

Discussion Report 2

Funding post-2027

Winter Meeting 2024

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Executive summary

This report, prepared for the Winter Meeting 2024, explores scenarios for post-2027 R&I funding. It provides an overview of the current funding landscape, anticipates future scenarios, and outlines an action plan for discussion. The report is important for understanding the evolving funding environment, ensuring preparedness for various potential scenarios, and aligning with EU and national R&I priorities.

Overview of the current funding landscape

The report begins by detailing the European Union's budget structure, focusing on the allocation towards R&I initiatives, including Horizon Europe. It emphasizes the EU's strategic shift towards funding models that align with overarching policies and objectives, a trend towards directionality that is increasingly apparent in Horizon Europe and other EU programs.

Post-2027 funding scenarios

In the heart of the report, three core scenarios for post-2027 funding are explored – Positive, Status Quo, and Negative – each offering a distinct outlook based on potential budgetary changes, Portugal's classification within the EU framework, and shifts in funding instruments. These scenarios provide a foundation for strategic planning and highlight the need for adaptability in response to the dynamic R&I funding landscape. We also add a “likely” scenario which is a mix of the three reference scenarios previously outlined.

Action plan for discussion

The report concludes with an action plan that addresses strategic alignment with EU priorities, reinforces market and industry collaboration, and emphasizes the importance of investing in key infrastructures and institutional capacities. It advocates for active engagement in policymaking, a collaborative approach among INESC institutes, and the development of innovative ecosystems.

Overview of the current funding landscape

The EU budget structure and rationale

The European Union's budget, amounting to €2.018 trillion, reflects the Union's commitment to its strategic objectives across various policy areas (Figure 1). The budget structure is multifaceted, with allocations for policies including Single Market, Innovation and Digital; Cohesion, Resilience and Values; Natural Resources and Environment; and others.

Policies funded by the EU budget

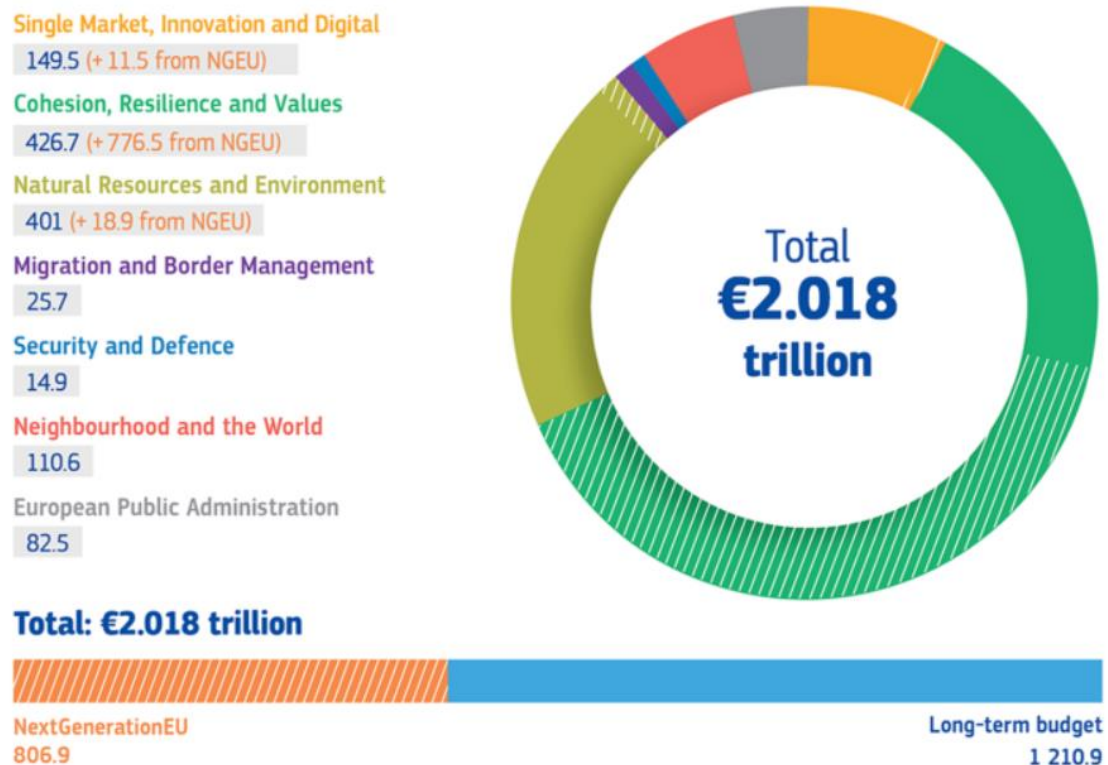


Figure 1¹

Historically, the EU budget has evolved significantly, with the Multiannual Financial Frameworks (MFF) demonstrating a marked shift in priorities. The allocation for the Common Agricultural Policy (CAP) has been on a declining trajectory, once a mainstay of the EU budget, to make way for new and reinforced priorities. This change towards modernization is evidenced by the growing share for sectors like research and innovation, digital transformation, and climate change mitigation, as depicted in Figure 2.

The concept of "directionality" is central to this evolution, marking a political shift towards aligning funding with EU policies. This shift commenced notably with Horizon 2020 and was hinted at during the latter half of the Seventh Framework Programme (FP7). As detailed in the Discussion Report 1 "Charting INESC's Future in EU Research Funding and Positioning," directionality reflects the EU's strategic intent to direct investments.

