



Annual Activity Report 2023

DG RESEARCH AND INNOVATION

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DG R&I IN BRIEF

The **Directorate-General for Research and Innovation (DG R&I)** is responsible for the EU policy on research, science and innovation with a view to help create growth, jobs, tackle our biggest societal challenges and secure the EU technological sovereignty. **Mariya Gabriel was the Commissioner** in charge of the portfolio of Innovation, Research, Culture, Education and Youth until 15 May 2023. After her departure, **EVP Margrethe Vestager** and then **VP Margaritis Schinas** were appointed ad-interim for the DG R&I's portfolio. **Commissioner Iliana Ivanova** was appointed on 19 September 2023 to take over the responsibility of the portfolio and under her supervision, DG R&I contributes to the **six headline ambitions of the Commission President von der Leyen** and plays an important role in strengthening a modern, high performing and sustainable European Commission.



The mission of DG R&I is to design and implement R&I policies and programmes in collaboration with Member States, international partners, stakeholders and citizens. By mobilising relevant policy measures, such as R&I programmes, investments and regulations, the **DG fosters the creation of new knowledge and game-changing innovation supporting the EU's priorities**, notably the green and digital twin transition. In close cooperation with other Commission's services the aim is to generate **a high scientific, technological and societal impact**, built on scientific evidence and relevant input from citizens.



Long-term social and economic transformations, climate change, biodiversity loss, and Russia's war of aggression against Ukraine pose major challenges for the EU and lead to the need for appropriate policy responses. R&I will be a key component to address these challenges and create **a sustainable, safe, fair and prosperous future for the people and the planet**, based on solidarity and respect for common European values.

In 2023, DG R&I has made significant progresses in the implementation of the **Horizon Europe framework programme** and the **Euratom Research and Training programme**. The **European Research Council (ERC)** and the **European Innovation Council (EIC)** have effectively supported the development of fundamental science and deep tech innovation in Europe, while the **EU Missions** and the **European Partnerships** have provided important means to address societal challenges and foster Europe's industrial leadership. DG R&I intensified its efforts to progress toward a **European Research Area (ERA)** based on a single, borderless market for research, innovation and technology across the EU.

DG R&I is organised around Directorates focusing on specific R&I aspects: **ERA and Innovation, International Cooperation** and three key dimensions of sustainable development - **People, Planet, and Prosperity**. This is completed by the Directorates in charge of **Innovative Administration**, the **Common Policy Centre (CPC)** and the **Common Implementation Centre (CIC)**. Ms Signe Ratso was acting Director-General until 15 February 2023 and Mr Marc Lemaître became Director-General on 16 February 2023.

DG RESEARCH & INNOVATION SPECIFIC OBJECTIVES TO THE COMMISSION'S HEADLINE AMBITIONS ⁽¹⁾

GENERAL OBJECTIVE 1: A EUROPEAN GREEN DEAL

- ◆ **Specific objective 1.1:** High-quality science, knowledge and innovative solutions support climate policies and help to preserve biodiversity, ecosystem and natural resources
- ◆ **Specific objective 1.2:** Mainstreaming of the public and private research and innovation investments for climate actions strengthens the European Green Deal's impact
- ◆ **Specific objective 1.3:** Co-creation of Horizon Europe and its missions and partnerships increases awareness of the key role of research and innovation for achieving climate neutrality

GENERAL OBJECTIVE 2: A EUROPE FIT FOR THE DIGITAL AGE

- ◆ **Specific objective 2.1:** High-quality science, knowledge and innovative solutions facilitate a digital transition in Europe, including a new European approach to Artificial Intelligence
- ◆ **Specific objective 2.2:** The revitalised European Research Area sets directions for societal, economic and ecological transitions in Europe and contributes to spreading excellence, closing research and innovation gap and working out a common global response to emerging challenges
- ◆ **Specific objective 2.3:** Research and innovation actions and the European Innovation Council in particular support development and scaling-up of SMEs with breakthrough and disruptive technologies

GENERAL OBJECTIVE 3: AN ECONOMY THAT WORKS FOR PEOPLE

- ◆ **Specific objective 3.1:** Research and innovation actions, increased R&I investments and the R&I component of the European Semester boost economic growth and jobs creation

GENERAL OBJECTIVE 4: A STRONGER EUROPE IN THE WORLD

- ◆ **Specific objective 4.1:** Regional research and innovation strategies and broader association policy contribute to promoting common European R&I values and creating a global Research and Innovation Space

GENERAL OBJECTIVE 5: PROMOTING OUR EUROPEAN WAY OF LIFE

- ◆ **Specific objective 5.1:** Research and innovation develop and deploy solutions, technologies and innovations to tackle emerging threats and improve crisis preparedness
- ◆ **Specific objective 5.2:** Research and innovation support the European health initiatives, including the European plan to fight cancer

GENERAL OBJECTIVE 6: A NEW PUSH FOR EUROPEAN DEMOCRACY

- ◆ **Specific objective 6.1:** European research and innovation support citizens' involvement, social inclusion and equalities in Europe, including through communication of the European R&I added value

GENERAL OBJECTIVE 7: A MODERN, HIGH PERFORMING AND SUSTAINABLE EUROPEAN COMMISSION

- ◆ **Specific objective 7.1:** The Common Implementation Centre and the Policy and Programming Centre provide user-friendly services and tools to the European Commission for effective and efficient planning, programming and implementation of the Research and Innovation Framework Programme and other EU programmes

⁽¹⁾ The general and specific objectives are defined in the Strategic Plan 2020-2024

EXECUTIVE SUMMARY

This annual activity report is a management report of the Director-General of DG Research and Innovation to the College of Commissioners. Annual activity reports are the main instrument of management accountability within the Commission and constitute the basis on which the College takes political responsibility for the decisions it takes as well as for the coordinating, executive and management functions it exercises, as laid down in the Treaty on European Union (Article 17(1)).

A. Key results and progress towards achieving the Commission's general objectives and department's specific objectives

In 2023, DG R&I contributed to the seven General Objectives of the Commission and continued **to tackle climate change and to focus on the digital transition** using its analytical ability, with dedicated strategic reports, foresight and economic analysis providing insights to direct R&I investments. It continued to contribute to spreading excellence, closing the research and innovation gap in the EU and formulating a common global response to emerging challenges. In addition, it provided the policy framework to enhance R&I investment at the national level and assess from an R&I perspective the national reform plans. **Horizon Europe**, EU's programme for Research and Innovation, has strengthened the impact of R&I in supporting EU policies while tackling global challenges. It contributed to create jobs, promote industrial competitiveness and optimise investment impact.

Research and Innovation being key drivers of the green transition, many initiatives led by DG R&I in 2023 concentrated on this area. Among these initiatives, the Communication on the revamp of the **Strategic Energy Technology plan (SET-plan)**, published in October, ensured the alignment of the SET Plan with current political priorities, notably the European Green Deal, RePowerEU and the Green Deal Industrial Plan, including the Net-Zero Industry Act and the Critical Raw Materials Act. Announced in the letter of intent by President von der Leyen after the State of the European Union (SOTEU) speech, the DG started to prepare the Communication on the **"Advanced Materials for Industry Leadership"**, to coordinate European and national research priorities on advanced materials, including also the industrial uptake dimension. In 2023, DG R&I assessed the performance of the EU Mission publishing the **Communication on 'EU Missions two years onwards'**, and worked on **building and updating the portfolios of initiatives for the different EU Missions**.

In 2023, DG R&I made significant progresses in the implementation of the **New European Innovation Agenda (NEIA)**. At the end of the year, 13 actions out of the 25 composing the NEIA have been fully completed. Notably, DG R&I finalised guidance on regulatory sandboxes and launched important initiatives such as the EIC Scaleup 100, the EU Innovation Talent Platform and the Regional Innovation Valleys initiative.

The digital transition provides new possibilities to support research activities and foster excellence in science. To build on this potential, DG R&I has initiated the construction of a **Digital Twin of the Ocean** and a **European Collaborative Cloud for Cultural Heritage**. Both initiatives progressed well during 2023 and are a step closer from an intensive use by the research community. In addition, the development of a research agenda for the **Knowledge Centre on Earth Observation** will enable the uptake of knowledge from Earth Observation in future EU policies and a policy brief on harnessing the **artificial intelligence** in science to boost Europe's global competitiveness was published in December 2023.

The implementation of the **European Research Area (ERA) policy agenda 2022-2024** is progressing at full speed. An important achievement of 2023 was the adoption in December of the Council Recommendation on a European framework to attract and retain research, innovation and entrepreneurial talents in Europe. The work related to **European Framework for Research Careers** also allowed the completion of a European Competence Framework for Researchers. To foster the open sharing of knowledge and the reuse of research outputs, DG R&I has maintained its efforts to develop the **European Open Science Cloud (EOSC)**. Supporting the development of European **Research Infrastructures** was a priority as well. The **restructuring of the EIC Fund** resulting in a move from direct to indirect management has been completed during 2023 and will provide a sustainable basis for supporting the scaling-up of start-ups and SMEs.

Under general objective 3, DG R&I was actively involved in the monitoring of all **national Recovery and Resilience Plans**, covering the R&I dimension both in terms of investments and reforms. In addition, the DG has actively and successfully contributed to highlighting the importance of R&I for the recovery, the green and digital transitions and **the need to decrease our energy dependency from Russia**.

The DG has also supported the concept of **Industry 5.0. The winner of the Industry 5.0 Award**, which is a recognition prize for EU-funded projects that advance this vision by presenting convincing and inspiring solutions.

On the international level, DG R&I published **the first biennial report on the implementation of the Global Approach**, the Union's strategy to international cooperation in R&I. This report related to the preservation of openness in international cooperation in R&I and safeguarded strategic assets, interests, autonomy and security, while **enhancing EU open strategic autonomy**. As part of the publication of **the Economic Security Strategy** by the Commission, DG R&I has conducted an assessment of the existing safeguards under the Horizon Europe Regulation that can be applied to protect the Union's economic security interest without changing the legal base and has proposed measures to improve **research security**.

The DG continued to contribute to a strong international dimension with targeted international actions, multilateral cooperation and exploratory talks, negotiations as well as **signature of association agreements**.

DG R&I **contributed to the 5th package of sanctions to Russia** which provided the legal basis to terminate the participation of all Russian public entities in ongoing projects and continued the coordination of the support provided by the Commission's R&I family to **Ukraine's R&I actors and ecosystem**. 2023 saw the opening of **the Horizon Europe Office in Ukraine (Kyiv)** which was officially inaugurated on 20 December 2023 by **Commissioner Iliana Ivanova**.

To prepare for emerging threats, important steps have been set to strengthen the EU's research capacities for **health preparedness and resilience**. A particular focus has been placed on supporting health related research linked to **the digital transformation of health and care** and the **Europe's Beating Cancer Plan**, especially in the framework of the implementation of the **Cancer Mission**. Since the COVID-19 pandemic highlighted the need for large-scale, multi-centre clinical trials, DG R&I also participated to set-up the **European platform trials for COVID-19 therapeutics and vaccines**.

In 2023 DG R&I supported the European Commission's commitment to strengthen **European democracy** and to support citizens' involvement, social inclusion and equalities in Europe. It published the **final report of the Citizen Science Mutual Learning Exercise (MLE)** on citizen science, involving 11 Member States. Among activities towards social inclusion and equality in Europe, DG R&I worked with a special focus on the **Gender Equality** activities in both Horizon Europe and the ERA.

DG R&I made sure that **the implementation of Horizon Europe and the Euratom programme** run smoothly and contribute to delivering on EU priorities with a particular focus on enhancing **synergies within Horizon Europe and between programmes and instruments** at EU, national and regional level. The implementation has been done with a specific focus **on further simplification** (with the **roll out of simplified cost options such as lump sums and unit costs** in Horizon Europe), supervision and support to Executive Agencies and funding bodies, increased IT capacity through its flagship eGrants suite and **stronger client centricity** throughout its service portfolio.

The DG continued its work facilitating and **co-creating the Horizon Europe strategic plans and the 'main' work programme** with all Directorates-General involved in Horizon Europe. It has also worked on an **amendment of the Horizon Europe 'main' work programme 2023-2024** and has launched the preparation of the **second wave of co-funded and co-programmed European Partnerships**.

It has also prepared in 2023 both the **ex-post evaluation of Horizon 2020 and the interim evaluation of Horizon Europe**.

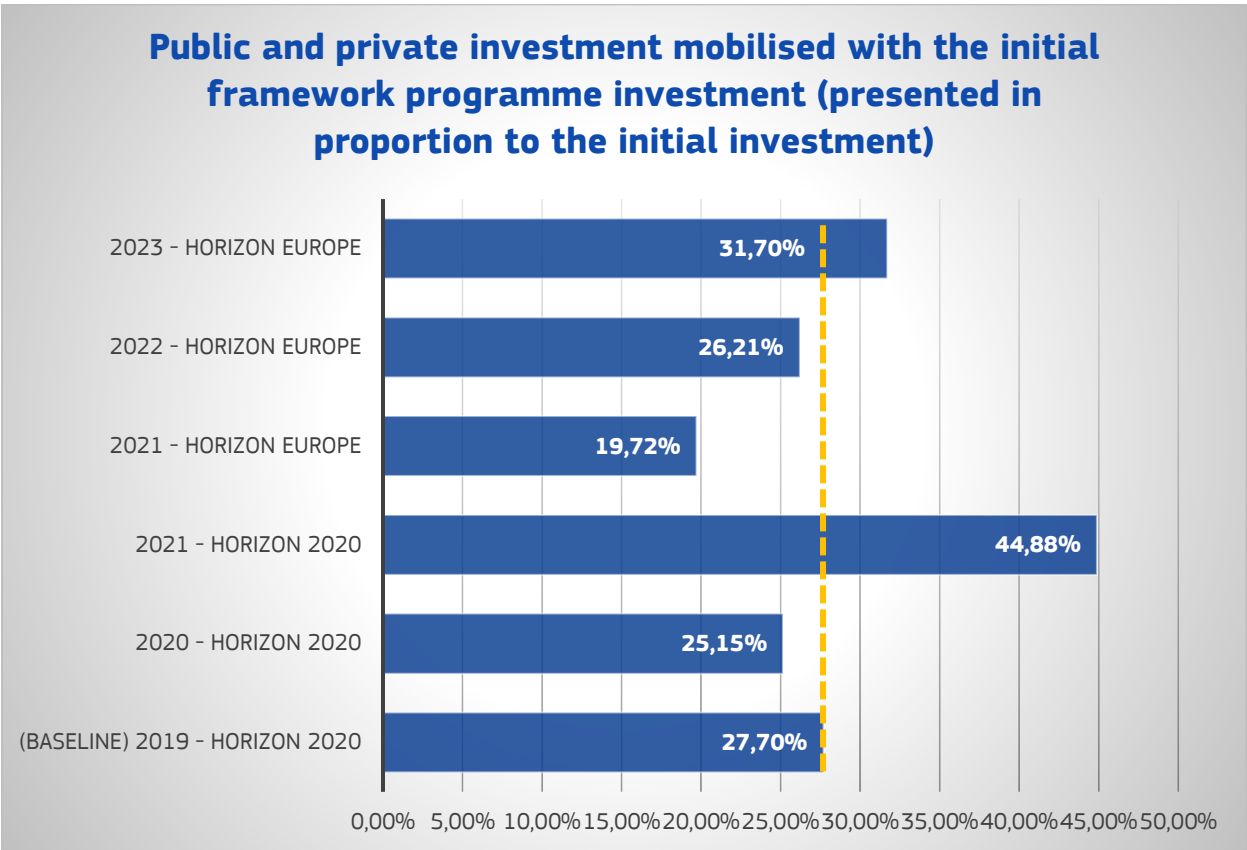
B. Key performance indicators

General comment:

DG R&I started applying the newly established corporate criteria for the reliability of performance information. Based on the current processes in place, DG R&I did not identify any significant issue related to the reliability of performance information.

