France shows an expansion of 16% over the year.

The European Investment Fund (EIF) is the EU's provider of risk finance to small and medium-sized enterprises (SMEs). Its main shareholder is the EIB, accompanied by the European Commission, as well as a broad range of public and private banks and financial institutions. It facilitates SMEs' access to finance in cooperation with a wide range of financial intermediaries and backs up banks and guarantee institutions active in SME lending with portfolio and counter-guarantees. Information is available on EIF activities in France as well as the EIF intermediaries in France.

[51] See also https://commission.europa.eu/business-economy-euro/growth-and-investment/financing-investment/financing-programmes-smes_en (last access 27.08.2024).

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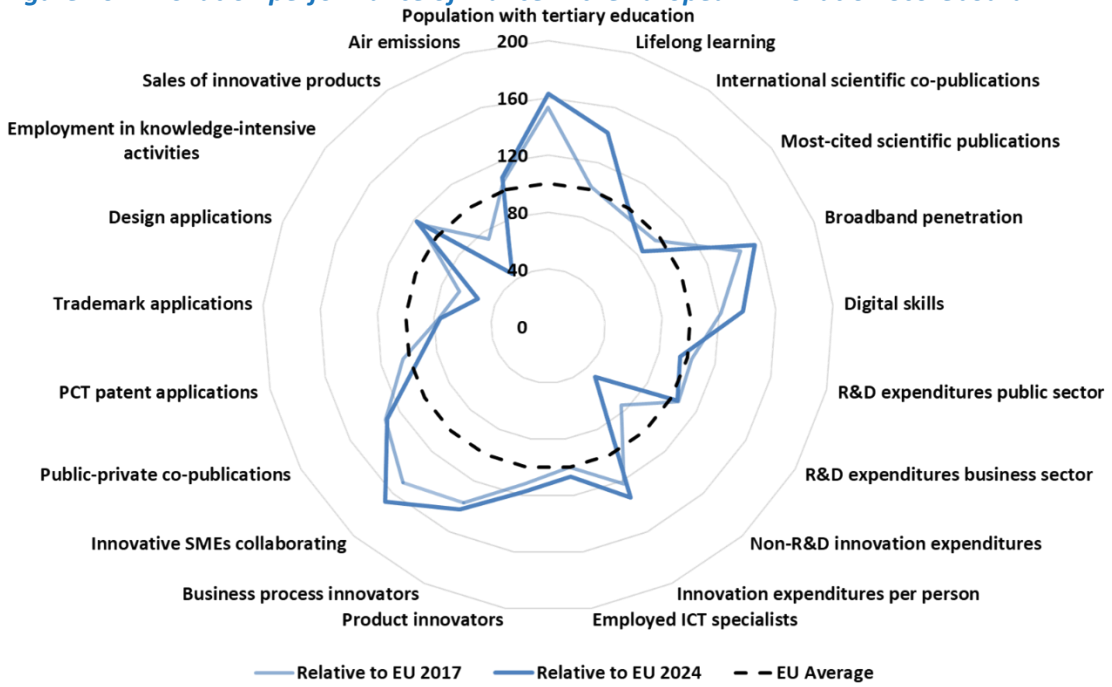
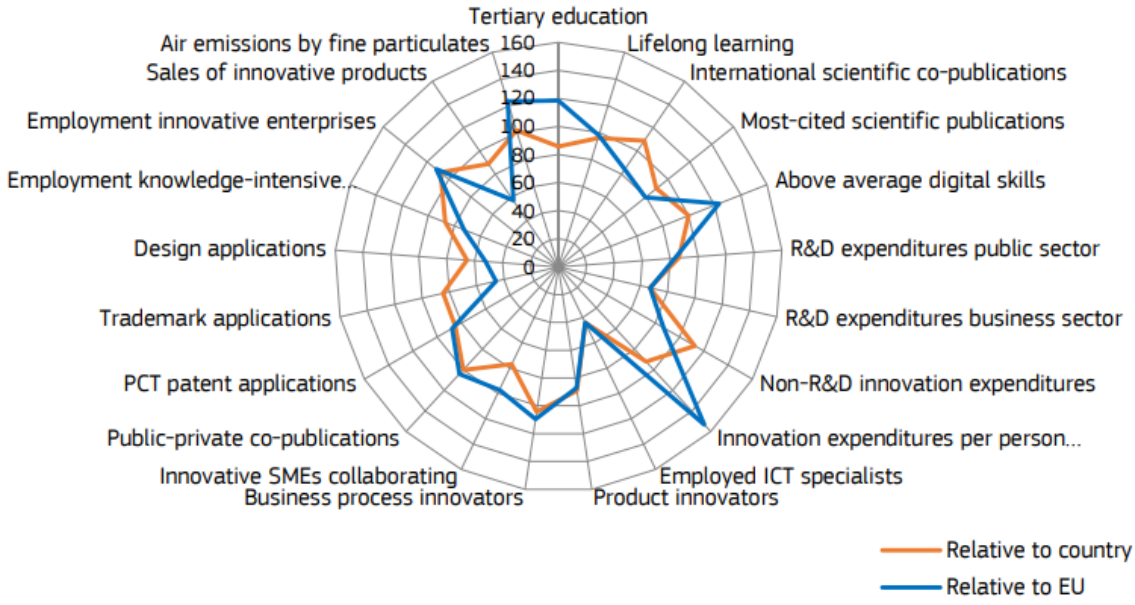
Annex