¹ Source: [European Commission](#)

Share of the main policy areas in the Multiannual Financial Frameworks:

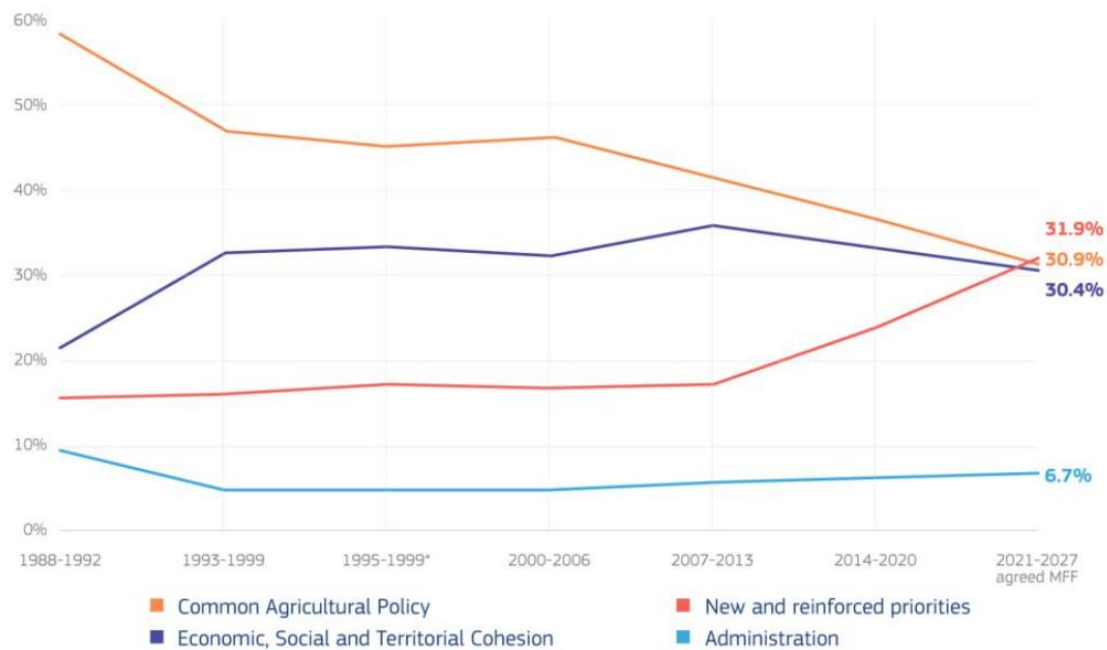


Figure 2²

The trend towards directionality, starting from FP7 and becoming more evident in H2020 and Horizon Europe, signifies a deliberate political maneuver to align funding with overarching EU policies.

Within the MFF, Heading 1 (Single Marker, innovation and digital) stands out as the main heading for R&I investments, receiving a significant budget of €149.5 billion, with €11.5 billion contributed by NextGenerationEU (Figure 3). This heading predominantly channels funds into Horizon Europe and other research and innovation-centric initiatives. The budget for Horizon Europe alone is €93.72 billion.

The increased directionality in the EU's budget allocation is clear, as it opts for a programmatic approach where major goals are set, and consortia compete to achieve them. This new strategy means to valorize incremental knowledge across Pillar 2 and 3 type instruments and demands robust collaboration across various sectors, from academia to industry.

The EU budget's growing allocation for research and innovation reaffirms the Union's strategic reorientation towards a tech-based solutions for societal problems and relates to other concepts and goals, such as increased resilience and strategic autonomy, meaning capacity to face challenges on our own, as a Union. The trend towards directionality already shows a long-standing track-record. For entities like INESC, this presents both a challenge and an opportunity to navigate the evolving funding landscape, necessitating adaptive strategies and proactive engagement with EU policy-making.

² Source: [European Commission](#)

Heading 1 - Single market, innovation and digital Policy clusters	2021-2027 MFF	2021-2023 NGEU	Total MFF & NGEU	Top-ups (Article 5 of the MFF Regulation)*
1. Single market, innovation and digital	149 512	11 486	160 998	5 703*
1. Research and innovation	93 720	5 412	99 132	4 562*
Horizon Europe	86 123	5 412	91 535	4 562*
Euratom research and training programme	1 981		1 981	
International Thermonuclear Experimental Reactor (ITER)	5 614		5 614	
Other	2		2	
2. European strategic investments	32 978	6 074	39 052	1 141*
Invest EU Fund	3 068	6 074	9 142	1 141*
Connecting Europe Facility - Transport	12 830		12 830	
Connecting Europe Facility - Energy	5 838		5 838	
Connecting Europe Facility - Digital	2 065		2 065	
Digital Europe	7 588		7 588	
Other	165		165	
Decentralised agencies	1 424		1 424	
3. Single market	6 604		6 604	
Single market programme	4 208		4 208	
EU anti-fraud programme	181		181	
Cooperation in the field of taxation (FISCALIS)	269		269	
Cooperation in the field of customs (CUSTOMS)	950		950	
Other	72		72	
Decentralised agencies	915		915	
4. Space	15 152		15 152	
European space programme	14 880		14 880	
Decentralised agencies	272		272	
Margin	1 059		1 059	

Figure 3: Heading 1: Single market, innovation and digital: the 2021-2027 MFF and NGEU (commitments, current prices, € million)³

Horizon Europe

This section explores the structure of Horizon Europe, elucidating the strategic allocation of grants, the significance of infrastructure, and the emphasis on fostering synergies. The discourse surrounding the distribution of funds reflects a broader dialogue on the balance between foundational research and targeted innovation, setting a precedent for the future direction of European research initiatives.

Through the programme, the European Commission provides grants, prizes, and procurement to excellent researchers to promote their activities. It also provides funding to initiatives focused on developing research infrastructure and fostering mobility within the EU. Lastly, it supports partnerships between Member States, industry, and other stakeholders to work jointly on research and innovation.

Horizon Europe typically funds research and innovation projects tackling societal challenges with an emphasis on EU industrial leadership, recovery, and the green and digital transitions.