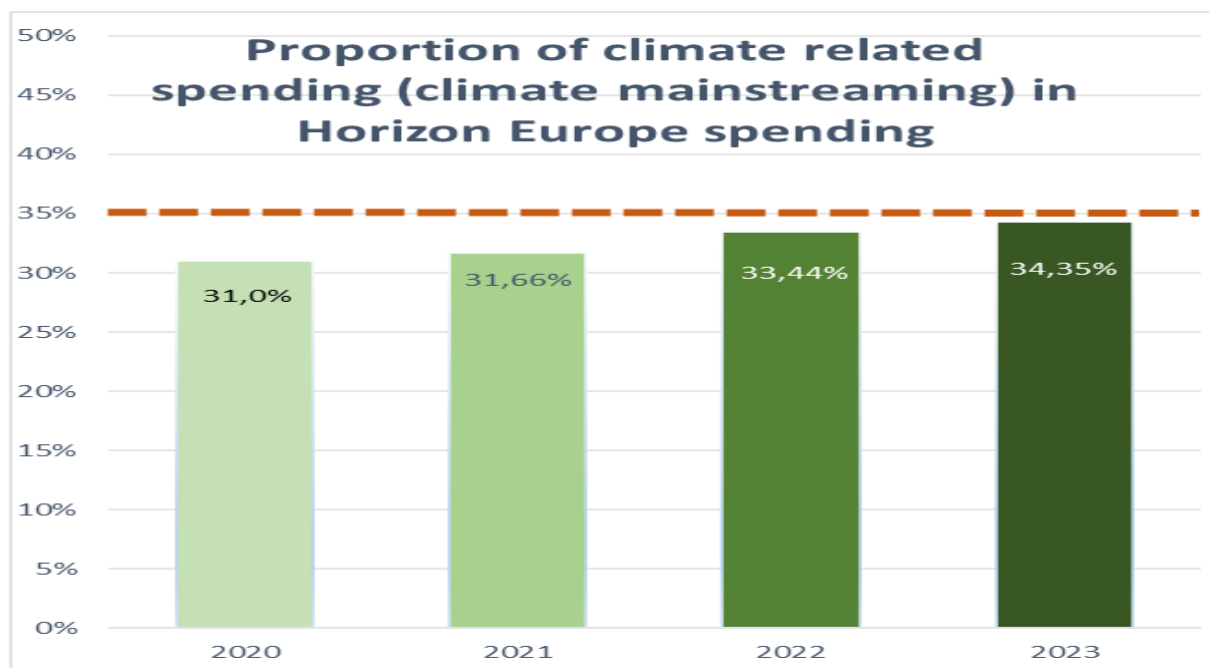
DG R&I is adapting its internal processes to be fully in line with the new framework for ensuring the reliability of performance information. This work has already started and will continue in 2024 towards the development of an improved reporting framework.

- 1. Public and private investment mobilised with the initial framework programme investment (presented in proportion to the initial investment) - (Result indicator 8 in the performance tables - specific objective 2.1 - indicator revised due to the new methodology)***



*The target set for the interim periods in 2022 and 2024 for this indicator is higher than the baseline figure for 2019 (27,70%).

2. Proportion of climate related spending (climate mainstreaming) in Horizon Europe spending (Result indicator 3 in the performance tables - specific objective 1.2)*

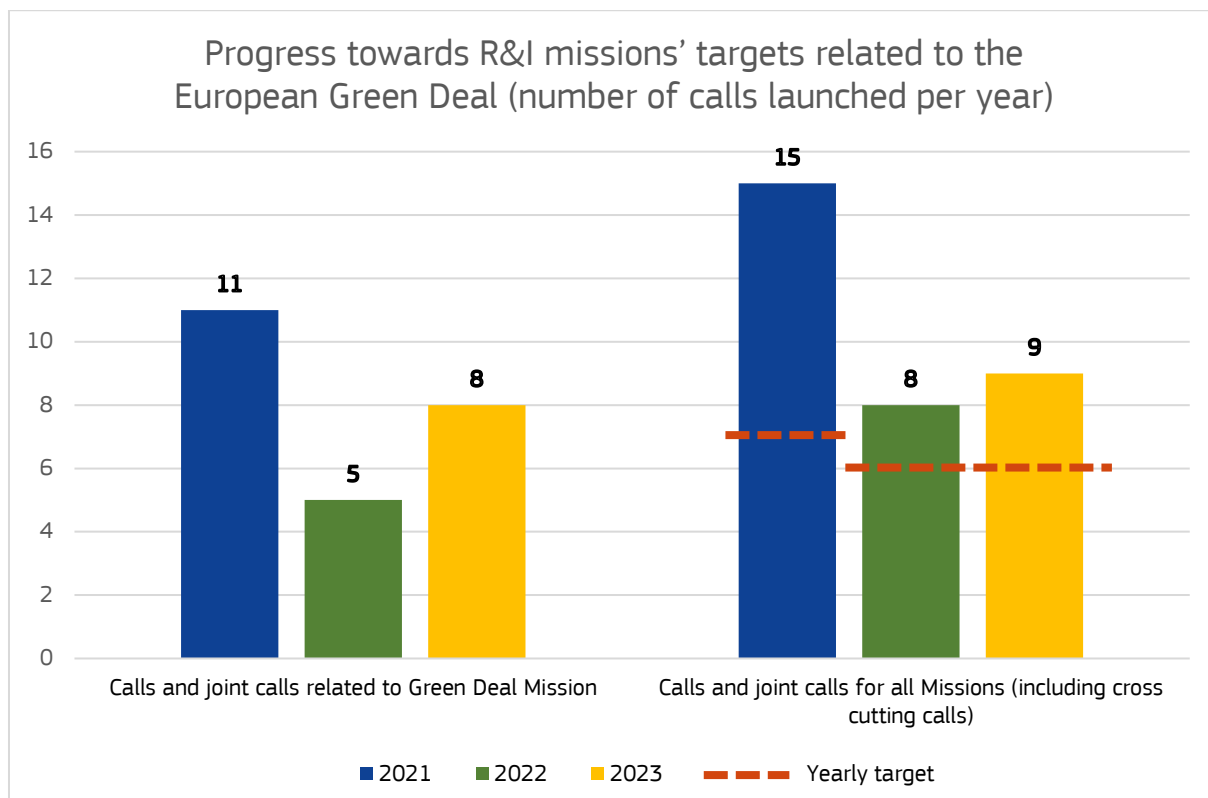


*Research and innovation stand as pivotal drivers in facilitating the green transition, offering pathways to accelerate and navigate the necessary transitions while deploying, demonstrating, and engaging citizens in innovative solutions. The Horizon Europe regulation set that actions under this programme must contribute at least 35% of expenditure to climate objectives. This underscores the programme's commitment to addressing climate change and advancing sustainability goals.

Monitoring figures: Mainstreaming climate has been seamlessly integrated into all actions funded by Horizon Europe and reported in ABAC. Thus, the monitoring figures for the years 2021-2023 rely on the EU climate coefficient encoded in the ABAC. However, as commitments for the year 2023 are ongoing, it is not currently possible to provide reliable monitoring data for the year 2023. Additionally, the stable monitoring figures for the years 2021-2022 will only be known after the verification of the current monitoring data is complemented and any necessary corrections are made. While ongoing quality checks are underway to ensure the reliability of climate information encoded in ABAC, preliminary monitoring figures combined with the 2023 estimated figures indicate a Horizon Europe's climate contribution close to 35 % by the end of 2023.

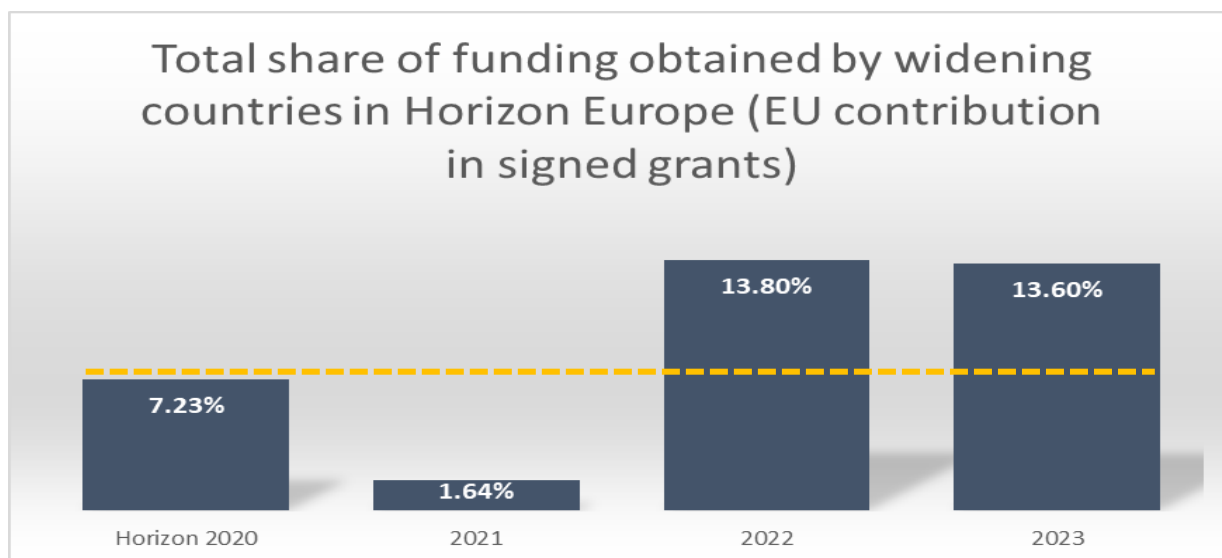
Estimate figures: for the years 2024-2027, estimates are based on draft and foreseen work programs and strategic plans. The estimated climate contribution for 2025-2027 years reflects the minimum target of 35% as per the Horizon Europe legal basis as no work programmes are available yet. Should corrective measures be necessary, they will be proposed to ensure that Horizon Europe's overall contribution to climate aligns with regulatory requirements.

3. Progress towards R&I missions' targets related to the European Green Deal (Result indicator 5 in the performance tables - specific objective 1.3)*



**The chart above shows on the left the total number of calls and joint calls related to the Green Deal Missions (Adaptation to Climate Change, Restore our Ocean and Waters by 2030, 100 Climate-Neutral and Smart Cities by 2030, a Soil for Europe) for 2021, 2022, and 2023, taking into account the year of the launch of the calls. On the right, the chart shows the total number of calls, joint calls and cross-cutting calls for all Missions (including the Cancer Mission, which is not part of the Green Deal Missions). As the target for the Green Deal Missions is not set, the chart on the right, showing yearly targets, is added for reference on the overall progress of the Missions.*

4. Total share of funding obtained by widening countries in Horizon Europe – EU contribution in signed grants (Result indicator 10 in the performance tables - specific objective 2.2)*



*The baseline is based on Horizon 2020 average funding for the all period of the framework programme. The targets for Horizon Europe are based on higher values than the baseline for Horizon 2020 (7.23%)

5. Risk at payment and at closure for Horizon 2020 and Horizon Europe grants (see section 2 internal control and financial management) (2)

Estimated Risk at payment/closure	
<p>Target for Horizon 2020 Risk at payment and at closure should be close to 2%</p>	<p>Results</p> <ul style="list-style-type: none"> - Estimated risk at payment for the Horizon 2020 Framework Programme: 2.57% - Estimated risk at closure for the Horizon 2020 Framework Programme: 1.55% (1.64 % for DG Research and Innovation).
<p>Target for Horizon Europe Risk at payment and at closure should be below 2%</p>	<p>No representative error rate for Horizon Europe is available in 2023 as the ex-post audit campaign for the Programme started in 2024.</p>

⁽²⁾ These key performance indicators are not set in the Strategic Plan 2020-2024 but in the Management Plan 2023.

C. Key conclusions on internal control and financial management

In line with the Commission's Internal Control Framework DG Research and Innovation has **assessed its internal control systems during the reporting year and has concluded that** it is effective and the components and principles are present and functioning well overall, but some improvements are needed as minor deficiencies were identified. Please refer to annual activity report section 2.3 for further details.

In addition, DG Research and Innovation has systematically examined the available control results and indicators, including those from supervised entities to which it has entrusted budget implementation tasks, as well as the observations and recommendations issued by the internal auditor and the European Court of Auditors. These elements have been assessed to determine their impact on management's assurance about the achievement of the control objectives. Please refer to section 2 for further details.

In conclusion, management has reasonable assurance that, overall, suitable controls are in place and working as intended; risks are being appropriately monitored and mitigated. Improvements are necessary concerning the definition of clearer requirements on implementation of Horizon Europe lump sum grants, the assessment of the financing capability of Mission cities, the detailing of Governance arrangements for EU Missions, and the analysis and (internal) reporting of the root causes of errors in relation to ECA's findings. The following actions are/will be taken in this respect:

- For lump sum grants, further specify the requirements defining proper implementation, including the elements of each work package triggering payment, as well as provide detailed guidance to those involved in assessing the implementation of projects.
- Regarding the EU Mission on Climate- Neutral and Smart cities, assess the capacity of the cities participating in this Mission to pool sufficient funding to achieve their goals, and enhance the support provided to the cities where financing weaknesses endangering the achievement of the Mission goals are identified.
- Concerning the Governance arrangements of EU Missions, DG R&I, in cooperation with and/or supported by the DGs and services involved in the Missions should: (a) improve the effectiveness and overall coherence of the governance arrangements for EU Missions; (b) assess the needs of and, if needed, implement enhanced support from the CPC; (c) improve the budgetary processes for EU Missions; and (d) analyse the effectiveness of the various tools/solutions currently used by the services to detect conflicts of interest and specify the approach to be taken by all services.
- Following the IAS recommendation in the Limited Review on Commission's Risk at Payment, perform and document a structured analysis of the ECA findings. The results of this analysis should facilitate the identification of the appropriate actions to mitigate recurrent errors (for accepted findings) and allow for the documentation of categories and reasons for disagreements (for rejected findings). Subsequently, DG

R&I should report on the analysis above in line with the guidance to be defined by DG BUDG.

The Director-General, in his capacity as Authorising Officer by Delegation, has signed the Declaration of Assurance.

D. Provision of information to the Commissioner(s)

In the context of the regular meetings during the year between DG Research and Innovation and the Commissioner on management matters, the main elements of this report and assurance declaration, will be brought to the attention of Commissioner Iliana Ivanova, responsible for Innovation, Research, Culture, Education and Youth.

1. KEY RESULTS AND PROGRESS TOWARDS ACHIEVING THE COMMISSION'S GENERAL OBJECTIVES AND SPECIFIC OBJECTIVES OF DG RESEARCH AND INNOVATION

General objective 1: A EUROPEAN GREEN DEAL

The three following specific objectives, with relevant results indicators reflected in the annex (performance table, page 9 in the annexes), cover the broad spectrum of Research & Innovation activities contributing to the 'European Green Deal'.

Specific objective 1.1: High-quality science, knowledge and innovative solutions support climate policies and help to preserve biodiversity, ecosystem and natural resources

DG R&I kept working on the European Green Deal, and on addressing climate change and environmental degradation, in order to achieve the EU's mid- and long-term climate and environmental targets.

The **Communication on the revision of the Strategic Energy Technology Plan⁽³⁾**, led by DG R&I and supported by DG ENER and the JRC, was published in October 2023, with the aim to align the SET Plan with current political priorities, notably the European Green Deal, RePowerEU and the Green Deal Industrial Plan, including the Net-Zero Industry Act and the Critical Raw Materials Act. To strengthen the anchoring of the SET Plan in the framework of the European Research Area (ERA), DG R&I has worked in close collaboration with SET Plan stakeholders to implement the Strategic Research and Innovation Agenda of the **ERA Pilot on Green Hydrogen** in a new Implementation Working Group (IWG) of the SET Plan. Media publications on the revamp of the SET Plan reached over 9,000 online views, while social media stakeholders outreach over 58,000 impressions.

In April 2023, the draft mandate, process, and timeline for **the establishment of the Hydrogen IWG** was presented and discussed with the SET Plan Steering Committee. To incorporate the ERA Pilot Action on Green Hydrogen under the revamped SET-Plan, an updated **Hydrogen Valley Platform** was launched in March 2023, and an **EU database and Observatory** in October 2023.

As follow-up to REPowerEU, a **Co-Programmed Partnership on Solar Photovoltaics (PV)** has been proposed and accepted in December 2023. The Partnership will promote the industrial engagement in PV R&I to support the innovation ecosystem across the full PV value chain. It will represent **the R&I pillar of the EU Solar PV Industry Alliance**

In 2023, DG R&I started to work on the **"Advanced Materials for Industry Leadership"** Communication, announced in the letter of intent by President von der Leyen after the State of the European Union (SOTEU) speech. The objective of the initiative is to focus on how to

⁽³⁾ COM(2023) 634 final: Communication on the revision of the Strategic Energy Technology (SET) Plan

coordinate European and national research priorities on advanced materials, including also the industrial uptake dimension, and will be adopted in 2024.



Following the publication of the Strategic Research and Innovation Plan (SRIP) for **safe and sustainable chemicals and materials** in 2022, in 2023 the DG R&I published a report on the projects in the European Funding Landscape aligned to the chapters of the SRIP for chemicals and materials.

In March 2023, DG R&I hosted the **“FOOD 2030”** workshop on “Future Research & Innovation Needs in view of the transition to sustainable, healthy, safe and inclusive food systems”. Following the workshop, the **Food 2030 pathways for action** was

updated, and then presented at the Food 2030 conference on “Green and Resilient Food Systems” in December 2023.