Figure 10: Innovation performance of France in the European Innovation Scoreboard



Source: ECCP (2024), own elaboration based on the European Innovation Scoreboard 2024.

Figure 11: Innovation performance of Grand Est in the Regional innovation Scoreboard



Source: European Commission (2023): Regional Innovation Scoreboard 2023.

Table 1: ECCP-registered French cluster organisations, by the EU Industrial Ecosystems Mobility-Transport-Automotive, Health and Construction

Mobility-Transport-Automotive:	Health	Construction
• ACD Nouvelle-Aquitaine • AQM NORMANDY • ARIA NORMANDY • Capenergies Association • CARA • CIMES • EMC2 • EuraMaterials • Hauts-de-France Automotive Cluster • ID4CAR • i-Trans • Materalia • Mecanic Vallée • NextMove • NOV@LOG • Photonics Bretagne • Pôle Véhicule du Futur • Riviera Yachting NETWORK • Cluster GAT CARAIBES Logistique et Transports	• Alliance Innovation Santé Nouvelle-Aquitaine • AQM NORMANDY • Atlanpole Biotherapies • Biotech Sante Bretagne • BioValley France • Cluster TIC SANTE • EuraMaterials • Eurasante / Clubster NHL • EUROBIOMED • GENOPOLE • I-Care Cluster • Invivolim • Lyon Auvergne Rhône-Alpes Cancer cluster • LYONBIOPOLE • Materalia • MEDICEN PARIS REGION • Nutrition Health Longevity • POLEPHARMA • VEGEPOLYS VALLEY	• AQM NORMANDY • CIMES • Cluster Eco-Bâtiment • Descartes Sustainable City cluster • EMC2 • EuraMaterials

Source: ECCP (2024)

Table 2: Overview of relevant French S3 priority areas directly linked to the industrial Ecosystem Health, Mobility & Construction

Health		Mobility		Construction	
Region	**Priority area**	**Region**	**Priority area**	**Region**	**Priority area**
Auvergne-Rhône-Alpes	Health sector	Auvergne-Rhône-Alpes	Mobility Sector	Auvergne-Rhône-Alpes	Construction Sector
Brittany	Health and wellbeing for a better quality of life	Burgundy-Franche-Comté	Sustainable, Intelligent & Connected Mobility: Innovative Vehicles	Grand Est	Recycling and functionalization of materials for industry and construction
Burgundy-Franche-Comté	Personalised and Integrated Healthcare	Hauts-de-France	Mobility	Île-de-France	Eco-construction, sustainable and smart city, green and low-carbon energies
Centre-Val de Loire	Pharmaceutical sector: from therapeutic innovation to industrial transformation	Île-de-France	Aeronautics, space, defense, sustainable and smart mobility	New Aquitaine	Sustainable Construction
Grand Est	Medical devices	New Aquitaine	Land Mobility: Automotive, Rail Industries		
	Digital tools for health	Normandy	Decarbonised, safe and efficient new mobility solutions		
	Medical biotechnologies	Occitania	Adapt ports for efficiency, attractiveness, & environmental respect / Promote "smart" and environmentally-friendly boats for various uses		
Hauts-de-France	Health and nutrition	French Guiana	Sustainable operation of the sea & development of maritime activities		