³ Source: European Parliamentary Research Service [Briefing 2021-2027 MFF](#)

The Horizon Europe Regulation establishes a range of **targets** with respect to the use of the budget:

- 1) 35 % of the budget contributes to climate objectives.
- 2) There is a substantial increase of spending in main digital research and innovation activities compared to Horizon 2020.
- 3) 70 % of the budget of the European Innovation Council is allocated to small and medium-sized enterprises.
- 4) At least 3.3 % of the budget is committed to the programme part dedicated to widening participation and spreading excellence.
- 5) Investment in space is commensurate with that under Horizon 2020.
- 6) The participation of industry in the actions should be supported at levels at least commensurate with those under Horizon 2020.
- 7) The budget should contribute to the overall ambition of providing 7.5 % of annual spending under the MFF to biodiversity objectives in 2024, and 10 % of annual spending under the MFF to biodiversity objectives in 2026 and 2027.

The budget is divided amongst **four pillars and 15 components** to create a programme that supports all the areas of research and innovation. The budget below was elaborated based on prices of 2021, so there are slight changes to the original budget. Moreover, some changes and captivations of parts of the budget to address COVID-19 and other political priorities have had an effect in the budget of certain areas of the programme.

HORIZON EUROPE BUDGET		Total
Horizon Europe programme structure		in € million
	EXCELLENT SCIENCE <i>of which</i>	25 011
	The European Research Council (ERC)	16 004
	Marie Skłodowska-Curie Actions (MSCA)	6 602
	Research infrastructures	2 406
	GLOBAL CHALLENGES AND EUROPEAN INDUSTRIAL COMPETITIVENESS <i>of which</i>	53 516
	Health	8 246
	Culture, creativity and inclusive society	2 280
	Civil Security for Society	1 596
	Digital, Industry and Space	15 349
	Climate, Energy and Mobility	15 123
	Food, Bioeconomy, Natural Resources, Agriculture and Environment	8 952
	Non-nuclear direct actions of the Joint Research Centre (JRC)	1 970
	INNOVATIVE EUROPE <i>of which</i>	13 597
	European Innovation Council (EIC)	10 105
	European innovation ecosystems	527
	European Institute of Innovation and Technology (EIT)	2 965
	WIDENING PARTICIPATION & STRENGTHENING THE EUROPEAN RESEARCH AREA <i>of which</i>	3 393
	Widening participation and spreading excellence	2 955
	Reforming and enhancing the European R&I System	438

Figure 4⁴

⁴ Source: [European Commission](#)

The **selection of projects to fund** is mainly done through open calls for proposals; projects are selected according to their level of excellence, their impact and the quality and efficiency of implementation that they can guarantee. There is no fixed distribution by country or region. The programme is administered by the European Commission, its executive agencies, and a range of legal entities established as EU bodies. Whilst **grants** under pillars 1 and 3 are mostly to one beneficiary (monobeneficiary schemes), grants under pillar 2 are mostly to a transnational consortium of beneficiaries, thus ensuring that researchers and research organisations from different countries collaborate with each other.

The following **types of actions** are supported: networking and coordination; research; innovation; pilot actions; market deployment actions; training and mobility actions; dissemination and exploitation of results.

Horizon Europe incorporates **research and innovation missions** to increase the effectiveness of funding by pursuing clearly defined targets. Five missions have been identified:

- Adaptation to climate change mission
- Climate-neutral and smart cities mission
- Cancer mission
- Soil deal for Europe mission
- Restore our oceans and waters mission.

Mandatory **open access to publications and open science principles** are applied throughout the Horizon Europe programme. Horizon Europe supports **European partnerships** in which the EU, national authorities and/or the private sector jointly commit to supporting the development and implementation of a research and innovation programme.

Current funding structure and trends in Horizon Europe and towards FP10

The HE program has been structured to address key trends and potential changes within the R&I landscape. A discernible shift towards directionality in funding is anticipated, with an emphasis on instruments that drive knowledge valorization and adopt a value-chain approach. Initiatives such as the ERC are expected to be maintained or even strengthened, while instruments like those under the EIC and pillars 2 and 3 in general are likely to be reinforced.

The debate on research focus

The Horizon Europe discourse is marked by a dichotomy between proponents of bottom-up, fundamental research and advocates for targeted, application-oriented research. This rift manifests in the strong positions adopted by various European Research Area (ERA) stakeholders. A) **academia and fundamental research labs**: defend fundamental research, advocating for open calls and the preservation of the ERC as a bastion for free exploration. B) **Research and Technology Organizations (RTOs), industry, public administration, and NGOs**: This group often aligns with applied research models, evident in their support for PPPs and Pillar 2 of HE, as well as the EIC and European Institute of Innovation and Technology (EIT).

Infrastructures

A notable tension exists between technology infrastructures and research infrastructures within the EU funding apparatus. This reflects differing priorities and competing objectives of various directorates within the DG RTD. This is an added and evident example of the rift between basic vs applied discussion that dominates part of the discourse in Brussels.

Political and administrative influences

Recent public appearances and statements by Director General Marc Lemaitre suggest a strong inclination towards applied research, seeking to establish synergies across funding instruments and even across different DGs. Given the current political and economic climate, such a stance is likely to shape the orientation of the forthcoming framework programme, FP10.

The potential shape of FP10

FP10 is expected to enhance the EU's directionality in research, building on collaborative models that bring together different Directorate-Generals (DGs), such as the partnership between DG RTD and DG SANTE in the EU4Health program. Inspired by the DARPA model in the US, FP10 may adopt a more "managed" approach to topic selection, emphasizing the importance of tackling complex societal challenges through comprehensive and multi-stakeholder initiatives.