In March 2023, DG R&I represented the EU for the finalisation of the multi-year 6th Assessment Cycle of the **Intergovernmental Panel on Climate Change (IPCC)**, and promoted the dissemination of the latest IPCC findings. The analysis of the climate science landscape to identify research gaps in cooperation with key IPCC 6th Assessment Report authors will help maximize the impact of EU funded research and to inform future calls.

In April 2023, co-funded Horizon Europe Partnership **“Sustainable Food Systems for People, Planet and Climate”** was launched for a lifetime of 7-17 years. The Partnership progressed in the second semester of 2023 with the Grant Agreement preparation.

DG R&I also led the EU negotiation team at the 10th session of the **Intergovernmental Science-Policy Platform for Biodiversity and Ecosystem Services (IPBES)** where the Summary for Policymakers of the thematic assessment of invasive alien species and their control was adopted.

In 2023 the **EU-Catalyst Partnership** restructured its approach. The offer by the Partnership is now geared to help higher risk projects in two ways: to lower Technology Readiness Level projects (with less than EUR 100mIn financing requirement) without a clear revenue perspective, and to larger First-of-a-kind (FOAK) industrial scale facilities.

Specific objective 1.2: Mainstreaming of public and private research and innovation investments for climate actions strengthens the European Green Deal’s impact

DG R&I fostered the implementation of the **Climate Adaptation Strategy** by mobilizing and mainstreaming R&I on climate adaptation for smarter, faster and more systemic

adaptation, with the Mission on Adaptation to Climate Change at the heart of this effort. In June 2023, the DG organised the **6th European Climate Change Adaptation (ECCA) conference** in Dublin, a flagship biennial event that brought together the European scientific community with practitioners and decision-makers, to accelerate the transfer of knowledge from R&I into policy and practice.

In March 2023, on a dedicated high-level conference with the participation of former Commissioner Gabriel, the Commissioner co-signed a **Joint Declaration on the role of EU R&I for Hydrogen Valleys** to boost the EU hydrogen economy, together with representatives of the main stakeholder groups (industry, research, and regions).

Following the RePowerEU, and with the ambition to accelerate the roll-out of hydrogen valleys in the EU, DG R&I has started the preparation of a **roadmap on hydrogen valleys**, consulting during 2023 the stakeholders in workshops and through a dedicated Call for Evidence, launched in July.

DG R&I continued to make a significant contribution to **Mission Innovation (MI)**. It coordinated the work on Mission Innovation for the Commission, including by co-chairing the Steering Committee and several MI missions, by supporting the Secretariat, and by contributing to the MI Platform. **DG R&I co-leads the Clean Hydrogen Mission**, for which the number of hydrogen valleys grew from 37 at the end of 2022 to 89 by December 2023, and **the Urban Transitions Mission**, which engaged with the first 48 cities of its cohort to continue advancing in their decarbonization journey. In 2023, DG R&I kept working on the **Mission innovation 2.0 Net-Zero Industries**, which engages international partners in scaling up and technological development of demonstrators for hard to abate industries, such as steel, cement or chemicals.

DR R&I contributed to the **Green Deal Industrial Plan⁽⁴⁾** and the **Net Zero Industry Act (NZIA)**, adopted on 1 February and 16 March 2023, securing visibility for innovation and adequate R&I related data in the Plan and in the needs assessment.

In view to the transition to a net-zero process industry, DG R&I kept working with other services towards the **decarbonisation of energy-intensive industries**, also as part of a dedicated Task Force co-chaired by DG RTD, DG GROW, DG CLIMA. Started in April 2023 with 10 Member States and 2 Associated Countries, a **Mutual Learning Exercise (MLE) on industrial decarbonisation** facilitated the exchange of best practices and knowledge as well as the development or update of national roadmaps/strategies, through the help of the Policy Support Facility under Horizon Europe. In addition, to speed up relevant permit procedures for **FOAK⁽⁵⁾ industrial installations**, DG R&I will cooperate with DG ENV to launch the discussion on permits with relevant authorities, which follows the discussions on the revised Industrial Emissions Directive⁽⁶⁾.

In 2023, the DG R&I working to properly **account for climate and biodiversity investments** for all pillars of Horizon Europe. The Review of all available data in late October

⁽⁴⁾ COM(2023) 62 final: Communication on a Green Deal Industrial Plan for the Net-Zero Age

⁽⁵⁾ First of a Kind

⁽⁶⁾ Directive 2010/75/EU on industrial emissions (integrated pollution prevention and control)

2023 revealed that the **system of ex-ante estimation** is a reliable programme steering tool while at the same time the quality of project level data for monitoring, documentation (and in future possibly public access) needs to be enhanced. Activities in that direction are ongoing. In total, the **'main' work programme 2023-2024**⁽⁷⁾ has reached a budget of around EUR 15.68 billion. Taking into account all work programmes and planning documents for Horizon Europe 2023-2024 it is estimated that EUR 6.65 billion of funds will contribute to climate action; and EUR 2.12 billion to biodiversity related policy objectives.

Actions launched and managed in 2023 by DG R&I under **the Euratom Research and Training Programme** play a pivotal role in maintaining strong European competencies in nuclear research and innovation. This helps ensuring the highest standards of safety for existing and future nuclear installations. It is also crucial for developing fusion energy, as well as medical and other applications of ionising radiation.

Following adoption of **the Euratom Work Programme 2023-2025**, DG R&I launched a call for proposals making available EUR 132 million for research increasing **the EU's security of energy supply** while ensuring the highest standards of safety. The call for proposals offered research grants enabling long-term operation of existing nuclear power plants and deployment of **small and modular reactors (SMRs)**, as well as the development of nuclear materials and the safe management and disposal of radioactive waste. It also aimed to further develop **the Union's open strategic autonomy** in other applications of ionising radiation, including in the medical field, critical raw materials and circular economy. This call was supplemented in April 2023 by a call launched by **the European Partnership for radiation protection research**, aimed at improving knowledge and promote innovation in the field of radiation protection (PIANOFORTE).

Following an ad-hoc call, DG R&I awarded in 2023 a **grant for EUR 10 million**, to launch an action to carry out necessary safety analyses and tests and establish procedures needed for the **licensing of VVER nuclear fuel manufactured by suppliers outside Russia**. Project APIS will address the issue of security of supply of fuel for Russian-designed VVER reactors in the EU and Ukraine. The operation of these reactors currently depends mainly on Russian-produced nuclear fuel. Sanctions following Russia's invasion of Ukraine have made it necessary to strengthen the security of supply situation for these reactors.

In fusion research, the Euratom co-funded partnership, **EUROfusion**, successfully achieved the research goals of its third deuterium-tritium experimental campaign (DTE3) at the Joint European Torus (JET) device. The experiments explored fusion processes and control techniques under similar conditions to and in preparation of future fusion power plants. This marks an important leap ahead in our understanding of fusion plasmas.

⁽⁷⁾ The amended version of the work programme 2023/24 will include recurrent, thematically open actions from MSCA calls and WIDENING (COST actions, ERA chairs) for the budgetary year 2025. These actions are included in the calculation and are estimated to have shares of 20% for climate and digital and 7% biodiversity expenditure.

Specific objective 1.3: Co-creation of Horizon Europe and its missions and partnerships increases awareness of the key role of research and innovation for achieving climate neutrality

DG R&I continued its efforts on implementing the EU Missions throughout 2023, and carried on the legally required 2023 **assessment of the performance of EU Missions**. This resulted in a **Communication on “EU Missions two years onwards”⁽⁸⁾**, adopted in July 2023, which summarised the progress made in mission implementation and struck a positive tone as regards the five existing EU Missions being on track to implement their Mission Implementation Plans, while at the same time identifying important challenges that needed to be tackled, notably in the domains of governance, funding, and citizen engagement.



DG R&I worked on **building and updating the portfolios of initiatives for the different EU Missions**, notably through the text mining of EU R&I Framework Programmes and other

EU programmes. **All EU Missions have their projects portfolios** which are available in dedicated **internal dashboards**, whereas for the EU Mission Restore our Ocean and Waters, an additional **external dashboard** is available. These portfolios have been built around the EU Missions objectives, breaking silos between the different parts of the Framework Programmes. They include **R&I programmes and other relevant EU non-R&I ones** with the objective to mine contributions from beyond the dedicated EU Mission calls.

The **Mission on Adaptation to Climate Change’s** implementation platform was launched in 2023 and already provides services to the 311 signatories of the Mission’s Charter, a clear success in comparison to the 150 regions objective. The engagement has deepened through the creation of the new Community of Practice adopted during the 2023 Mission’s Forum under Swedish Presidency on 12-13 June.

The implementation of various building blocks of the **Mission “A Soil Deal for Europe”** is on track. Activities have resulted in creating capacities for the Mission’s implementation, notably through the set-up of the Mission Soil Platform and the creation of a comprehensive portfolio of R&I actions amounting to a total funding of EUR 291 Million.

All **Mission “Restore our Ocean and Waters”** lighthouses have been launched with political support from the involved stakeholders in the first half of 2023. The Mission Charter

⁽⁸⁾ COM(2023) 457 final: Communication on the EU Missions two years on: assessment of progress and way forward

has mobilised over 560 actions submitted with a total budget of over EUR 4.28 billion, to the benefit of 69 regions/coastal cities, 16 ports, 28 islands, 120 marine conservation areas.

The Mission for Climate-Neutral and Smart Cities

reached a number of important milestones in 2023: in March, first 25 Cities Mission pilot projects were launched to allow cities to explore pathways to rapid decarbonization. In October, the first ten cities received a Mission Label, based on a positive review of their Climate City Contracts (CCC), climate neutrality plans that include an action plan and an investment strategy.

A call for projects to associate Ukrainian cities to the Cities Mission, resulted in 13 project proposals received with **16 Ukrainian cities** already identified for possible involvement.

As of the **Partnership for R&I in the Mediterranean Area (PRIMA)**, its Annual Work Plan (AWP) 2023 was adopted and the calls have been launched. In December, the Council and the Parliament found a political agreement for the continuation of the Union’s participation in PRIMA for 2025 to 2027.

The first Horizon Europe strategic plan (2021-2024) identified **49 partnerships** among which **44 were set-up and are actively implemented** at the end of 2023. In this regard, significant attention was devoted to provide guidance for their establishment and implementation. A list of additional **candidate European Partnerships for the second Strategic Plan** will be adopted as part of the Horizon Europe Strategic Plan 2025-27.

Horizon Europe’s model of **European Partnerships** enables to direct R&I investments on priorities commonly defined with the industry and Member States. Based on the alinement of priorities between the public and private actors involved, the European Partnerships ensure efficient co-investments in strategic areas such as clean energy and health. Horizon Europe is implemented through European Partnerships only when the objectives of the Programme can be more effectively achieved in this way, thus avoiding the duplication of investments, and reducing fragmentation.

General objective 2: A EUROPE FIT FOR THE DIGITAL AGE

The three following specific objectives, with relevant results indicators reflected in the annex (performance table, page 12 in the annexes), cover the broad spectrum of R&I activities contributing to the ‘Europe fit for the Digital Age’.

Specific objective 2.1: High-quality science, knowledge and innovative solutions facilitate a digital transition in Europe, including a new European approach to Artificial Intelligence

Implementing the **New European Innovation Agenda (NEIA)**⁽⁹⁾ adopted on the 5th of July 2022 was a key priority for 2023. The Initiative aiming at positioning Europe at the forefront of the new wave of deep tech innovation and start-ups is based on 25 actions designed to address 5 flagships priorities. At the end of the year, **13 actions** have been fully completed and the implementation of the agenda continues at full speed. Notably, DG R&I prepared **guidance on regulatory sandboxes**, a notice on synergies between Horizon Europe and the European Fund for Regional Development (EFRD) and a specific report on definitions related to start-ups, scale-ups, and deep tech innovation. As planned, DG R&I also launched important initiatives, in particular the EIC Scaleup 100, **the EU Innovation Talent Platform** and the **Regional Innovation Valleys initiative**. Some NEIA actions such as the launch of an **Innovation Procurement Specialist Advisory Service** or the initiation of a **pilot European innovation gender and diversity index** have entered the preparation phase during 2023 and will be fully implemented in 2024. The close cooperation with the **“Coalition of the Willing”** associating private and public stakeholders to the implementation of the NEIA, has led to the identification of more than 125 local or inter-regional or cross-border initiatives. Furthermore, Member States and Associated Countries reported over 200 actions supporting the implementation of the NEIA.

In March 2023, the Commission and the Committee of the Regions launched a **call for expression of interest for Regional Innovation Valleys**, to which more than 160 regions responded. In October 2023, the Commission closed the first coordinated calls under **Horizon Europe** (European Innovation Ecosystems) and the **European Fund for Regional Development** (I3 Instrument): with a total budget of EUR 122 million, the calls attracted 57 proposals combining cohesion and innovation policies.

⁽⁹⁾ COM(2022) 332: A New European Innovation Agenda

Significant progresses have been made during 2023 to build a **Digital Twin of the Ocean (DTO)**. The initiative announced by President von der Leyen at the One Ocean Summit in Brest in February 2022, aims at creating a digital interactive replica of the ocean allowing to simulate future scenarios and making ocean knowledge readily available to citizens, entrepreneurs, scientists, and policymakers. A first prototype is expected by the end of 2024.



the outcome of this initiative will enable to tailor specific EO based digital products and services and will feed into the Earth Systems Science Initiative (ESSI), which aims at establishing an alignment effort with the European Space Agency (ESA).

To address pressing requests from the cultural sector to better preserve unique artefacts, cultural landscape, historical sites and buildings, DG R&I has initiated the creation of **European Collaborative Cloud for Cultural Heritage (ECCCH)**. The aim is to develop a



cutting-edge digital tool allowing to digitalise artefacts, studying artworks and documenting data and therefore improving preservation, conservation and restoration. A series of actions has been carried out in 2023 to build high level political support and a stakeholder community. A high level event “A Cloud

(¹⁰) The Knowledge Centre on Earth Observation is a knowledge service of the European Commission supporting the uptake of state-of-the-art knowledge from Earth Observation for EU policies and better regulation.

for All”, organised on the 15th of March, was followed by further actions including a dedicated website, regular newsflashes, and a growing Cloud user community (over 1.200 cultural heritage professionals and researchers). The first dedicated ECCCH call opened in January with a deadline on the 21st of September.

Artificial Intelligence (AI) is accelerating productivity in science and has already led to innovative application in research activities⁽¹¹⁾. To build on this potential DG R&I has initiated the development of a **policy roadmap on the use of AI in Science**. The outcome of this exercise is a policy brief on harnessing the artificial intelligence in science to boost Europe’s global competitiveness, which was published in December 2023. This new policy strategy builds on evidence gathered in the report on “trends in the use of AI in science” published earlier in June 2023. DG R&I is pursuing the work engaged on AI in Science with additional actions planned for 2024 such as the development of Guidelines for the application of generative AI in research.

Specific objective 2.2: The revitalised European Research Area sets directions for societal, economic and ecological transitions in Europe and contributes to spreading excellence, closing research and innovation gap and working out a common global response to emerging challenges

In close coordination with Member States, Associated Countries and relevant stakeholders, DG R&I has continued to implement the **European Research Area (ERA) policy agenda 2022-2024⁽¹²⁾**. This has enabled to foster the open sharing of knowledge and the reuse of research outputs by supporting the development of the **European Open Science Cloud (EOSC)**. The EOSC is aiming at developing a federated and open infrastructure stimulating open science practices. Based on EOSC’s tripartite governance associating the Commission, the Member States and the European research community, several meetings have been organised to enable the development of dedicated actions. Moreover, a new joint Task Force between the EOSC governing structure and the European Strategy Forum on Research Infrastructures (ESFRI) has been set up to integrate European research data infrastructure with the EOSC federation and promote FAIR⁽¹³⁾ data practices. The first meeting took place in June 2023. The creation of a EOSC catalogue of open science practices has been initiated and will be pursued in 2024.

DG R&I has also elaborated a **publishing platform “Open Research Europe” (ORE)**. As of the end of 2023, ORE counts over 520 publications and over 900 peer-reviews, all in open access.

⁽¹¹⁾ OECD, Artificial Intelligence in Science, Challenges, Opportunities and the Future of Research, 2023
⁽¹²⁾ Adopted with the Council conclusions on the governance of the ERA (14308/21)
⁽¹³⁾ The acronym FAIR stands for Findable, Accessible, Interoperable and Reusable.

In 2023, DG R&I continued raising awareness globally about the **Agreement on Reforming Research Assessment** and identified principles and concrete actions for changes. Over 200 additional organisations have signed the Agreement since beginning 2023, bringing the total number of signatories to 661 organisations, from 49 countries, including outside of Europe.

In the context of the European Year of Skills, DG R&I has intensified its work on the **European Framework for Research Careers**. A significant achievement is the adoption in December of a Commission proposal for a Council Recommendation on a European framework to attract and retain research, innovation and entrepreneurial talents in Europe⁽¹⁴⁾. Furthermore, The **European Competence Framework for Researchers** (ResearchComp) has been completed in 2023 and the work to create an **ERA Talent Platform** has started in 2023 and will continue in 2024.