Île-de-France	Health and care	Guadeloupe	Sustainable mobility on land and sea and adapted mobility		
Loire Region	Health and therapies of tomorrow				
New Aquitaine	Health, Silver Economy, Wellbeing				
Normandy	Accelerate synergies and innovation for human and animal health				
Provence-Alpes-Côte d'Azur	Health and silver economy				
Guadeloupe	Demographic transition and health of Guadeloupeans				
Martinique	Development and improvement of health and well-being solutions				

Source: ECCP (2024)

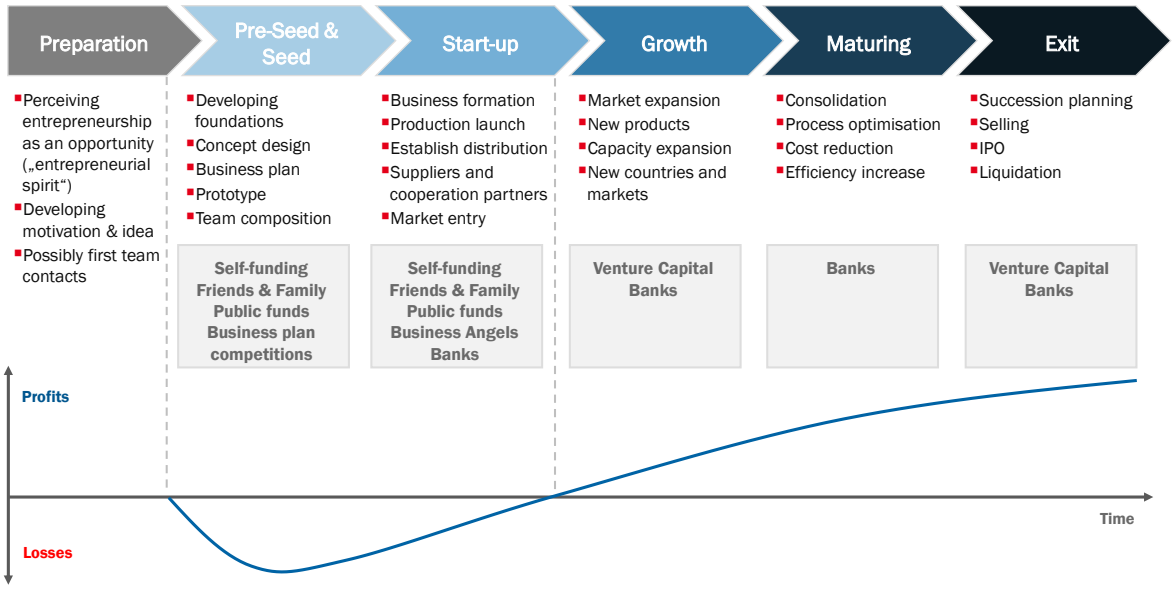
Financing innovation: The European Valley of Death

There is a yawning gap between Europe's world-class research and inventiveness and its sluggish commercialisation of innovation. Startups who aim to develop research output into market products often end up in the figurative "Valley of Death". It describes the lack of early-stage funding that inhibits the translation of European knowledge into marketable goods and services. The result is an estimated 95% of European patents lying idle while the remaining 5% contribute more than 40% to the European GDP in IPR-intensive industries.[52]

The Valley of Death occurs in the stage after initial funding (e.g., from public funds or business angels) ends before institutional investors like banks and venture capital are ready to support the market expansion of proven and market-ready products (see below).

[52] European Patent Office & European Union Intellectual Property Office 2019 and Siota et al. 2020, p. 16.

Figure 12: Start-up life cycle and financing



Source: Own elaboration by Prognos (2024).

The Valley of Death is, however, not only experienced by start-up entrepreneurs but also by SMEs and their partners looking for external funding for innovation projects. Financing an innovation project from the start to its commercialisation is a challenge and it can take multiple interlocking streams of funding – public and private – to deliver it.