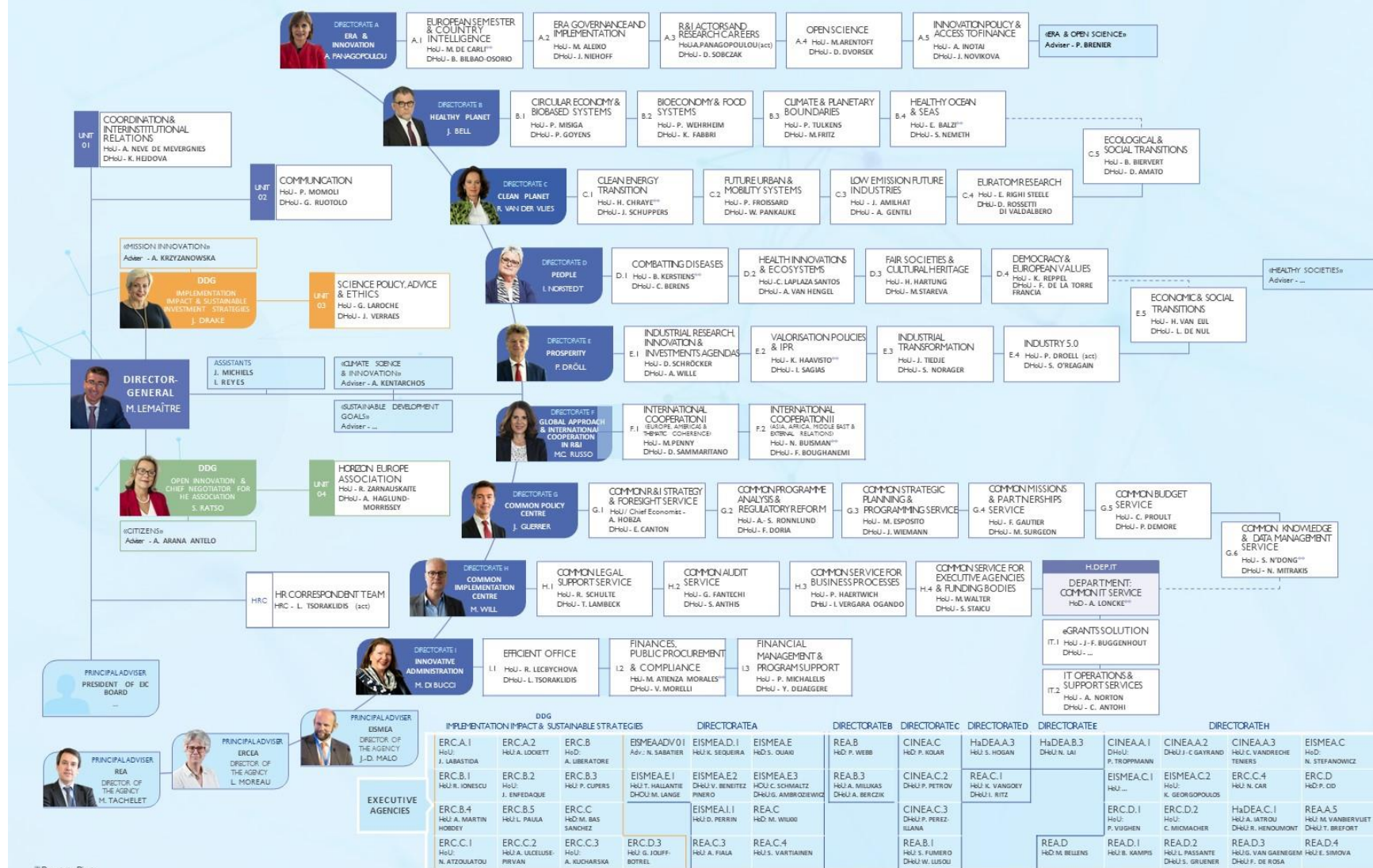
The future of consortium and mission-oriented research

Contrary to perceived incompatibilities, a non-prescriptive approach to research is not inherently at odds with addressing concrete societal challenges. The design of the program and the evolving trend towards larger consortiums may lead to this. An additional likely outcome is the inclusion of complex issues within the ambit of EU PPPs. New PPPs in underrepresented domains are to emerge, responding to the need for industry-aligned, multi-stakeholder consortiums.

Reflections for INESC

For INESC, the evolving discourse presents a critical juncture to reassess strategies. While ERC's role as a cornerstone for fundamental research is reaffirmed, the broader Framework Programme is likely to deepen its directionality. It is imperative for INESC to recognize that the evolving size and composition of consortiums may offer new avenues for engaging with complex, mission-oriented EU PPPs. Such an understanding is crucial for aligning with the EU's R&I trajectory and ensuring that INESC's objectives resonate with the emerging trends.

DIRECTORATE-GENERAL RESEARCH & INNOVATION



Recovery and Resilience Plan

The Recovery and Resilience Plan (RRP) is an initiative at the heart of the European Union's strategy to foster a strong and inclusive recovery from the COVID-19 pandemic. With a focus on promoting digital transformation, ecological transition, and enhancing resilience, the RRP serves as a roadmap for sustainable growth and cohesion among member states.

The Recovery and Resilience Facility (RRF) is the principal instrument within the RRP, providing a substantial financial package of €672.5 billion in grants and loans to support reform and investment efforts across the EU. This package aims to address the economic and social impacts of the pandemic while ensuring that member states are better equipped to face future challenges.

Portugal's progress and challenges within the RRP

Portugal has been at the forefront of implementing the RRP, being among the first countries to have its recovery and resilience plan approved by the European Commission. However, recent assessments suggest that Portugal needs to accelerate the implementation of its plan while enhancing administrative capacity to manage the scope of the RRP effectively. Despite being one of the few countries to submit the next phase of the REPowerEU chapter on time, a discrepancy in loan requests was noted, with Portugal requesting €3.2 billion against an initial communication of up to €11.5 billion.