To improve the sustainability, accessibility and resilience of **research infrastructures**, DG R&I contributed to the work of ESFRI according to the ESFRI 2022-2023 Work Plan. In 2023, the Commission adopted three decisions to establish new **European Research Infrastructure Consortia (ERICs)**: the Aerosol, Clouds and Trace Gases Research Infrastructure European Research Infrastructure Consortium (ACTRIS ERIC); the INFRAFRONTIER European Research Infrastructure Consortium (INFRAFRONTIER ERIC); and the Low Frequency Array European Research Infrastructure Consortium (LOFAR ERIC).

DG R&I has launched key steps for developing a **European approach to Technology Infrastructures (TI)** providing essential services for the development,



testing and deployment of new technologies for innovative, sustainable, and smart products. In this regard, DG R&I has launched the establishment of a dedicated Commission Expert Group in November 2023, with the aim to develop a European approach to investments in Technology Infrastructures and to ensure broad accessibility of their services.

⁽¹⁴⁾ Council recommendation on a European framework to attract and retain research, innovation and entrepreneurial talents in Europe (C/2023/1640)

Science can be very useful for informing policymaking. To support the development of evidence-based policies, DG R&I led the development of **science for policy (S4P)** under the ERA. DG R&I worked in close collaboration with Member States under the Swedish and Spanish presidencies of the Council to stimulate discussion and policy development in Member States and support them in the effort to strengthen their science for policy ecosystems. More specifically, DG R&I published a Policy Brief on ‘Futures of science for policy in Europe: Scenarios and policy implications’ and organised a conference on “Science for Policy in Europe: Building better science for policy”.

In line with the Council conclusions of November 2021, DG R&I has been working in collaboration with the Member States on a **monitoring and evaluation framework for the implementation of the ERA**. The first version of the **ERA policy platform** has been finalised in 2023. As required by the Pact for R&I, DG R&I prepared an 18-month report, which has been shared with the Council.

Specific objective 2.3: Research and innovation actions and the European Innovation Council in particular support development and scaling-up of SMEs with breakthrough and disruptive technologies

In 2023, DG R&I has completed the **restructuring of the EIC Fund** resulting in a move from direct to indirect management and accelerated processes for awarding decisions. This new configuration will ensure that the EIC can operate on a sustainable basis, in line with its legal base, for supporting the scaling-up of start-ups and SMEs with breakthrough and disruptive technologies. In 2023, DG R&I successfully adopted 15 award decisions for in total 105 EIC Accelerator projects. This allowed the EIC Fund to reduce the back log from previous cut-offs and to provide timely equity support to innovative start-ups and SMEs engaged in breakthrough innovation. DG R&I has also enabled the renewed EIC Board with its new President to take up office and hold a first Board meeting in July 2023.

The **EIC Work Programme 2024** was adopted on 12 December 2023. It introduces several simplifications and improvements such as the lump sum funding in most EIC calls and the introduction of consensus meetings for EIC Accelerator applications.

During 2023, DG R&I ensured a smooth implementation of the **EIC Work Programme 2023** and increased its efforts to raise the awareness, participation, and success rates of applicants from widening countries. Info days were organised in Athens (6 November 2023), Istanbul (25 October 2023), Tbilisi (26 October 2023), Yerevan (5 December 2023) and Sofia (29 January 2023). In addition, various online session and presentations were also made for researchers and innovators from the 21 Western Balkans.

Several actions initiated under the **European Innovation Ecosystems Work Programme (EIE WP) 2023-2024** supported the implementation of the New European Innovation Agenda. These include the creation of regional innovation valleys, support for women innovators, facilitation of joint programs among actors in innovation ecosystems, promotion of experimentation practices, and the establishment of a special advisory service to enhance capacities in innovation procurement.

Appropriate **access to finance** is an important component of innovation. Hence, during 2023, DG R&I ensured the coordination of research, innovation and digitalisation aspects with other **InvestEU** windows by tacking actively part in the InvestEU governance (InvestEU Steering Board and InvestEU Governing Group). In addition, **a structured dialogue** and 2 policy review dialogues under InvestEU took place between DG RTD and the EIB Group. This enabled to discuss challenges and identify appropriate policy responses.

General objective 3: AN ECONOMY THAT WORKS FOR PEOPLE

The following specific objective, with relevant result indicators reflected in the annex (performance table, page 16 in the annexes), covers the broad spectrum of R&I activities contributing to the ‘Economy that works for the people’ objective.

Specific objective 3.1: Research and innovation actions, increased R&I investments and the R&I component of the European Semester boost economic growth and jobs creation

DG R&I made a significant contribution in 2023 to major Commission policy initiatives planned under the headline ambition **‘An economy that works for people’** and was heavily involved in the preparation of the proposal for **a Strategic Technologies for Europe Platform (‘STEP’)** adopted on 20 June 2023. The STEP proposal includes a pillar for boosting strategic investments in critical and emerging technologies, which relies on the investment mechanism established by the European Innovation Council (EIC) and InvestEU.

The DG contributed to the **NextGenerationEU** implementation, to **the European Semester and the Recovery & Resilience Facility**. It implemented enhanced bilateral partnerships with Member States - incl. enhanced policy dialogue with Member State’s on EU R&I priorities and on national R&I investments and reforms (a total of 7 Enhanced Dialogues in 2023). There was also a work to enhance **synergies with cohesion policy and structural funds** to maximise collective impact. Building stronger synergies between Horizon Europe and Cohesion Policy continued in 2023 following the finalisation and adoption of the Commission Notice laying down the Guidelines Document on synergies between Horizon Europe and European Regional Development Fund (ERDF) programmes **in co-creation** with DG REGIO.

DG R&I will also support **foresight activities** that inform the future of the EU, including European R&I policy. It has been done in coordination with the Horizon Europe Foresight Network, and it has produced **foresight policy briefs** on futures of “Using Nature: Land and Sea”, “Green Skills and Jobs”, and “Civic Resilience”. Moreover, it produced foresight newsletters on these issues exploiting results of relevant foresight projects.

Through its work on **widening policy and the regional innovation valleys (RIV) initiative**, DG R&I contributed to economic and social cohesion in the EU by addressing the innovation divide. In parallel to the traditional widening instruments, two new instruments have been used in 2023: **the new excellence hubs** call received 100 submissions and 12 selected projects (success rate 12%) and **the hop-on** has also proved very successful (the 2023 cut off received 80 applications, still under evaluation at the time of the preparation of the AAR 2023).

The monitoring of the implementation of the R&I measures included **in the Resilience and Recovery Plans** continued and the analysis of persistent R&I challenges at EU level through **the Annual Sustainability Growth Survey** and in Member States were highlighted in the **Country Reports under the European Semester**.

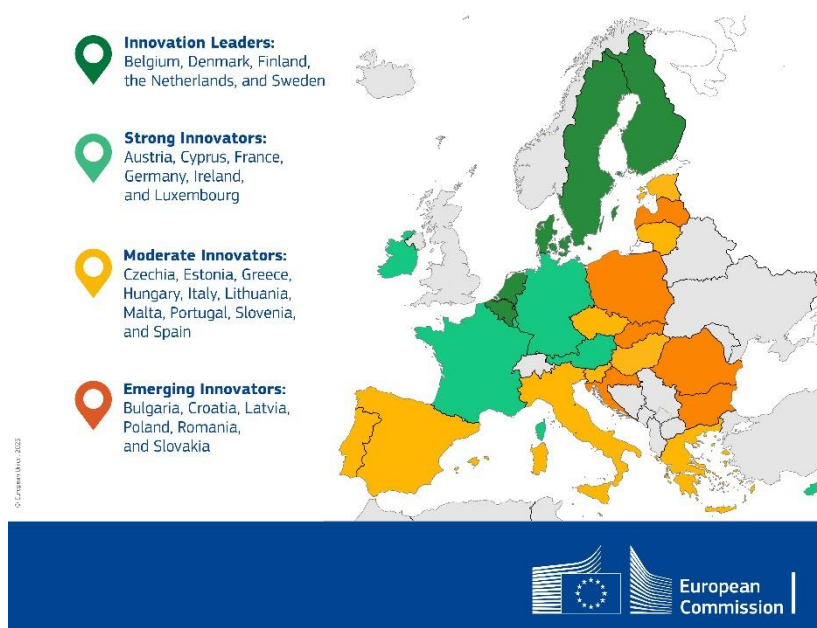
In addition, the reinforcement of collaboration with Member States on R&I policy, investment and **reforms through the Enhanced dialogues** continued. Six new enhanced dialogues took place in 2023 for Latvia, Slovenia, Spain, France, Italy and Austria, while a second Enhanced Dialogue following up on the outcomes of the first one last year took place in Estonia.

In 2023, the **European Innovation Council (EIC)** continued progress on linking national schemes to the EIC through its plug-in scheme. Today, a total of 50 programmes from 21 Member States and 3 Associated Countries have been certified, including 16 programmes with conditions. Thereby meeting the condition set in the EIC 2023 Work Programme of two thirds of Member States with a certified programme. National programmes started sending plug in companies to the accelerator in the March 2023 cut off.

To better accompany **deep tech and clean technologies** in reaching the market, guidance on the use of experimentation, **test beds and regulatory sandboxes** was published in the form of a staff working document in July 2023, in line with **the Innovation and REPowerEU Communication and relevant EU policy objectives**. It is based on successful past examples at EU and national level.

DG R&I continued to contribute to this specific objective through economic and statistical analysis. In July 2023 the DG published the **European Innovation Scoreboard (EIS)** and the **Regional Innovation Scoreboard (RIS)**, providing a comparative assessment of the Research and Innovation performance of EU Member States, other European countries, and regional neighbours (EIS) and of European regions (RIS). The scoreboards help countries and regions assess the relative strengths and weaknesses of their national and regional innovation systems and identify challenges that they need to address. External communication actions for the scoreboards encompassed **1,530 online views** (media publications) and **24,000 impressions** on social media.

European Innovation Scoreboard 2023



As part of the EIS project, a **report on definitions related to start-ups, scale-ups and deep tech innovation** has been prepared in March 2023. The report will be the basis for a pilot study on developing a **European Start-up Scoreboard**, which will be launched under Horizon Europe.

The **Expert group on the economic and societal impact of research and innovation (ESIR)** has provided policy advice and novel thinking on how EU R&I policy can drive **the**

twin green and digital transitions. It has delivered analysis, thought-provoking reflections and concrete recommendations for the further elaboration of policies that can enhance the contribution of research and innovation to the overall EU policy agenda.

The 20th edition of the **EU Industrial R&D Investment Scoreboard** was published on 14 December 2023, by DG R&I and JRC. The first part of the Scoreboard monitors the R&D investment of the top 2,500 R&D intensive companies globally, the EU positioning within this group as well as the top 1,000 EU companies. The second part looks at patenting trends of green and clean transport technologies, automotive business model transformation and the global value chain, advanced materials and artificial intelligence from an ecosystem perspective.

On **the Knowledge Valorisation**, two codes of practice on **intellectual asset management** and on **standardisation** were adopted as Commission Recommendations in March 2023. Two new codes of practice were under preparation in 2023 on **industry-academia collaboration** and **citizens engagement**. The adoption of the two codes of practice as Commission Recommendation is expected in March 2024. An **awareness raising campaign on knowledge valorisation** including a Tour of the EU capitals was announced in December 2022 by Commissioner Gabriel and kicked off in April 2023, with the first event being held in Prague, Czechia. Seven Member States hosted events in 2023 (CZ, LT, ES, SL, AT, PT, EL). The year

In the context of shaping the European Research Area (ERA) and improve public support for knowledge uptake and deployment, 18 countries are engaged in an intensive exchange on national strategies and experiences in **Mutual Learning Exercise (MLE)** for knowledge valorisation in line with the new Guiding principles for knowledge valorisation, as well as to promote attractive research careers.

closed with a **Council ministerial debate on knowledge valorisation** with the presence of Commissioner Ivanova where all Member States stated the importance of knowledge valorisation and described their current and future initiatives in their national contexts.

In December 2023 the Commission signed the contract for the organisation of a **European Citizens' Hackathon Championship** that will contribute to the objectives of **the Climate-Neutral and Smart Cities Mission and the Adaptation to Climate Change Mission**. This event will kick off in January 2024 and it will bring together **citizens, innovators and researchers from across Europe**.



An initial phase of **Industry 5.0 Community of Practice**, with 100+ innovation ecosystem stakeholders onboard, aims to share good practices, co-create actions to implement

Industry 5.0, and provide a platform for members to network and establish new collaborations. The Community of Practice was launched by DG R&I in November 2023. It will help create a value proposition for stakeholders at the local, regional, national, and European levels to promote and apply Industry 5.0 principles and practices. .

General objective 4: A STRONGER EUROPE IN THE WORLD

The following specific objective, with relevant result indicators reflected in the annex (performance table, page 17 in the annexes), covers the broad spectrum of R&I activities contributing to the Commission's headline ambition 'A Stronger Europe in the World'.

Specific objective 4.1: Regional research and innovation strategies and broader association policy contribute to promoting common European R&I values and creating a global Research and Innovation Space

In 2023, DG R&I published **the first biennial report on the implementation of the Global Approach**, the Union's strategy to international cooperation in R&I. This report⁽¹⁵⁾, shows a significant progress, preserved openness in international cooperation in R&I and safeguarded strategic assets, interests, autonomy and security, while enhancing EU open strategic autonomy. Against the backdrop of a complex and dynamically evolving geopolitical

⁽¹⁵⁾ COM(2003) 356 of 29 June 2023

environment, the Global Approach continues to be the appropriate strategic framework for international R&I cooperation.

Since the publication of **the Economic Security Strategy** in June 2023, DG R&I has worked to implement the R&I components of this Strategy. The Commission committed to propose

As part of the “protect” dimension of **the Economic Security Strategy**, DG R&I has conducted an **assessment of the existing safeguards** under the Horizon Europe Regulation that can be applied to protect the Union’s economic security interest without changing the legal base.

measures to improve **research security** ensuring the systematic and rigorous enforcement of the existing tools and identifying and addressing any remaining gaps, while preserving openness of the innovation ecosystem.

In this context, building on and complementing existing work notably through the **Toolkit on Countering R&I Foreign Interference**, DG R&I has identified a coherent set of non-binding actions to enhance research security at national level, in full respect of academic freedom and institutional autonomy. On the basis of this work, DG R&I prepared at the end of 2023, a proposal for a **Council Recommendation on enhancing Research Security** which adoption is foreseen for January 2024. As part of the “**promote**” dimension of **the Economic Security Strategy**, DG R&I prepared and coordinated the work on “**options for enhancing support for R&D involving technologies with dual-use potential**” which paved the way for a **White Paper** which adoption is foreseen for January 2024.

In 2023 DG R&I has continued with the implementation of **the multilateral dialogue on the values and principles** underpinning international R&I cooperation, through **6 virtual workshops**, co-designed and co-organised in 2023 with Member States and/or international partners and stakeholder organisations. A senior level meeting was held in Brussels in June 2023, to take stock of the progress made in the dialogue.

The first EU **Ministerial discussion on Science Diplomacy** took place in the July 2023 informal Competitiveness Council in Santander. This paved the way for the launch of five working groups to develop recommendations for a European Framework for Science Diplomacy. The first EU Science Diplomacy Conference organised with the Spanish Presidency was held in Madrid in December 2023.

Multilateral cooperation in the context of the **G7 under the Japanese Presidency**, received special attention with a meeting of Science Ministers in May agreeing a Communiqué. In the context of **the G20 under the Indian Presidency**, the EU participated in the meeting of Research Ministers in July agreeing on an outcome document.

DG R&I ensured the inclusion of a strong R&I dimension in the **Communication for the New Agenda for Relations between the EU and Latin America and the Caribbean** (LAC)⁽¹⁶⁾. R&I featured in the agenda of the EU-LAC Summit of 17-18 July 2023. An **EU-CELAC Senior Officials Meeting** was organised on 28-29 November to

⁽¹⁶⁾ JOIN(2023)17 final, 7 June 2023

review current collaboration and to agree on actions to further develop the **EU-CELAC Common Research Area**.

The final African Union (AU) - EU Innovation Agenda, aiming to translating research results into products, services, and jobs for Africa and Europe, was adopted by Ministers in July 2023. Online views of the agreement on the AU-EU Joint innovation Agenda reached 5,800 views. Engagement with stakeholders continued, including through the AU-EU Innovation Festival in Cape Town in June 2023, and an IPR workshop in November.



Following the effective interim evaluation of the **Partnership on Research and Innovation in the Mediterranean Area (PRIMA)**, political agreement was reached in December 2023 on an amendment of the PRIMA basic act to extend the active duration of PRIMA for three additional years from 2025 to 2027. The Commission will also provide an additional EU financial contribution of €105 million from Horizon Europe.