The European Commission's recommendations underscore the need for Portugal to expedite the execution of its RRP and cohesion policy programs. The commission highlights the necessity for close complementarity and synergy between these two mechanisms to ensure a swift recovery process.

Portugal's RRP and innovation landscape

Despite improvements, Portugal's research and development intensity remains below the EU average. To bridge this gap, the RRP includes measures to promote public-private R&I projects, such as the establishment of new collaborative laboratories and the expansion of technology centers. The recent selection of 53 "mobilising agendas" for an investment of over EUR 3 billion exemplifies the plan's commitment to advancing a wide range of fields.

The RRP also aims to hasten Portugal's digital transition, addressing areas where the country shows promise, such as fixed digital infrastructure and AI utilization in enterprises, while also confronting challenges like the low digitalization among local SMEs. Portugal has embarked on numerous digital initiatives, including the digitalisation of public services, adult education, cultural institutions, and the private sector.

As Portugal continues to roll out its RRP, it is imperative to address the identified risks of delays and capitalize on the plan's potential to significantly enhance the nation's research and innovation landscape. The RRP not only aims to catalyze Portugal's recovery but also to position it as a resilient and forward-looking economy within the EU.

Critical assessment of the Recovery and Resilience Plan's impact on INESC institutes

The Recovery and Resilience Plan (RRP) has been a catalyst in reshaping the R&I funding landscape within the European Union. For INESC institutes, the plan has not only bolstered capacity but has also introduced new dynamics that necessitate a strategic approach to sustain and direct growth.

Impact on INESC institutes

The influx of funding through the RRP has led to a significant expansion in research activities at INESC institutes. This financial boost has enabled the institutes to pursue ambitious projects aligned with EU priorities, such as digital transformation and the green transition. However, this rapid expansion has brought with it the dual challenge of recruiting qualified human resources and efficiently executing allocated resources.

The need for skilled personnel to drive forward the RRP-funded initiatives has put pressure on the job market. INESC institutes have had to compete for talent in a landscape where demand often outstrips supply, potentially leading to a surge in operational costs. Moreover, the urgency to deploy RRP funds within the stipulated timeframe has required institutes to adapt swiftly, scale operations, and manage an increased project load effectively.

Sustainability and future preparedness

While the current level of activity is promising, it raises critical questions about sustainability post-RRP funding. Below are some questions for consideration:

- 1) **Long-term strategic vision:** How can we leverage the current funding to build a resilient foundation that outlives the RRP's financial support? A long-term strategy that frames these activities in each INESC institutes strategy and contributes to the needed capacity building for increased competitiveness at international level, namely in Europe.
- 2) **Human resources strategy:** What measures can we implement to retain the talented researchers and staff attracted by the RRP funding? Developing a clear career progression pathway and fostering a collaborative culture are essential in this regard.
- 3) **Project execution and management:** How can we ensure that the increased project load does not compromise the quality of research? Instituting robust project management practices and ensuring scalability must be a priority.
- 4) **Diversification of funding sources:** How can INESC institutes diversify their funding streams to mitigate the risks associated with the potential decline in RRP funding? Exploring private sector partnerships, competitive EU grants, and other international funding opportunities could be key.
- 5) **Contribution to EU, national and regional priorities:** Are the research initiatives aligned with not only current but also future EU, national and regional R&I priorities? Are there other blockages at the level of access to funding that we can already identify and work on? It's imperative to steer projects towards areas that will continue to be at the forefront of EU policy and actively participate in agenda-setting, simplification and clarification activities at all levels of implementation.
- 6) **Evaluation and impact analysis:** How will the institutes measure the impact of RRP-funded research? Developing metrics to assess the contribution to societal challenges and policy objectives is vital for demonstrating value and securing future funding.

The RRP presents a unique opportunity for INESC institutes to advance their R&I agendas. However, it also demands a forward-looking and critical approach to management. As we approach the twilight of RRP funding, the choices made today will determine the institutes' ability to maintain momentum and contribute meaningfully to Europe's and Portuguese recovery and resilience. The senior management must act with foresight, ensuring that the current expansion translates into sustainable growth and enduring impact.

Structural Funds

The term "Structural Funds" typically refers to the European Regional Development Fund (ERDF), a crucial element of the EU's cohesion policy. Established in 1975, the ERDF aims to reduce disparities across European regions and enhance living standards, particularly in areas facing significant natural or demographic challenges. The fund supports regions in their socio-economic development, focusing on innovation, environmental sustainability, and social inclusion.

The 2021-2027 Cohesion Policy Framework

For the 2021-2027 period, the cohesion policy includes five policy objectives (POs) for the ERDF:

- 1) **A Smarter Europe (PO1):** Fostering innovative and smart economic transformation.
- 2) **A Greener, Low-Carbon Europe (PO2):** Transitioning towards a net-zero carbon economy.
- 3) **A More Connected Europe (PO3):** Enhancing mobility and regional ICT connectivity.
- 4) **A More Social Europe (PO4):** Implementing the European Pillar of Social Rights.
- 5) **A Europe Closer to Citizens (PO5):** Promoting sustainable development in urban, rural, and coastal areas through local initiatives.

Each region and Member State is mandated to allocate at least 30% of their ERDF funds to PO2 and concentrate spending on PO1 based on their level of development:

- Less developed regions or Member States: Minimum of 25% to PO1.
- Transition regions or Member States: Minimum of 40% to PO1.
- More developed regions or Member States: Minimum of 85% to PO1 and PO2 combined.

Furthermore, at least 8% of the ERDF resources at the national level are earmarked for sustainable urban development, including the creation of the European Urban Initiative.

Smart Specialisation and Its growing influence

Smart specialisation plays a critical role in the allocation of Structural Funds, guiding regions to identify and develop their unique strengths and capacities. This strategy is increasingly influential in directing funding towards R&I initiatives that align with regional competencies and EU-wide objectives. The emphasis on smart specialisation underscores a trend towards increased directionality in EU funding, where investments are strategically oriented towards areas of competitive advantage and societal need.

Synergies between cohesion funds and R&I Framework Programme funding

The "Common Provisions Regulation" approved in 2020 and amended in 2021 has simplified the framework for synergies between cohesion funds and R&I framework programme funding. This regulation facilitates the combined use of funds from different sources, promoting an integrated approach to regional development.

The Stairway to Excellence (S2E) project

The S2E project⁵, executed by the JRC and DG-REGIO, exemplifies efforts to enhance synergies and close the innovation gap across EU regions. This project assists Member States in:

⁵ [Stairway to Excellence project](#)

- Developing synergies between European Structural and Investment Funds (ESIF), Horizon 2020, and other EU funding programmes.
- Promoting excellence in all regions and EU countries.
- Fostering effective implementation of national and regional Smart Specialisation Strategies.

Interregional Innovation Investments (I3) instrument

The Interregional Innovation Investments (I3) instrument represents a significant step forward in the European Union's efforts to stimulate innovation and enhance regional economic development. This instrument is designed to bolster interregional cooperation, particularly focusing on strengthening Europe's industrial competitiveness and fostering sustainable growth.

The I3 instrument is part of the ERDF, and it specifically targets the enhancement of regional innovation capacities. The primary objectives of the I3 instrument include:

1. **Promoting interregional collaboration:** The I3 instrument facilitates the collaboration between regions across the EU, encouraging them to share knowledge, expertise, and best practices. This approach aims to create a more cohesive and innovative European economy.
2. **Focusing on Smart Specialisation Strategies:** Central to the I3 instrument is the concept of 'smart specialisation'. As we have seen above, smart specialisation encourages regions to identify and develop their unique strengths and competitive advantages.
3. **Supporting sustainable and inclusive growth:** The instrument aims to promote growth that is both sustainable and inclusive. This means not only fostering economic development but also ensuring that such development benefits a wide range of stakeholders and contributes to the broader social and environmental goals of the EU.
4. **Enhancing industrial competitiveness:** A key aspect of the I3 instrument is its focus on enhancing the competitiveness of European industries. This is achieved through support for innovation in key sectors, as well as by encouraging the adoption of new technologies and business models.
5. **Facilitating access to funding and expertise:** The I3 instrument provides regions with access to funding and expertise, enabling them to develop and implement high-impact innovation projects. This support is crucial for regions that may lack the resources to fully realise their innovation potential.

In terms of funding allocation, the I3 instrument supports a range of activities, including the development of joint projects, sharing of infrastructure, and exchange of personnel among participating regions. It encourages collaboration not just between regions with similar levels of development but also between more and less developed regions, thus contributing to the overall cohesion within the EU.

For INESC institutes, the I3 instrument offers an opportunity to engage in trans-regional projects, expand their innovation networks, and access new funding streams. It presents a chance to collaborate on a broader scale, align with EU priorities, and contribute to regional development through research and innovation activities.

Vnnovate: Example of interregional innovation under the I3 instrument

Following the introduction of the Interregional Innovation Investments (I3) instrument, a novel and ambitious initiative named Vnnovate has emerged, exemplifying the practical application and impact of this EU funding mechanism. Vnnovate, spearheaded by the Vanguard Initiative, marks a significant stride in fostering interregional collaboration and innovation across Europe.

The Vanguard Initiative, a consortium of regions dedicated to industrial innovation, has been instrumental in the conception and development of Vnnovate. This initiative serves as a practical embodiment of the I3 instrument's objectives, focusing on driving innovation through interregional cooperation and smart specialisation strategies.

Vnnovate facilitates the sharing of knowledge, resources, and expertise among participating regions. It aims to stimulate economic growth and competitiveness by leveraging the unique strengths and capabilities of each region. This approach aligns with the overarching goal of the I3 instrument to enhance Europe's innovation landscape through collaborative efforts.

INESC TEC has played a pivotal role in bringing Vnnovate to fruition. Notably, José Carlos Caldeira, a Board Member of INESC TEC and Task Group Lead of the VI co-funding and financing Task Group at the Vanguard Initiative, has been instrumental in guiding the initiative's strategic direction. His expertise and leadership have been crucial in aligning Vnnovate with the broader objectives of the I3 instrument and ensuring its successful implementation.

Implications for Portugal in the Post-2027 period: Transitioning beyond structural funds

As Portugal approaches the post-2027 period, a significant transition in the landscape of Structural Funds is anticipated, which could profoundly impact the country's research and innovation (R&I) ecosystem. This transition, marked by potential reductions in Structural Fund allocations, presents both challenges and opportunities for Portugal, including its research institutions like INESC.

Anticipated changes in structural fund allocations

Shift in status as a widening country: Portugal's potential transition from a 'widening country' to a more developed status within the EU framework could lead to decreased allocations of Structural Funds. This change would result in reduced financial support for R&I initiatives.

Regional reclassification risks: The possibility of some regions in Portugal moving from 'follower' or 'developing' categories to more developed statuses could further impact the distribution of funds. This reclassification could lead to a decrease in targeted funding for these regions, necessitating a strategic reassessment of R&I priorities and funding mechanisms.

Adjustments in overall funding and co-funding rates: Across all Portuguese regions, there is a risk of a general reduction in the amount and co-funding rates of Structural Funds. This potential decrease would require a more strategic allocation of available resources and an increased emphasis on funding efficiency and impact.