Increasing the scale and scope of our **cooperation with the US** continues to be a high priority. **The bilateral S&T Cooperation Agreement** was extended for a further five years. The Technology and Innovation Working Group of the EU-US Energy Council met in March 2023 to agree new actions in fusion research and for energy transition pathways modelling, feeding into the EU-US Energy Council meeting in April 2023.

Discussions continued on the **Joint Roadmap for EU-China Cooperation in Science Technology Infrastructures (STI)**. Two flagships in areas of mutual interest and a restricted approach on innovation-related actions (Article 22.6 of the Horizon Europe Regulation) were introduced. We continued the development of risk management tools to help the Commission and research organisations. Coordination with Member States was stepped up through the EU Knowledge Network on China, ERAC, and the EuroHub4Sino project.

The EU-India Trade and Technology Council was launched with a working group focusing on R&I, specifically on green and clean energy. An Action Plan was adopted at the first Ministerial in May, with three priority actions: waste management; recycling of batteries; and standardisation. An international workshop in October led to an internal agreement to launch

three joint calls in the ‘main’ Horizon Europe Work Programme 2025 on waste to green hydrogen, marine plastic litter/waste-water treatment, and recycling of batteries.

DG R&I managed to embed a strong **international dimension in the ‘main’ Horizon Europe 2023-2024 Work Programme**, explicitly encouraging or requiring international cooperation in 21% of all calls, under pillar 2. The Work Programme also includes targeted actions such as the Africa Initiative II and a Mediterranean Initiative I. The DG coordinated the work on the **use of Article 22(5)** in the work programme, which restricted participation in 31 topics, to protect the Union’s strategic assets, interests, autonomy or security.

Cooperation with Member States continued actively in the ERA Subgroup on the Global Approach that made progress with its four priorities for cooperation: supporting the multilateral dialogue on R&I values and principles; European Science Diplomacy Agenda; Team Europe pilots on China and Africa; and stronger collaboration in multilateral R&I platforms.

Co-funding mechanisms were established or renewed with Brazil, Hong Kong, India, Mexico, The People’s Republic of China, Taiwan, and the Principality of Monaco. New guidance on co-funding mechanisms was published on the **Funding and Tender Portal**.

Targeted **outreach activities** were organised by the Science Counsellors and EU Delegations around the world. This included a series of workshops in Brussels and worldwide to promote the opportunities offered by the Horizon Europe Work Programme 2023-2024. These workshops complemented the promotion and outreach activities organised **through Euraxess Worldwide**.

In 2023, **the number of Associated Countries** to the programme reached 17: Albania, Armenia, Bosnia and Herzegovina, the Faroe Islands (provisionally applicable since January 2021, pending the consent from the European Parliament), Georgia, Iceland, Israel, Kosovo(*), the Republic of Moldova, Montenegro, New Zealand (provisionally applicable since January 2023, pending the consent from the European Parliament), North Macedonia, Norway, Serbia, Tunisia, Türkiye and Ukraine. All new association agreements are published in the Official Journal⁽¹⁷⁾.

The Windsor Framework agreement of February 2023 with the United Kingdom (UK) gave a new impetus to EU-UK relations. The joint decision to formalise the association to Horizon Europe was adopted on four December 2023 , and from 1 January 2024, the UK became the 18th Associated Country. The UK is associated to the entire programme, **with the exception of the EIC Accelerator Fund**.

Another key achievement was the signature of the association agreement with **New Zealand** on 9 July with a retroactive application as from 1 January 2023; for the first time in the history of EU Framework Programmes for R&I, a country beyond the geographical vicinity of

(*) This designation is without prejudice to positions on status, and is in line with UNSC 1244 and the ICJ Opinion on the Kosovo declaration of independence.

⁽¹⁷⁾ Official Journal L95/2022

the EU has become associated. New Zealand became associated only to Pillar II, and cooperation under Pillar I and III continues under a third country status.

Another important achievement was the conclusion of substantive negotiations with **Canada**, announced by the leaders at the EU-Canada Summit on 24 November 2023. The signing of the agreement is expected in the first half of 2024, and the agreement would apply retroactively as from 1 January 2024.

Furthermore, on 22 November, the College endorsed the Common Understanding negotiated between the EU and **Switzerland** that sets out the principles of the future overall relationship, and to which DG R&I contributed directly. In parallel, on 20 December the College adopted a proposal for Council's decision to authorise negotiations with Switzerland, including on a separate new agreement on participation in Union programmes.

With **South Korea and Japan**, the recommendations to open negotiations were prepared by DG R&I, and adopted by the Council in May 2023. Exploratory talks were concluded with South Korea in January 2023, and the launch of formal negotiations was announced at the EU-Korea Summit in May 2023 with three negotiation rounds carried out in 2023. With **Japan**, since the conclusion of exploratory talks in September 2022, technical level exchanges have continued to provide further clarifications on their key concerns. Technical discussions on the association possibility also continued with **Singapore**, whereas **Australia** in June 2023 announced that it had no interest at this stage to pursue association to Horizon Europe.

As regards **Morocco**, negotiations remain stalled as of December 2022 due to the territoriality issue, which is the only outstanding issue in this negotiation and one where European External Action Service (EEAS) is directly in charge. Also **Egypt** has shown interest in association but first a Protocol to the Euro-Mediterranean Agreement on Egypt's participation in Union programmes needs to be in place. The negotiations of the said Protocol were finalised during the spring 2023 by the EEAS and is expected to be signed in January 2024.

Good progress has been made in the implementation of the R&I dimension of **the Eastern Partnership (EaP)** which aims at boosting the R&I capacities of the five EaP Partner countries and strengthening the R&I regional cooperation. Thanks to the EU support, a regular monitoring of the implementation of the five post-2020 R&I priorities outlining tangible outcomes to be measured against specific indicators has been launched.

Despite the difficult geopolitical and economic situation in the region, all five EaP Partner countries managed to implement some **governmental reforms**, to adopt and launch implementation of **national Science strategies**, and to **increase their participation in Horizon Europe** compared to Horizon 2020.

Concrete results continued in 2023 in the implementation of **the Western Balkans (WBs) Agenda** on Innovation, Research, Culture, Education, Youth and Sport: impressive participation in Horizon Europe (to date € 79 million of EU contribution already provided to the WBs in grants); three WB cities (Sarajevo, Podgorica and Elbasan) are among cities selected for the Horizon Europe Smart and Climate Neutral Cities Mission –

these 3 cities have reached out to a further 6 cities in the region. The Commission presented **the New Growth Plan for the Western Balkans⁽¹⁸⁾** that includes a particular focus on innovation related efforts.

DG R&I prepared the Rules of Procedure (RoPs) of the Joint Committee under the framework agreement with **the Faroe Islands** which were endorsed by the Council on 9 November 2023, and adopted by the 2nd Joint EU-Faroe Islands Committee in late November 2023.

10 Joint R&I Committee meetings were organised during the year under the Horizon Europe association agreements: with Albania, Armenia, Bosnia and Herzegovina, Faroe Islands, Georgia, Israel, Moldova, Montenegro, Serbia and Tunisia. Associated Countries were further encouraged to play an active role in the implementation of **the new ERA** by indicating their commitments to selected ERA Policy Agenda actions and in **the New European Innovation Agenda**.

In 2023, the group of enlargement countries among the Associated Countries has increased to 10. DG R&I carried out the screening related to the enlargement process of Albania and North Macedonia and also carried out the assessment of the progress of Albania, Bosnia and Herzegovina, Georgia, Kosovo, Montenegro, the Republic of Moldova, North Macedonia, Serbia, Türkiye, and Ukraine under Chapter 25 related to the annual enlargement exercise.

RUSSIA'S WAR OF AGGRESSION AGAINST UKRAINE

The Horizon Europe Office in Ukraine (Kyiv) was officially inaugurated on 20 December 2023 by Commissioner Ivanova, alongside deputy Prime Minister of Ukraine Mykhailo Fedorov and Speaker of the Verhovna Rada (Ukraine's Parliament) Serhiy Babak. The Office, which is run by the National Research Foundation of Ukraine, will promote funding opportunities and offer support in drafting proposals and finding partners in Europe. The event also served as a political launch of **the EIT RIS Community Hub in Ukraine and EUR 20M EIC initiative** to support Ukrainian break-through innovators.



⁽¹⁸⁾ COM(2023) 691 final: New growth plan for the Western Balkans

Besides these concrete initiatives, DG R&I continued coordination of the support provided by the Commission's R&I family to Ukraine's R&I actors and ecosystem focusing **on three key objectives**: first, sustain scientific assets and activity in Ukraine and support Ukrainian researchers in Ukraine and in refuge, by optimising Ukraine's association to Horizon Europe and Euratom and by implementing dedicated support initiatives; second, in view of Ukraine's EU candidate country status, accelerate Ukraine's efforts towards EU integration in R&I; and third, advocate for the role of R&I in key political and operational frameworks on Ukraine's recovery (such as the G7 Science Ministers Communique of May 2023). The Commission's draft proposal for a Regulation on a Ukraine Facility includes important references to rebuilding research infrastructure, developing employment policies, including for researchers,

DG R&I plans a EUR 2 million action to assess the **war's impact on research infrastructure** and to prepare an **investment Roadmap** to be included in the amendment of the 'main' Horizon Europe Work Programme 2024.

and supporting private investment with the focus on SMEs and innovation. Under Horizon Europe, Ukrainian cities will benefit from capacity-building initiatives under the EU Cities Mission, the Urban Transition Mission of Mission Innovation and the New European Bauhaus Initiative. In 2023, media relations on support measures for Ukraine encompassed 13,450 online views.

General objective 5: PROMOTING OUR EUROPEAN WAY OF LIFE

The following specific objectives, with relevant result indicators reflected in the annex (performance table, page 17 in the annexes), cover the broad spectrum of the R&I activities contributing to the 'Promoting our European way of life' objective.

Specific objective 5.1: Research and Innovation develop and deploy solutions, technologies and innovations to tackle emerging threats and improve crisis preparedness

In 2023 DG R&I kept working on the strengthening of the EU's research capacities for **health preparedness and resilience**. In this regard, DG R&I engaged preparatory steps to launch a **Pandemic Preparedness Partnership** and a partnership on **One-Health Anti-Microbial Resistance**.

In support to the Commission's Communication on the new "Comprehensive approach to mental health"⁽¹⁹⁾, DG R&I organised a workshop on **"Societal value of the arts and culture and their impact on well-being, mental health and inclusion for all"**. The event provided the opportunity to discuss how horizontal and cross disciplinary approaches in Social Science and Humanities (SSH) create new avenues for immediate and long-term solutions to promote the well-being of citizens and prevent and reduce the societal burden of mental health.

⁽¹⁹⁾ COM(2023) 298 final: A comprehensive approach to mental health



What are some key European research actions for better preparedness and response to epidemics and pandemics?

The European Commission is at the **forefront of supporting research and innovation** and coordinating European and global research efforts on preparedness for epidemics and pandemics. This is illustrated by:

- Providing **funding opportunities for research on pandemic preparedness and response**, including surveillance research and research on public health and social measures, development of diagnostics, treatments and vaccines, as well as the infrastructures and resources that enable this research;
- Fostering **coordination mechanisms** between EU-funded research projects in **clinical trials networks and cohort research** for a synergistic response to epidemics and pandemics;
- Supporting **open data sharing** during and between pandemics in the domains of pathogens and infectious diseases, notably via the [COVID-19 Data Platform](#);
- Setting up a **European partnership for pandemic preparedness** with EU Member States to align research agendas between the EU and its Member States, and to improve clinical trial readiness;
- Promoting **international collaborations, partnerships and multi-lateral initiatives across the EU and beyond**, including the [European and Developing Countries Clinical Trials Partnership](#);
- **Coordinating research funding for pandemic preparedness & response with other global funders**, via the [GloPID-R](#) network.

Dedicated work on **Ethics of Pandemics** will ensure the safeguard of key ethical values and improve pandemic preparedness. This work has been informed by the **European Group on Ethics in Science and New Technologies (EGE)**, which has issued advice in the context of the Covid-19 pandemic.

To support the acceleration of research and innovation activities on key emerging technologies, DG R&I prepared **Ethics Guidance Notes on Cybersecurity research and on Artificial Intelligence**. The Guidance Notes aim at ensuring that research and innovation activities will follow the highest ethical standards and align with core European values.

Specific objective 5.2: Research and innovation support the European health initiatives, including the European plan to fight cancer

Support European policies enabling the **digital transformation of health and care (HC)** and the implementation of **Europe's Beating Cancer Plan⁽²⁰⁾** have been key priorities for 2023. To that extent, the **Co-funded Partnership on Transforming Health and Care Systems** involving 64 partners from 26 Member States and Associated Countries started in January 2023. The first Joint Transnational Call was launched in March 2023 with 177 full proposals submitted. In addition, the grant agreement with the Co-funded Partnership on **Personalised Medicine** was signed in December 2023 and already started. Furthermore, the second stage of the **1+ Million Genomes Initiative⁽²¹⁾** has been launched in 2023.

⁽²⁰⁾ COM(2021) 44 final: Europe's Beating Cancer Plan

⁽²¹⁾ The '1+ Million Genomes' (1+MG) aims at creating a European data infrastructure for genomic data and implementing common national rules enabling federated data access. The initiative will enable a secure access to genomics and the corresponding clinical data across Europe for better research, personalised healthcare and health policy making.

To foster the implementation of Europe's Beating Cancer Plan, DG R&I has been committed to support the implementation of the **Cancer Mission** especially by organising a **Young Cancer Survivors Conference** and dedicated workshops. The conference took place on the 7th of February 2023 and enabled the identification of specific needs for improving the quality of life of young cancer survivors. In addition, four specific workshops have been organised throughout 2023 to gather additional information.

The Cancer Mission Work Programmes 2021-2022-2023 are providing funding for **46 R&I projects** focused on improving the lives of **more than 3 million people by 2030** for a total of **EUR 360 million**.

DG R&I contributed to set-up the **European platform trials for COVID-19 therapeutics and vaccines**, which have contributed to identify better treatment options for the management of COVID-19 patients, and to improve our understanding of the immune response to vaccines. In 2023, the focus shifted to sustaining this clinical research infrastructure of running platform trials for ensuring preparedness for future epidemics or pandemics.

DG R&I also contributed to implement the **accelerating clinical trial in the EU (ACT EU) initiative⁽²²⁾**, by providing policy support to the implementation of the **ERA4Health partnership**, which directly contributes to the initiative by focusing on investigator-initiated clinical studies addressing public health needs insufficiently covered. The Strategic Research and Innovation Agenda (SRIA) of ERA4Health was officially adopted in January 2023.

The European Commission's proposal on the reform of the EU's general pharmaceutical legislation, that includes the **revision of the orphan and paediatric medicines legislation** was published on 26 April 2023. DG R&I ensured that innovation and its uptake are main objectives of the proposed legislation. The inclusion of the use of regulatory sandboxes will foster the ability to innovate for the benefit of patients and develop personalised medicine applications.

General objective 6: A NEW PUSH FOR EUROPEAN DEMOCRACY

The following specific objective, with relevant result indicator reflected in the annex (performance table, page 19 in the annexes), cover the broad spectrum of R&I activities contributing to the 'New push for European democracy' objective.

Specific objective 6.1: European research and innovation support citizens' involvement, social inclusion and equalities in Europe, including through communication of the European R&I added value

⁽²²⁾ The Accelerating Clinical Trials in the EU (ACT EU) initiative aims to develop the European Union further as a competitive centre for innovative clinical research. The European Commission, the European Medicines Agency (EMA) and the Heads of Medicines Agencies (HMA) run the ACT EU initiative together.

Based on the citizen engagement activities started in 2022 – part of the project “Citizen Voices for the EU Climate Transition”, an expert-drafted **Roadmap⁽²³⁾ for a Just Climate Transition** was published in May 2023. The methodology used for developing the roadmap, which began with the set-up of **27 citizens’ panels**, will be now part of the Commission’s Guidebook on how to obtain citizen input into EU policy.

In order to deepen science–society relations, DG R&I supported and coordinated the **Mutual Learning Exercise on Citizen Science: policy and practice**, to which 11 Member States took part. In 2023 the final report was published, presenting a set of operational recommendations and enabling conditions for building an environment that can support, sustain, and scale up citizen science. A dedicated dissemination event was successfully organised.

In the EU Mission for Climate-Neutral and Smart Cities, **citizen involvement is a central pillar of Climate City Contracts**, climate neutrality plans that all 112 participating cities across Europe are developing together with their stakeholders. The Climate City Contracts already submitted to the Commission contain impressive examples of **co-creation with citizens**.

As part of the Cities Mission learning programme in 2023, Mission cities have shared practices on **co-creation with citizens** with each other and have received hands-on support from citizen engagement specialists of the Mission Platform.

The European Group on Ethics in Science and New Technologies (EGE) issued its “**Opinion on Democracy in the Digital Age**”⁽²⁴⁾ in June 2023. Developed at the request of President von der Leyen, it informed the revision of the European Democracy Action Plan and the development of the Defence of Democracy package.

Also in 2023, DG R&I coordinated efforts on the implementation of the strengthened provisions for **gender equality** introduced in Horizon Europe, including the **gender equality plan (GEP) eligibility criterion**. A pilot compliance check dedicated to the GEP eligibility criterion was carried on in 2023. Its results will feed into the finalisation of the methodology for a roll-out of the GEP compliance checks across Horizon Europe in 2024.

A ceremony with Commissioner Gabriel was also successfully organised on International Women’s Day 2023 to reward the winners of the first edition of the new **Horizon Europe EU Award for Gender Equality Champions**. The new edition of this Prize was launched in December 2023.

As a core R&I policy instrument, a subgroup of the **ERA Forum** dedicated to **Action 5 of the ERA Policy Agenda 2022-2024 on promoting gender equality and fostering inclusiveness** was created and kicked-off its activities in March, garnering the participation of 22 Member States, 3 Associated Countries and 14 EU-level umbrella stakeholder organisations. A Task Force on gender-based violence in R&I was launched in October to

⁽²³⁾ OA9, Support to the engagement of European Citizen in the transition to the European Green Deal Citizen Voices for the EU climate transition – EU and national roadmaps directorate, 2023

⁽²⁴⁾ European Commission, Opinion on democracy in the digital age, 2023

deliver a joint “Strategy to counteract gender-based violence including sexual harassment in the European R&I system”.

In addition, DG R&I took part to the Commission’s **Task Force on Equality and equality-related policy initiatives**. It contributed to key communication activities, such as celebrating the International Day of Women and Girls in Science (11 February) with the production of a factsheet featuring examples of the EU support to strengthen gender equality in STEM. An Expert Group report on the impact of the COVID-19 pandemic on gender equality in R&I was also released in May.

External communication activities

European Research and Innovation Days, the European Commission’s annual flagship Research and Innovation event, has been put on hold due to political changes in the College of Commissioners. The event took place in March 2024.

In 2023, DG R&I developed a communication campaign to raise awareness about the **benefits of the European Union’s initiatives on research and innovation**. The campaign took place in May 2023, building on a story-telling approach, showcasing researchers, scientists, and experts improving people’s lives. These stories, based on concrete examples, were translated and tailored to national preferences, with consistent branding for greater retention and impact. With a central landing page on Horizon magazine, the campaign promoted a series of communication material via media relations, online advertising, organic social media, and multipliers.

General objective 7: A MODERN, HIGH PERFORMING AND SUSTAINABLE EUROPEAN COMMISSION

The following specific objective, with relevant result indicator reflected in the annex (performance table, page 21 in the annexes), cover the broad spectrum of activities contributing to the ‘A modern, high performing and sustainable European Commission’.

The Common Policy Centre (CPC) and the Common Implementation Centre (CIC) provide the framework for policy planning, programming and implementing the Research & Innovation framework programme. The overarching priorities are simplification, harmonisation, and equal treatment of beneficiaries, which result and enter in the concept of **a modern, high performing and sustainable Commission**. This is achieved through optimised tools and processes, including for partnerships, missions, synergies, feedback to policy-making, and the exploitation of results.

Specific objective 7.1: The Common Implementation Centre and Common Policy Centre provide user-friendly services and tools to the European Commission for effective and efficient planning, programming and implementation of the Research and Innovation Framework Programme and other EU programmes

In 2023, DG R&I made sure that **the implementation of Horizon Europe and the Euratom programme** run smoothly and contribute to delivering on EU priorities. The CPC continued its work as the central hub driving, facilitating and co-creating the **Horizon Europe work programmes** with all Directorates-General involved in Horizon Europe. The CPC also continued the **preparatory work for the second strategic plan 2025-2027**, by undertaking the largest ever **stakeholder consultation** on the Framework programme (closed in February 2023 with 2788 replies and 265 position papers from various stakeholders) and **supporting analytical and foresight activities** identifying and assessing future scientific and technological breakthroughs. These activities fed into the **strategic plan analysis** published in May 2023 and drafts of this strategic plan have been discussed with the strategic configuration of the Horizon Europe programme committee from June 2023 onwards. The CPC has also coordinated the adoption and the publication of the **annual report on Research and Technological Development Activities and the annual monitoring of Horizon Europe for the year 2022**, in Q2 2023.

A core of DG R&I's activities is **turning EU policy priorities into R&I investment priorities**. Major outputs in this respect for 2023 were **the preparation of amendments of the "main" work programme 2023-2024**, a first amendment being adopted in March 2023⁽²⁵⁾. In line with the conclusions of the 2023 assessment of Missions, **a further amendment of the 2023-2024 'main' work programme** is in preparation, for adoption in 2024, to roll out actions for Missions harnessing the 2024 budget.

During 2023 the CPC conducted both the **ex-post evaluation of Horizon 2020 and the interim evaluation of Horizon Europe**. The ex-post evaluation of Horizon 2020 was finalised by end 2023 and was published early 2024. This evaluation highlights successes and also informs about areas for improvement. It will feed into the interim evaluation of Horizon Europe, for which preparations are ongoing in parallel.

The high-level expert group for the interim evaluation of Horizon Europe was set up in 2023. The results of the Horizon Europe interim evaluation are expected in early 2025.

The implementation of Horizon Europe continued **in a collaborative and co-creation mode** with a particular focus on enhancing **synergies within Horizon Europe and between programmes and instruments** at EU, national and regional level to maximise the collective impact. The objective is to coordinate **Commission wide efforts** to ensure that the development and implementation of Horizon Europe are fully in line with EU priorities but also to provide services aiming at generating synergies and efficiency gains and harmonising processes and practices across entities and EU programmes.

⁽²⁵⁾ European Commission Decision C(2023) 2178 of 31 March 2023

The CPC will continue to support the **EU Missions** in delivering on their key outputs and milestones by providing **effective and efficient planning, programming, monitoring and implementation services** and tools to the European Commission services involved in Missions' implementation: operation of Mission Boards, Missions' portfolio management, coordination of budget planning and associated governance mechanisms; and the analysis, strategy development and sharing of common approaches across the EU Missions, including **synergies with European Partnerships and other initiatives at EU, national and regional level** relevant to reach the EU missions objectives.

Following the **R&I Data work plan of Horizon Europe** a reinforced focus was put on **the monitoring of the EU Missions** (classification of projects contributing to Missions), transparency on R&I programme data (including improving the quality) and increased value of DG R&I data assets. During the second half of 2023, the focus shifted to the performing the necessary work to deliver **on the first version of the KIP dashboard** to allow for proper monitoring of Horizon Europe.

Substantial progress has been made in 2023 in relation to **our Feedback to Policy work**, in particular the implementation of the Framework launched by DG R&I. The Framework promotes closer collaboration and planning among policy and project officers, to facilitate the uptake of research results into the policy process and promotes overall efficiency. In parallel, further efforts were implemented **to support knowledge management within the Commission's services**, in particular by promoting knowledge management within the DG through tools such as **CountryPedia and the Briefing Library**.

The Horizon Europe Dissemination & Exploitation strategy maximises the value of the results stemming from the Framework Programme, thus contributing to transforming R&I results into concrete benefits for society. To increase **the visibility and uptake of research results**, continuous support is provided to Horizon beneficiaries and staff working in the domain, via dedicated services, such as the Horizon Results Booster, and tools (Horizon Results Platform and CORDIS).

Between April and November 2023, the CPC led on the organisation of ten **reflection seminars on FP10**, which were open to all staff from DG R&I and the Executive Agencies and allowed for inclusive discussions on key subjects for the future framework programme.

The CPC also used the discussions on the various evaluation/assessment exercises on Horizon 2020 and Horizon Europe to kick-off the preparatory work on the **future Framework Programme for Research and Innovation (FP10)**. It includes interactions with the European Research Area Committee (ERAC), in particular its taskforce on the future Framework Programme, with the Council Research Working Party as well as with the European Parliament.

In the first part of 2023, the CPC prepared an ambitious **Draft Budget 2024** commensurate with the level of ambition set by the legal acts, by the Strategic Plans and by the Work Programmes while ensuring an appropriate level of administrative expenditure. The CPC has also steered three **comprehensive revision exercises** of the 2023 budget of all the R&I programmes (operational and administrative expenditures) and took proactive measures to reach an optimal **budget implementation** at the end of the year.

The CPC timely launched the calls for funds to all Associated Countries participating in Horizon Europe Programme **which, for the first time, included the automatic correction mechanism** of the 2021 performance. Despite questions raised by some countries on this new mechanism, **associated countries were satisfied with the explanations and paid their contribution in full on time.**

The CIC continued to maintain and improve the implementation framework of Horizon Europe,

with a specific focus on further simplification, supervision and support to Executive Agencies and funding bodies, increased IT capacity through its flagship eGrants suite and stronger client centricity throughout its service portfolio.

In 2023 the CIC has:

- Continued **the roll out of simplified cost options such as lump sums and unit costs** in Horizon Europe. The first significant wave of lump sum funding was launched in more than 100 topics of the work programme 2023. In addition, the CIC made major progress with the preparations to use lump sum funding in ERC and EIC grants from 2024 onwards and intensive training, guidance and tools such as a new version of the lump sum dashboard, a more user-friendly budget table and training videos were provided to experts.
- Implemented **the Client Centricity Project** as planned, notably with regard to the revamp of the Funding and Tenders Portal, e.g., by improving its user experience and building up **new AI-powered functionalities**, as well as to the EU grants mobile application, which is at its design stage.
- Continued **to adapt eGrants**, the corporate IT suite enabling fully electronic, seamless management of (to date) 62 EU funding programmes, to the needs of Horizon Europe and the MFF 2021-2027.
- Established **the Joint Controllability Arrangement (JCA) regarding the personal data processing operations** within the Single Electronic Data Interchange Area (SEDIA).
- **Ensured synergies and collaboration** among Joint Undertakings (JU) and other funding bodies by taking stock of the back-office arrangements (BOA) on procurement implemented early 2023, supporting the imminent signature of the Signature Level Agreement on Human Resources, and the concept note on ICT by the JU Governing Boards.
- Chaired and administered a host of R&I family and wider governance bodies, including six

The Research family successfully achieved an **almost full implementation rate of the operational budget** (i.e. 99.99%) both in commitment and payment appropriations, as well as **100% budget implementation** (budgetary and legal commitments) of all the NGEU funds allocated to Horizon Europe for the years 2021-2023 (more than EUR 5 billion).

meetings of the eGrants and eProcurement Steering Board (GPSB), the overarching governance body for the full SEDIA programme, in addition to five meetings of the Horizon Europe Executive Committee as well as two meetings of the Horizon Europe Steering Board – the highest governance bodies of the Horizon Europe programme.

The CIC' **Common Service for Business Processes** has launched a pilot on blind evaluation, a tool to overcome any real or potential reputational bias in the evaluation process. The pilot will run over two years, 2023 and 2024, with all first-stage evaluations of two-stage calls evaluated blindly (with one exception for a Widening call).

The **Common IT Service** continued to harmonise and improve the workflows supporting the various processes for Horizon Europe grants, as well as to deliver new IT developments supporting the various policy needs.

The **Common Service for Executive Agencies and Funding Bodies** supported funding bodies in ensuring business continuity by providing legal drafting, administrative and financial advice and support on implementation and statutory aspects. For the JUs, DG R&I provided templates and support on the Consolidated Annual Activity Report, on the phasing out plans, and specific guidance and planning and reporting tools on the financial management of the private contributions.

The CIC's **Common Legal Support Service (CLSS)** has been involved in a range of legal activities and provided important and continuous legal and drafting support to central services in further developing **the corporate Annotated Model Grant Agreement ('AGA')**, drafted the decision on the rules for grant reductions for the new MFF, in line with the corporate MGA. Furthermore, the CLSS treated on

The CLSS replied to **278 external questions** and to **172 internal questions** received through the Helpdesk channel, treated **392 more complex questions** received through the ARES channel and also dealt with **1139 other various requests** received through other channels

complaints against acts adopted by Executive Agencies (Article 22 of Council Regulation (EC) No 58/2003): In 2023, DG R&I adopted 17 "Article 22" decisions on complaints submitted against acts (mainly rejections to submitted proposals) of the agencies and it also treated **European Ombudsman cases** (8 European Ombudsman) as well as **Court cases**, in collaboration with the Legal Service (LS).

The **access to documents** falls also into their portfolio of activities (handled 127 requests for access to documents, held on two meetings of access to documents coordinators of the Research Family).

The **Common Audit Service (CAS)** exceeded its audited participations target for the Horizon 2020 programme, reaching 100.9%. Furthermore, in collaboration with the R&I Family, the CAS drafted a detailed multi-annual audit plan for Horizon Europe, laying the groundwork for ex-post audits up to 2028. Additionally, the CAS organized **targeted educational webinars to reduce error rates** in financial reporting, demonstrating a strong commitment to stakeholder engagement and education.

To address **the need for further simplification and accessibility** within the Horizon Europe programme, a set of actions have been initiated. These measures aim to enhance the

user experience and increase the accessibility of Horizon Europe, particularly for newcomers. Some of the key actions include:

- Revamping information and dissemination channels, especially through the Funding and Tenders Portal, to provide clearer and more accessible guidance on Horizon Europe,
- Implementing simplified cost options, such as lump sum and unit costs, to streamline financial grant management and make the programme more user-friendly.
- Pilot actions to open the programme to new actors, fostering broader participation and innovation,
- Targeted actions to strengthen the participation of widening countries across all areas of Horizon Europe,
- Restructuring of the European Innovation Council (EIC) Fund to consolidate its position as the largest technology investor in Europe.

Additionally, **the Client Centricity Project** aims to enhance the user experience of the Funding & Tenders Portal. Through this project, the Portal will undergo a comprehensive revamp, focusing on meeting the needs of its users. Key improvements include Artificial Intelligence (AI)-powered functionalities for search and recommendations, the introduction of the EU Grants mobile application, and the establishment of a centralised newsroom for improved client-centric outreach activities.

Furthermore, efforts are underway to implement establish (it is not completely new) **a robust Data Governance and Data Quality Framework** to enhance the reporting of Framework Programme data and indicators. This includes **the implementation of a risk-based data control framework to improve the quality of data on Key Impact Pathways including the performance indicators.**

2. INTERNAL CONTROL AND FINANCIAL MANAGEMENT

Assurance is provided on the basis of information on the efficiency and effectiveness of internal control systems and governance processes. The management monitors the functioning of the internal control systems on a continuous basis and carries out an objective examination with internal and external auditors. The results are explicitly documented and reported to the Director-General. The following reports / documentation have been considered:

- the reports submitted by the Directors (including monitoring of Joint Undertakings, Public-Public Partnerships and financial instruments) and by AOSDs where applicable;
- the Draft Activity Report from the Common Implementation Centre ("CIC") and Common Policy Centre (CPC) to all research related implementing bodies.
- the reports from Authorising Officers in other DGs managing budget appropriations in cross-delegation;
- the reports on control results from entrusted entities in direct management (Executive Agencies) as well as the results of the DG's supervisory controls on the activities of these bodies;
- the contribution by the Director in charge of Internal Control and Risk Management, including the results of internal control monitoring at DG level;
- the reports on recorded exceptions, non-compliance events and any cases of 'confirmation of instructions' (Art 93.2 FR);
- the synthesis of the Common Audit Service ex-post audit results;
- conclusion of the Internal Auditor on the state of internal control in DG Research and Innovation and observations and recommendations reported by the Internal Audit Service (IAS);
- the observations and the recommendations reported by the European Court of Auditors (ECA).

The systematic analysis of the available evidence provides sufficient guarantees as to the completeness and reliability of the information reported and results in the full coverage of the budget delegated to the Director-General of DG Research and Innovation.

This section covers the control results and other relevant elements that support management's assurance. It is structured into four sub-sections, 2.1. Control results, 2.2. Audit observations and recommendations, 2.3. Effectiveness of internal control systems, and 2.4. Conclusions on the assurance.

DG RESEARCH AND INNOVATION AND THE RESEARCH AND INNOVATION FAMILY

The control framework presented in this report should be seen in the overall context of the responsibilities of DG R&I in implementing Horizon Europe (HE), Horizon 2020 (H2020), and Euratom.

Management modes for the programmes' implementation

The responsibility for implementing the EU Framework Programmes for Research and Innovation is shared among different Directorates-General in the Commission. In order to focus on core institutional policy tasks, these Directorates-General have delegated substantial parts (for DG R&I, the major part) of the programme implementation to Executive Agencies, Joint Undertakings (also called Article 187 bodies) and Public-Public Partnerships with the Member States (also called Article 185 bodies). The multitude of actors involved in the implementation of the EU Framework Programmes for Research and Innovation is referred to as the '**Research and Innovation Family**' (R&I Family).