Strategic implications and responses

- 1) **Diversification of Funding Sources:** The expected reduction in Structural Funds necessitates a diversification of funding sources for R&I activities. Portuguese institutions, including INESC, must prepare for and further bet on alternative funding avenues, such as private investments and EU grants and partnerships, to sustain their research endeavors.

- 2) **Enhanced collaboration and networking:** To mitigate the impact of reduced Structural Funds, fostering stronger national and international collaborations becomes imperative. This approach would enable the pooling of resources, sharing of expertise, and access to broader funding opportunities.
- 3) **Focus on high-impact research:** Prioritizing research projects with high potential for societal and economic impact can maximize the value derived from limited funding. Emphasizing projects that align with EU-wide objectives, such as digital and green transitions, can also attract alternative funding sources.
- 4) **Adapting to policy shifts and emerging trends:** Staying abreast of policy shifts and emerging trends within the EU and global R&I landscapes will be crucial. This awareness will allow Portuguese institutions to strategically position themselves in areas likely to receive continued or increased funding support.
- 5) **Building administrative and operational resilience:** Strengthening administrative and operational capacities to efficiently manage reduced funding and maximize outcomes will be essential. This includes enhancing project management capabilities, fostering agility in research focus, and ensuring effective utilization of resources.

Key trends in funding policy

As the EU evolves in its approach to R&I funding, several core principles are shaping discussions and trends in funding policy. Understanding these principles is crucial for INESC and other research institutions to effectively navigate and leverage upcoming opportunities.

Implications of increased directionality

The EU is leaning towards a more managed approach, where significant policy-led R&I goals are established, and multiple methods to achieve them are explored. This leads to increased competition for funding among consortiums that go far beyond scientific quality, requiring strategic alignment with EU objectives and deeper *intelligence* and networking. This shift is evident in Horizon Europe.

Incremental knowledge valorization

Across Pillar 2 and 3 type instruments in Horizon Europe, there is an increasing emphasis on valorizing incremental knowledge. This approach requires projects to not only pursue innovative research but also to demonstrate practical applications and potential market impacts.

Ecosystems approach

The EU is fostering an ecosystems approach, demanding robust collaboration between various sectors, including academia, research and technology organizations (RTOs), and industry. This holistic view ensures a linear progression from knowledge production to its circulation, valorization, and eventual market uptake.

Funding focus

Funding is increasingly focused on the type of “service” provided, regardless of the type of entity involved. This means that both academic and industry-led research can compete on equal footing, provided they align with EU goals and demonstrate impact.

Simplification and Lump-Sum grants

The EU is incrementally adopting lump-sum type grants, leading to radical changes in project structure and post-award processes. This simplification aims to reduce administrative burdens and streamline funding allocation but requires adjusting the strategy and design of a winning project proposal.

Synergies across programs and regions

Enhanced synergies between different funding programmes and instruments are being sought. This includes alignment with non-research related Directorates-General (DGs) and ministries. Initiatives like I3, Regional Innovation Valleys, and Vinnovate are examples of increased cross-regional collaboration. The latter are both examples of horizontal collaboration, but there is a strong push towards vertical synergies between FP, structural funds and state budget.

Specific Smart Specialization

There's an increased demand for more fine-tuned and specific smart specialization exercises. These need to guarantee multilevel alignment for structural funds planning and use, ensuring that investments are strategically oriented towards areas of competitive advantage and societal need.

Post-2027 funding scenarios

As we approach the post-2027 period, it is important for R&I institutions to anticipate and prepare for the diverse funding scenarios that may unfold. This foresight is not only a strategic necessity but also a proactive measure to ensure the continued vitality and impact of our activity.

The post-2027 era presents a spectrum of possibilities influenced by political, economic, and social dynamics at both the EU, national and regional levels. The direction and magnitude of R&I funding, especially within the framework of EU programs, will significantly affect the research landscape. Understanding these potential funding scenarios allows us to strategically position ourselves, adapt to changing environments, and leverage opportunities effectively.

The development of these funding scenarios is guided by current trends, policy dialogues, and financial forecasts. It incorporates a comprehensive analysis of various factors, including EU budget allocations, Portugal's evolving status within the EU R&I framework, and broader socio-economic developments. By envisaging a range of possible futures—from the most optimistic to the most challenging—we aim to equip INESC institutes with the insights and tools necessary to think through the uncertainty of future R&I funding.

Through this exercise, we seek to not only anticipate the future but also to shape it. By understanding the potential trajectories of R&I funding, we can better advocate for policies and programs that align with our mission and values, and contribute to a resilient, innovative, and prosperous future for Portugal and Europe at large.

Methodology

The methodology for developing post-2027 funding scenarios involved an approach that integrates current trends, policy directions, and economic forecasts. The trilogy of discussion papers that were written to support discussion are the digested results of this analysis. This process was designed to provide a comprehensive and realistic view of the potential funding landscapes that INESC institutes might encounter in the post-2027 period.

Current trends analysis

The first step in our methodology is an in-depth analysis of current trends in R&I funding at both the EU and national levels. This includes examining recent changes in funding allocations, shifts in priorities within the EU's Framework Programmes, and the evolving role of Portugal within the European R&I ecosystem. By understanding these trends, we can identify patterns and trajectories that are likely to influence future funding scenarios.

Policy directions

Policy directions at the EU and national levels are key drivers of R&I funding. Our scenario development considers the latest policy discussions, legislative developments, and strategic plans that shape the R&I funding landscape. This includes analyzing the European Commission's communications, and the broader political climate that influences R&I investment decisions. By aligning our scenarios with current policy directions, we ensure they are grounded in the realities of the political landscape.