DG R&I coordinates the Research and Innovation Family

DG Research and Innovation, as the lead DG of the R&I Family, invests considerable resources in coordinating the management of Horizon 2020 and Horizon Europe by the members of the family, well beyond its own budget appropriations. In addition to its coordination activities within the family, the DG, as parent DG of the R&I Executive Agencies, monitors and supervises ⁽²⁶⁾ their activities. DG R&I is the lead parent DG of REA, ERCEA and EISMEA.

Annex 7 presents the key role of the Common Implementation Centre in simplifying, harmonising and supporting the underlying Horizon 2020 and Horizon Europe business processes.

2.1. Control results

This section reports on the control results used by the management to support the assurance on the achievement of the internal control objectives (ICO) ⁽²⁷⁾. DG Research and Innovation's assurance building and materiality criteria are outlined in annual activity report annex 5. The annual activity report annex 6 outlines the main risks together with the control processes to mitigate them and the indicators used to measure the performance of the relevant control systems.

Direct management concerns grants given to beneficiaries through the implementation of the EU Framework Programmes (Seventh Framework Programme, Horizon 2020, Horizon Europe and Euratom) as well as subsidies paid to Executive Agencies.

Indirect management concerns subsidies to grant-implementing entrusted entities: Joint Undertakings (Article 187 bodies), Public-Public Partnerships (Article 185 bodies) as well as financial instruments provided by the European Investment Bank and the European

⁽²⁶⁾ Supervision of Executive Agencies is described in section 5 of Annex 7

⁽²⁷⁾ 1) Effectiveness, efficiency and economy of operations; 2) reliability of reporting; 3) safeguarding of assets and information; 4) prevention, detection, correction and follow-up of fraud and irregularities; and 5) adequate management of the risks relating to the legality and regularity of the underlying transactions, taking into account the multiannual character of programmes as well as the nature of the payments (FR Art 36.2). The 2nd and/or 3rd Internal Control Objective(s) (ICO) only when applicable, given the DG's activities.

Investment Fund.

In 2023, indirect management accounted for 72% of payments and direct management for the remaining 28%. As in 2022, DG Research and Innovation's main budget management mode for the year was indirect management.

Both direct and indirect grant management ⁽²⁸⁾, together with financial instruments, accounted for about 93 % of the DG R&I's payments in 2023.

The other expenditures relate mainly to public procurement (5%) and the Mutual Insurance Mechanism (2%).

Table 1: Overview of the budget implemented in 2023 by DG Research and Innovation broken down by the different control systems under which the payments were authorised ⁽²⁹⁾

Control system	Management mode	Payments 2023		Cumulative
		(M€)	%	%
Contributions to grant implementing entrusted entities: Joint Undertakings (article 187 bodies) and Public Public Partnership (article 185 bodies)	Indirect	1.231,67	68,31%	68,31%
Executive Agencies	Direct	212,41	11,78%	80,09%
Grants	Direct	168,50	9,34%	89,43%
Financial Instruments (InnovFin)	Indirect	65,10	3,61%	93,04%
Procurement	Direct	81,58	4,52%	97,56%
HE mutual insurance mechanism	Direct	28,00	1,55%	99,12%
Other	Direct	14,16	0,79%	99,90%
Experts	Direct	1,76	0,10%	100,00%
Grand Total (M€)		1.803,17	100%	

2023 revenues amount to EUR 522 million, accounting for 99.43% of Horizon Europe assigned revenues, including contributions from both accessing countries and third countries accessing the program.

Assets (EUR 3 410.70 million), liabilities (EUR –284.76 million) and off-balance sheet (EUR – 2.356.38 million) regarding Financial Instruments (InnovFin/RSFF) are detailed in section c) “safeguarding of assets and information”.

Legal commitments for Euratom grants amount to EUR 251.4 million. ⁽³⁰⁾

⁽²⁸⁾ Including payments to Executive Agencies

⁽²⁹⁾ Pre financing Payments for EUR 3.295.501.32 have been authorised under cross sub-delegation by CNECT in 2023 and are reported under the control system “grants”. The reports on the cross sub-delegations received from CNECT and from DG GROW (DG GROW having only commitments cross-subdelegated) did not provide indication of any particular unfavourable observation with regard to the regularity and legality of the transactions concerned.

⁽³⁰⁾ The significant legal commitments not covered by budgetary commitments and disclosed by DG R&I are two multiannual EURATOM commitments with annual instalments, for which not yet covered amount is EUR 251.4 million.

In line with the 2018 Financial Regulation, DG Research and Innovation's assessment for the current reporting requirement is as follows:

- DG Research and Innovation had no cases of **'confirmation of instructions'** ⁽³¹⁾ in 2023.
- In Horizon 2020, there are no cases of financing not linked to costs (Financial Regulation Article 125.3). In Horizon Europe, there is, so far, **one case of financing not linked to costs**: it concerns the 'Women TechEU' actions granted by the European Innovation Council and SME Executive Agency (EISMEA), where the amount of financing not linked to costs for each grant is fixed at EUR 75 000 ⁽³²⁾.
- There were no cases **of flat rates > 7% for indirect costs in 2023** ⁽³³⁾. According to the Horizon 2020 and Horizon Europe Rules for Participation ⁽³⁴⁾, indirect eligible costs are determined by applying a flat rate of 25% of the total direct eligible costs .
- Six grant agreements signed in 2023 **derogated from the principle of non-retroactivity** pursuant to Article 193 of the Financial Regulation. In such cases, however, no costs were incurred prior to the date of submission of the grant application are eligible.

There are no Financial Framework partnerships with duration of more than four years ⁽³⁵⁾ that entered into force during the reporting year 2023.

2.1.1. Effectiveness of controls

a) Legality and regularity of the transactions

DG R&I uses internal control processes to ensure sound management of risks relating to the legality and regularity of the underlying transactions it is responsible for, taking into account the multiannual character of programmes and the nature of the payments concerned.

⁽³¹⁾ FR art 92.3

⁽³²⁾ See RAO decision from DG R&I of 7 July 2021 available at: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he-womentecheu_en.pdf

⁽³³⁾ FR Article 181.6

⁽³⁴⁾ Article 29 of Regulation (EU) No 1290/2013 of the European Parliament and of the Council of 11 December 2013 laying down the rules for participation and dissemination in "Horizon 2020 – the Framework Programme for Research and Innovation (2014-2020)" and Article 39 Regulation (EU) 2021/65 of the European Parliament and of the Council of 28 April 2021 establishing Horizon Europe – the Framework Programme for Research and Innovation, laying down its rules for participation and dissemination.

⁽³⁵⁾ FR art 130.4

1) *Control objective*

R&I family direct and indirect grant management for H2020 and HE

The R&I Family operates on a common audit strategy intended to contribute to the legality and regularity of expenditure on a multi-annual basis, including detection and correction of non-systemic and systemic errors.

For Horizon 2020, the Common Audit Service (CAS) of the Common Implementation Centre (CIC) carries out all audits ⁽³⁶⁾, including those concerning grants managed by the Executive Agencies and the Joint Undertakings. This is a major step towards ensuring efficiency gains, a harmonised approach, legal certainty, equality of treatment of beneficiaries and the least audit burden on beneficiaries.

The Horizon Europe Audit Strategy ⁽³⁷⁾ is risk-based and draws on the achievements of lessons learnt from Horizon 2020.

The **main indicators** on legality and regularity ⁽³⁸⁾ of EU Framework Programmes for Research and Innovation are:

- The **cumulative representative detected error rate**, based on errors detected by ex-post audits on a Common Representative Sample of cost claims across the R&I Family; and
- The **cumulative residual error rate**, which is the extrapolated level of error after corrective measures have been implemented by the Commission services following the audits, accumulated on a multi-annual basis.

The **targets** set for this control system are, respectively:

- For Horizon 2020, to ensure that the cumulative detected error rate remains within a range of 2-5 %, aiming to be as close as possible to 2%. Progress against Horizon 2020 targets is assessed annually based on the results of the implementation of the ex-post audit strategy and taking into account the frequency and importance of the detected errors along with cost-benefit considerations regarding the effort and resources needed to detect and correct the errors.
- For Horizon Europe, to ensure that cumulative detected and residual error rates do not exceed 2% ⁽³⁹⁾.

⁽³⁶⁾ Except audits for article 185 bodies.

⁽³⁷⁾ The Horizon Europe Audit Strategy has been adopted by the Horizon Europe Steering Board on 02/02/2023

⁽³⁸⁾ These indicators are described in Annex 5.

⁽³⁹⁾ No representative error rate for Horizon Europe will be available in 2022 and 2023 as the ex-post audit campaign for the Programme is planned to be launched in the beginning of 2024.

It should be noted, however, that due to its multi-annual nature, the effectiveness of the ex-post control strategy of the R&I Family can only be measured and assessed fully in the final stages of the EU Framework Programme, once the ex-post audit strategy has been fully implemented, and errors, including those of a systemic nature, have been detected and corrected.

Financial instruments

InnovFin

In 2023, DG Research and Innovation transferred a total of EUR 65.1 million to the European Investment Bank (EIB) and the European Investment Fund (EIF) for InnovFin-EU Finance for innovators. InnovFin is a joint initiative launched by the European Investment Bank Group (EIB and EIF) in cooperation with the European Commission under [Horizon 2020](#). It aims at utilising specific financial instruments to accelerate access to finance by innovative businesses and other innovative entities in Europe.

The Supervision Strategy of the budget entrusted to the EIB and EIF for InnovFin, established in 2015, was revised in January 2023 and again in February 2024 following organisational changes between the agency and RTD and including provisions as regards the updated governance for the post 2020 period. Its principles are presented in Annex 7. For the period 2021-27 InnovFin is a legacy financial instrument and has been replaced by InvestEU.

2) Assessment of the control results

Control results for DG R&I Direct grant management

Horizon 2020 Framework Programme

The CAS managed to finalise audits on 648 participations corresponding to 100.9% of the 2023 target for H2020.

The Commission methodology for calculating the Horizon 2020 error rates is in line with the European Court of Auditors' (ECA) observations in their 2018 and 2019 Annual Reports and is described in Annex 5 'Materiality criteria'. Use of the methodology yielded the following error rates for Horizon 2020 ⁽⁴⁰⁾ on 31 December 2023:

- **Cumulative representative detected error rate** for the Framework Programme: **2.57%** ⁽⁴¹⁾
- **Cumulative residual error rate** for the Framework Programme: **1.55%** (1.64 %)

⁽⁴⁰⁾ The Horizon 2020 audit campaign started in 2016. At this stage, five Common Representative Samples with a total of 788 expected results have been selected. By the end of 2023, cost claims amounting to EUR 49.2 billion have been submitted by the beneficiaries to the services. The audit coverage for Horizon 2020 is presented in Annex 7. In addition to the Common Representative Samples, Common Risk Samples and Additional Samples have also been selected. The audits of 4 707 participations were finalised by 31/12/2023 (of which 648 in 2023).

⁽⁴¹⁾ Based on the 581 representative results out of the 788 expected in the five Common Representative Samples.

for DG Research and Innovation⁴²).

In 2023, the cumulative residual error rate for Horizon 2020 for the grants managed directly by DG Research and Innovation is calculated at 1.64%, which is below the materiality threshold.

Since R&I Framework Programmes are multi-annual, the error rates, and the residual error rate in particular, should be considered within a time perspective. Specifically, the implementation of the audit results over time will tend to lower the cumulative residual error rate thus increasing its difference with the representative detected error rate.

These error rates are calculated on the basis of the audit results available when drafting the Annual Activity Report. They should be treated with caution as they may change subject to the availability of additional data from audit results.

Given the results of the audit campaign, and the observations made by the European Court of Auditors in its Annual Reports, the Common Implementation Centre of DG Research and Innovation, in close cooperation with central Commission services, defined actions aimed at significantly simplifying the rules, and paving the way for an important reduction of the error rate in Horizon Europe such as the use of a Corporate Model Grant Agreement and a Corporate Annotated Grant Agreement for all Programmes directly managed by the Commission. Other actions under implementation also targeting Horizon 2020 grants and beneficiaries, include further simplification (such as the increased use of simplified forms of funding, including lump sums and unit costs), focused communication campaigns to more “error-prone” types of beneficiaries with higher-than-average error rates (such as SMEs and newcomers), and enhanced training to external audit firms performing audits on behalf of the Commission. Focusing on the most common errors, these actions will be straightforward and achieve higher impact⁴³).

Horizon Europe Framework Programme

2023 was the third year of implementation of the Horizon Europe Framework Programme. No representative error rate for Horizon Europe is available in 2023 as the ex-post audit campaign for the Programme is planned for launch in 2024, once a meaningful number of payments is available for audit. Consequently, without elements allowing an assessment of the level of errors and taking into account the simplifications introduced for Horizon Europe that aim to reduce the error rate, a 2% ⁽⁴⁴⁾ detected and residual error rate will be considered for DG Research and Innovation.

Euratom Framework Programmes

⁴² It should be noted that in 2021 most of Horizon 2020 grants managed by DG Research and Innovation were delegated to Executive Agencies. Hence, this figure is based only on the actions that remained with the DG.

⁽⁴³⁾ The CAS continues to analyse the root causes of errors that have been identified and targeted actions are taken to address any identified weaknesses. Further information on the implementation of the action plans established to reduce the error rates of Horizon 2020 and Horizon Europe can be found in Annex 7.

⁽⁴⁴⁾ These rates correspond to the objective set for Horizon Europe.

The Euratom Programme (2014-2018) Regulation⁽⁴⁵⁾ and the Euratom (2019-2020) Regulation⁽⁴⁶⁾ complements the Horizon 2020 Regulation. The Euratom Audit Strategy is articulated as a complement to the one of Horizon 2020. For the Euratom Programme, the 2023 cumulative detected error rate is 1.18%. However, in the AAR 2023, only the Horizon 2020 error rate has been presented and used for the estimation of the amount at risk, as the Euratom error rate is not statistically representative.

The Euratom Programme (2021-2025) follows the same rules for participation and grant management as Horizon Europe⁽⁴⁷⁾. Consequently, its error rate estimation is aligned with that of Horizon Europe. The Euratom Programme's (2021-2025) Audit Strategy is currently under preparation and will be based on the lessons learnt from the Audit Strategy of the Euratom Programme (2014-2018).

Control results for Executive Agencies, Joint Undertakings, Public-Public Partnerships

Control results for Executive Agencies

In 2023, DG Research and Innovation was the lead parent DG of the Research Executive Agency (REA), the European Research Council Executive Agency (ERCEA) and the European Innovation Council and SME Executive Agency (EISMEA). DG Research and Innovation is also a parent DG of the European Health and Digital Executive Agency (HaDEA) and of the European Climate, Infrastructure and Environment Executive Agency (CINEA), as these two agencies implement parts of Horizon 2020 and Horizon Europe.

In 2023, DG Research and Innovation paid EUR 212.41 million to the REA, ERCEA and EISMEA to cover their administrative expenses.

DG Research and Innovation effectively supervised the three Executive Agencies for which it is lead parent DG. For EISMEA and ERCEA, no issues warranting a mention in this report were identified. .

For REA, a new reputational reservation related to the grants part of the Promotion of agricultural products (AGRIP) is included in its AAR in 2023. The issue identified is specific to this DG AGRI grants scheme and does not affect though the DG R&I's annual declaration.

DG R&I issued a reservation in its Annual Activity Report 2022, following the criticality of the IAS report on the design and early implementation of the EIC, received at the end of January 2023. This reservation has been lifted in 2024 as the major IAS recommendations have been

⁽⁴⁵⁾ Council Regulation (Euratom) No 1314/2013 of 16 December 2013 on the Research and Training Programme of the European Atomic Energy Community (2014-2018) complementing the Horizon 2020 Framework Programme for Research and Innovation (OJ 347/84, 20.12.2013).

⁽⁴⁶⁾ Council Regulation (Euratom) 2018/1563 of 15 October 2018 on the Research and Training Programme of the European Atomic Energy Community (2019-2020) complementing the Horizon 2020 Framework Programme for Research and Innovation, and repealing Regulation (Euratom) No 1314/2013

⁽⁴⁷⁾ Council Regulation (Euratom) 2021/765 complementing the Horizon Europe Regulation.

implemented by the end of 2023 (see detail in Annex 9). The restructuring of the EIC Fund has been completed and it is managed under indirect management as of 1st January 2024.