Economic forecasts

Economic conditions significantly impact R&I funding. Our methodology incorporates economic forecasts, including projections of EU and national GDP growth, R&I investment trends, and potential economic challenges that could affect funding availability. By considering these

economic factors, we can develop scenarios that reflect potential constraints and opportunities that may arise.

Scenario development

Based on the analysis of trends, policy directions, and economic forecasts, we develop three core scenarios—positive, status quo, and negative—each reflecting different funding outcomes. These scenarios are:

1. **Positive Scenario:** Envisions an increased FP budget, with Portugal retaining its "widening" country status, maintaining access to structural funds and FP widening measures, and stability in the national R&I dedicated budget.
2. **Status Quo Scenario:** Projects the FP maintaining its budget level with a slight inflation-adjusted increase, Portugal remaining a "widening" country with access to FP widening instruments but experiencing a reduction in structural funds.
3. **Negative Scenario:** Considers a scenario where the FP faces budget cuts, Portugal loses its widening country status (except for specific regions), leading to a significant reduction in both FP widening measures and overall Cohesion budget.

Additionally, a likely mixed scenario is proposed, blending elements of the three core scenarios to reflect a more nuanced and probable funding landscape.

The map of scenarios can be consulted and is summarized in the figure on the next page.

Implications for INESC

Institutes: Enhanced opportunities for funding, collaboration, and innovation. A positive climate for ambitious R&I projects and strategic partnerships across Europe.

Implications for INESC

Institutes: An environment requiring agile responses, diverse funding strategies, and the ability to navigate a complex and evolving funding landscape.

Positive scenario: optimistic outlook

Increased Framework Programme (FP) Budget:

Enhanced EU commitment to R&I, possibly driven by successful outcomes of Horizon Europe and a recognition of the critical role of R&I in addressing global challenges.

Portugal Remains a "Widening" Country: Continued eligibility for specific widening measures, ensuring access to enhanced support and funding opportunities designed to bridge the R&I gap.

Stable National R&I Budget: Consistent national investment in R&I, potentially with increased funding, reflecting a national commitment to innovation and technological advancement.

POSITIVE

Stable FP Budget with Inflation Adjustment: The EU maintains the current level of commitment to R&I, adjusted for inflation, without significant budget increases.

Portugal Retains "Widening" Status: Continued access to widening measures, but with potential shifts in the eligibility criteria or funding allocation strategies.

Reduced Access to Structural Funds: While maintaining the same conditions, the actual budget for structural funds may see a cut, affecting regional development and innovation funding.

Status quo scenario: maintained current trends

Implications for INESC

Institutes: Need to optimize existing resources and focus on consolidating achievements. Potential for increased competition for funds and emphasis on demonstrating impact of R&I activities.

Likely scenario: blend of realities

Modest Increase in HE Budget: A slight increase in the FP budget, reflecting a balanced approach to R&I investment by the EU.

Partial Widening Status for Portugal: Some regions maintain widening status, but overall access to EU funds is reduced. This results in a mixed landscape where some areas continue to receive substantial support, while others face funding constraints.

Diverse Funding Landscape: A combination of stability and change in funding sources and mechanisms, necessitating flexible and adaptive strategies from research institutions.

NEGATIVE

Budget Cuts in FP: Reduction in EU funding for R&I, possibly due to shifting priorities or economic constraints.

Change in Portugal's "Widening" Status: Only ultra-peripheral regions and possibly Alentejo and the North region retain the widening status, leading to reduced access to specific FP measures.

Significant Reduction in Cohesion Budget: A considerable decrease in funds allocated for regional development and innovation, impacting Portugal's ability to support and grow its R&I ecosystem.

Negative scenario: challenging prospects

Implications for INESC

Institutes: A challenging environment requiring strategic adaptation, exploration of alternative funding sources, and increased focus on efficiency and impact.

Action Plan for discussion

Strategic alignment with EU priorities

Analysis and integration: Continuously analyze EU funding priorities and integrate them into INESC's research agenda.

Participation in strategic initiatives

Engagement with PPPs: Actively engage in Public-Private Partnerships, contributing expertise and leveraging industry collaboration.

EU projects involvement: Increase participation in Horizon Europe and other strategic EU projects, aligning with EU's long-term goals.

Reinforcing market and industry collaboration

National and international outreach: Expand collaborations with markets and companies at both national and international levels.

Commercialization and technology transfer: Enhance efforts in commercializing research outcomes and technology transfer.

Investment in key infrastructures

Modernization and expansion: Invest in modernizing existing facilities and expanding infrastructural capabilities.

Digital infrastructure: Prioritize investments in digital infrastructure to support innovative research and collaboration.

Institutional capacity development

Skill enhancement: Invest in training and development programs for researchers and staff.

Administrative efficiency: Improve administrative processes to streamline project management and funding acquisition.

Policymaking engagement

Policy influence: Actively participate in forums and discussions that shape EU research policy.

Advocacy for research needs: Advocate for policies that support research and innovation, particularly in fields where INESC excels.

Collaborative approach

Inter-institute synergy: Foster stronger collaborations among INESC institutes to leverage collective strengths.

External partnerships: Build and strengthen partnerships with academia, industry, and government agencies.

Preparing for funding transition

Scenario planning: Prepare for various funding scenarios post-2027, developing flexible strategies to adapt to changing funding landscapes.

Diversification of funding sources: Explore alternative funding sources, including private sector funding, to reduce dependency on public funds.

Enhancing visibility and impact

Dissemination and communication: Enhance visibility of research outcomes and societal impact through effective communication strategies.

Showcasing successes: Regularly showcase INESC's achievements and innovations at national and international platforms.

Fostering innovation ecosystems

Regional innovation hubs: Participate in creating and nurturing regional innovation ecosystems.

Supporting startups and spin-offs: Encourage and support the formation of startups and spin-offs from INESC research.