Control results for Joint Undertakings (Article 187 bodies)

The Joint Undertakings Circular Bio-Based Europe (CBE), Clean Aviation (CA), Clean Hydrogen (CH), Global Health European & Developing Countries Clinical Trials Partnership (EDCTP3) ⁽⁴⁸⁾ and Innovative Health Initiative (IHI) implement parts of the Horizon 2020 and Horizon Europe Framework Programmes, under the governance and oversight of DG R&I ⁽⁴⁹⁾.

In 2023, these Joint Undertakings received from DG Research and Innovation a total of EUR 1 045.35 million of payments for operational and running costs.

The Joint Undertakings apply the same audit strategy as the Commission services.

The Joint Undertakings' 2023 Annual Activity Reports are under preparation. At this stage, DG R&I identified no particular issue warranting a mention in this report.

The Court of Auditors gave a positive opinion on the 2022 Accounts of all the Joint Undertakings under DG Research and Innovation's governance. All of them had a residual error rate below 2%.

Control results for Public-Public Partnerships (Article 185 bodies)

Article 185 of the Treaty enables the EU to participate in research programmes undertaken jointly by several Member States, including participation in structures created for the execution of national programmes. The bodies supported under Article 185 in 2023 are the following: Research for the benefit of SMEs (EUROSTARS2), European Partnership on Metrology ⁽⁵⁰⁾, European and Developing Countries Clinical Trial Partnership (EDCTP2), and Partnership for Research and Innovation in the Mediterranean Area (PRIMA).

In 2023, DG Research and Innovation paid a total of EUR 186.32 million to Art.185 bodies for operational and running costs ⁽⁵¹⁾.

Following the review of the submitted Annual Activity Reports 2022, DG Research and Innovation did not identify any particular issues warranting a mention.

The Annual Activity Reports 2023 of the partnerships are under review. At this stage, DG R&I identified no particular issue warranting a mention in this report.

⁽⁴⁸⁾ A new Joint Undertaking, the Global Health EDCTP3 (EDCTP3 JU) was established through Council Regulation 2021/2085 (SBA). DG R&I was responsible for the initial operations until it became autonomous on 23 November 2023.

⁽⁴⁹⁾ Annex 11 of this report summarises the underlying legal and financial parameters of the Joint Undertakings' operations.

⁽⁵⁰⁾ European Partnership on Metrology which is the Horizon Europe successor of European Metrology Programme for Innovation and Research (EMPIR) took over the activity of EMPIR end 2021.

⁽⁵¹⁾ Annex 11 details the respective legal bases and the amounts entrusted to each body.

Control results for financial instruments

a. InnovFin (EU Finance for Innovators)

The auditors reported their confirmation on no findings in any of the Innovfin monitoring/audit exercises and hence DG R&I has no audits to follow up upon in 2023. Moreover, the analysis of both reports, indicated that there is nothing to follow up or pursue in either report.

The following 2023 annual reports have been received timely received on 15 March 2024 and are under review for the three instruments (EIB Loans, EIF SME Guarantee (SMEG) and EIF InnovFin equity (IFE)):

- management declaration of assurance annexed to the financial statements in the form defined in the Financial and Administrative Framework Agreement,
- summary report on audits and controls carried out in the period in question, including an analysis of the nature and extent of errors and identified weaknesses in systems if any, and any corrective actions taken or planned,
- independent audit opinion on the management declaration and the summary report on audits and controls.

So far, there are no particular issues that would need to be addressed in DG R&I annual activity report.

For the 2023 audited financial statements of all three instruments⁵², confirmation has been received that no matter potentially damaging the financial interest of the Union has been identified.

The 2023 audited Financial Statements for RSFF (legacy from FP7) have been timely received on 15 March 2024.

Considering the values of the relevant indicators contributing to the objective of enhancing access to risk finance for investing in research and innovation (Industrial leadership), the performance of InnovFin exceeded expectations. More specifically, based on the latest data (⁵³) provided by the entrusted entities, the total volume of investments mobilized via debt financing and venture capital investments since the launching of the programme reached EUR 55.1 billion against a target of EUR 15 billion at the design phase of the programme. The cumulative number of funded organisations reached 45 978 against a target of 5 000. Finally, the total amount of leveraged private funds reached over EUR 45 billion against a target of EUR 35 billion.

In its recent Note on audits conclusion, signed on 23 February 2024, of its follow-up audit in the Directorate-General for Research and Innovation, the IAS concluded that all recommendations from the audit on the European Union Finance for Innovators (InnovFin) have been adequately and effectively implemented and will therefore be closed.

(⁵²) Including the report from the auditor and the report on factual findings resulting from the Agreed Upon Procedures engagement.

(⁵³) Operational report shall be submitted on 31 March 2024

b. EIC Fund

In 2023, DG R&I concluded multiparty negotiations allowing the adoption of a third Commission decision and a communication to the college on the restructuring of the EIC Fund ⁽⁵⁴⁾. It comprised a contribution agreement with the European Investment Bank (EIB), under which the EIB becomes the 'investor of record' of the EIC Fund and thereby bring the EIC Fund under indirect management from 1 January 2024. However, for the year 2023, EISMEA remained the Responsible Authorising Officer for the EIC Fund's budget management and its supervision, under direct management.

The contribution agreement with the EIB, is accompanied by a set of additional agreements (Articles of association, temporary share transfer agreement, transfer of subscriptions agreement and a side letter agreement) to ensure that the Commission can continue to provide policy steer in line with the objectives of the EIC and has the power to terminate at any time.

Moreover, in 2023 the EISMEA Delegation Instrument and the corresponding Memorandum of Understanding for the EISMEA were reviewed accordingly, setting the frame for indirect management of the EIC Fund. The above actions addressed the findings of the IAS audit on the design and early implementation of the European Innovation Council (EIC).

The Commission has received, with delay, and accepted all the annual reports ⁽⁵⁵⁾ for the fiscal year 2022, foreseen in the statutory and governing documents of the Fund, including the four quarterly bank statements for 2022.

According to EISMEA's review, none yielded a reservation or issues to flag.

For the fiscal year 2023, all reporting obligations of the EIC Fund stipulated in the statutory and governing documents of the Fund, including the four quarterly bank statements for 2023, were received and assessed, except for the audited financial statements ⁽⁵⁶⁾. EISMEA's review of the document received, identified no issues.

Additionally, an analysis of the 2023 unaudited financial statements indicated that the administrative expenses and fees did not exceed the predetermined maximum ceiling.

According to the information provided, no weaknesses in EISMEA's supervision of the EIC Fund or in the management of the entrusted budget were observed, other than matters brought to the attention of the EU Commission by the EIC Fund in accordance with the PPM. Consequently, there is no issue affecting DG R&I's annual declaration of assurance for 2023 and the 2022 reservation can be lifted.

3) Supervision/Coordination of EU bodies (Executive Agencies, Joint Undertakings, Public-Public Partnerships) and of InnovFin)

With the current Multiannual Financial Framework (2021-2027), the Horizon Europe programme, and its Governance and Operating Rules were adopted. A joint Executive

⁽⁵⁴⁾ Commission decision of the restructuring of the European Innovation Council (EIC) Fund in the context of the implementation of the EIC Accelerator under Horizon Europe (C(2023)8183).

⁽⁵⁵⁾ Audited versions of the documents (30 April 2023)

⁽⁵⁶⁾ Due on 30 April 2024

Committee and Steering Board for the Common Implementation Centre (CIC) and the Common Policy Centre (CPC) were established. The CIC and CPC play a key role in simplifying, harmonising and supporting the underlying business processes ⁽⁵⁷⁾.

The supervision for all entrusted entities includes participation in Steering Committees or Governing Boards, the regular reporting, and the examination of reports from audit services such as the Internal Audit Service and the European Court of Auditors and external auditors for Article 185 bodies. Furthermore, most of the operations related to the implementation of Horizon Europe are performed through the corporate eGrant, which benefits from specific central instructions and guidance ⁽⁵⁸⁾. For additional information on supervision arrangements for entrusted bodies see Annex 7 for Executives Agencies and Annex 11 for Joint Undertakings (Article 187 bodies) and Public-Public Partnerships (Article 185 bodies).

Further information on Executive Agencies and on Joint undertakings is also provided in their Annual Activity Report 2023.

4) Overview of DG Research and Innovation's risk profile

DG Research and Innovation's portfolio includes segments with a relatively low error rate and segments with a medium and higher error rate. The low error rate segments are the Horizon 2020 financial instruments, public procurements, the Mutual Insurance Mechanism, and experts with inherent low-risk profile of funding modalities. The medium error rate segments concern Horizon Europe grants/Euratom Horizon Europe grants and Horizon Europe contributions to article 185 and 187 bodies. The high error rate segment concerns FP7 grants, Horizon 2020 / Horizon Euratom 2020 grants and contributions to article 185 and 187 bodies for Horizon 2020. The relatively high level of error in Horizon 2020 grants and contributions is linked to the applicable funding model, which is based on the reimbursement of eligible actual costs. Most of the errors relate to incorrect claims for personnel costs that are mainly due to beneficiaries' lack of thorough understanding of the inherently complex rules. Newcomers and Small and Medium Enterprises (SMEs) are more prone to errors in comparison to more experienced beneficiaries. There is evidence that the simplifications introduced under Horizon 2020, along with the ever-increasing experience, help in reducing the number of errors made by the beneficiaries, especially when compared to the Seventh Framework Programme. Notwithstanding these efforts, beneficiaries still make errors. Actions carried out to address these weaknesses are reported in the section "Results of the Horizon 2020 ex-post audits" and include focused communication campaigns to the more error-prone types of beneficiaries, and enhanced training to project and financial officers and external auditors.

⁽⁵⁷⁾ Annex 7 presents the Horizon 2020 and Horizon Europe implementation model and the key role of the Common Implementation Centre and the Common Policy Centre in simplifying, harmonising and supporting the underlying business processes.

⁽⁵⁸⁾ eGrant Vademecum

5) Table (X): Estimated risk at payment and at closure

Based on all the above, DG Research and Innovation's presents in the following Table X an estimation of the risk at payment and risk at closure for the expenditure managed during the reporting year:

Table (X): Estimated risk at payment and at closure (amounts in EUR million)

DG RTD	Payments made		Relevant expenditure		Estimated risk (error rate %) at payment		Estimated future corrections and deductions		Estimated risk (error rate %) at closure	
	m EUR	m EUR	m EUR	m EUR	m EUR	%	m EUR	%	m EUR	%
Grants FP7	0,40	0,40	0,02	0,02	0,02	5,44%	0,01	1,97%	0,01	3,47%
Grants Horizon 2020 and Euratom Horizon 2020	19,63	62,03	1,59	1,59	1,59	2,57%	0,58	0,93%	1,02	1,64%
Grants Horizon Europe and Euratom Horizon Europe	148,47	132,46	2,65	2,65	2,65	2,00%	0,00	0,00%	2,65	2,00%
Financial instruments H2020 (InnovFin)	65,10	65,10	0,33	0,33	0,33	0,50%	0,00	0,00%	0,33	0,50%
Procurement	81,58	81,58	0,41	0,41	0,41	0,50%	0,00	0,00%	0,41	0,50%
Mutual Insurance mechanism	28,00	28,00	0,14	0,14	0,14	0,50%	0,00	0,00%	0,14	0,50%
Experts contracts	1,76	1,76	0,01	0,01	0,01	0,50%	0,00	0,00%	0,01	0,50%
Other	14,16	12,98	0,06	0,06	0,06	0,50%	0,00	0,00%	0,06	0,50%
Contributions to article 187 and 185 bodies FP7	3,02	3,02	0,06	0,06	0,06	2,00%	0,00	0,00%	0,06	2,00%
Contributions to article 187 and 185 bodies H2020	392,58	347,29	8,93	8,93	8,93	2,57%	3,54	1,02%	5,38	1,55%
Contributions to article 187 and 185 bodies HE	836,07	0,00	0,00	0,00	0,00	2,00%	0,00	0,00%	0,00	2,00%
Total without contribution to EA's operating budget	1 590,75	734,62	14,20	14,20	14,20	1,93%	4,13	0,56%	10,07	1,37%
REA	102,74	97,40	0,00	0,00	0,00	0,00%	0,00	0,00%	0,00	0,00%
EISMEA	47,91	44,55	0,00	0,00	0,00	0,00%	0,00	0,00%	0,00	0,00%
ERCEA	61,76	58,29	0,00	0,00	0,00	0,00%	0,00	0,00%	0,00	0,00%
Sub-total contributions (if more than one)	212,41	200,24	0,00	0,00	0,00	0,00%	0,00	0,00%	0,00	0,00%
Total DG (with contributions to EAs)	1 803,17	934,85								

The full detailed version of the table is provided in annex 9.

The **estimated overall risk at payment** for 2023 expenditure, 1.93%, is the AOD's best conservative estimate of the amount of relevant expenditure during the year, not in conformity with the contractual and regulatory provisions applicable at the time the payment was made. This expenditure will subsequently be subject to ex-post controls and a proportion of the underlying errors will be detected and corrected in subsequent years, corresponding to the conservatively **estimated future corrections** for 2023 expenditure, 0.56%.

The difference between those two, results in the **estimated overall risk at closure**⁵⁹, 1.37%. This is an increase compared to 2022 (1.26%) mainly due to the diminution of the amount paid to InnovFin, which was low risk segment.

⁽⁵⁹⁾ This is the AOD's best, conservative estimation of the expenditure authorised during the year that would remain not in conformity of applicable regulatory and contractual provisions by the end of the implementation of the programme.

For an overview at Commission level, the departments' estimated overall risk at payment, estimated future corrections, and risk at closure are consolidated in the AMPR.

6) Preventive and corrective measures

As regards the corrections carried out in 2023, DG Research and Innovation's has in place an effective mechanism for correcting errors, through ex-ante and ex-post controls, resulting in preventive and corrective measures, amounting to EUR 0.56 million (vs EUR 0.6 million in 2022) and EUR 0.60 million respectively (vs EUR 4.8 million in 2022). The decrease compared to 2022 for corrective measures, is due to the full delegation of last Horizon 2020 grants (except EURATOM) from DG R&I to the Executive agencies.

b) Fraud prevention, detection and correction

The Common Anti-Fraud Strategy in the R&I Family (RAFS), jointly with its Action Plan, sets out broad principles to counter external fraud in grant expenditure in Research & Innovation (R&I) Framework Programmes by building relevant preventive and detective measures. The Common Audit Service (CAS) coordinates the implementation and updated of the Common Anti-Fraud Strategy in the R&I Family (RAFS).

The Fraud and Irregularities in Research (FAIR) Committee, chaired by the CAS, remains the main forum of the R&I Family on anti-fraud matters. This Committee develops, regularly monitors and ensures reporting on the implementation of the RAFS action plan to the HE Executive Committee. In 2023, the FAIR Committee met twice with the main objective of updating the RAFS 2019. The first meeting was dedicated to the presentation of the results of the RAFS 2019 evaluation carried out in March and the discussion on the objectives and action plan for the updated strategy. The second meeting focused on the final discussion of this strategy, that was endorsed by the FAIR Committee on 4 December, officially approved by OLAF on 11 December and subsequently endorsed by the HE Executive Committee on 22 December 2023. The RAFS 2023 is in line with the 2019 Commission Anti-Fraud Strategy (CAFS) and will contribute to the implementation of its 2023 revised action plan ⁽⁶⁰⁾.

Awareness-raising actions on anti-fraud remains one of the objectives of the RAFS. The CAS continued to raise awareness towards beneficiaries on the importance of anti-fraud during the Horizon Europe Coordinators' Day of 2 February and the Horizon Implementation Day of 24 October 2023.

The CAS continues to actively cooperate with the European Anti-Fraud Office (OLAF) on fraud prevention via the Commission Fraud Prevention and Detection Network (FPDNet), on case selections and investigations.

⁽⁶⁰⁾COM(2023) 405 final of 11/07/2023, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee, the Committee of the Regions and the Court of Auditor. Commission Anti-Fraud Strategy Action Plan - 2023 revision.

The CAS also continues to cooperate with the European Public Prosecutor's Office (EPPO), when necessary. The CAS actively participates in the Commission-EPPO working group on information exchange, established in October 2023.

By the end of 2023, 30% of the OLAF financial recommendations (issued in 2019-2023) have been fully implemented, 70% have not been implemented.

Out of the 70% recommendations not implemented, it is to be highlighted that 42,86% of the latter are nevertheless considered as closed cases as DG R&I proceeded to waivers following the recommendations received from the Legal Service and/or DG BUDG, another 42,86% are not implemented because still undergoing national judicial proceedings. Lastly, the adversary procedure before issuance of the final recovery orders is still undergoing for the remaining 14,28%.

A separate DG R&I Anti-fraud strategy (DG R&I AFS) covers all spending areas except grants – i.e. fraud risks related to financial instruments, procurement, expert management, prizes etc. The DG R&I AFS was updated in December 2022 and covers the period 2022-2025. The Action Plan of the DG R&I AFS focuses on raising staff awareness on the rules of ethics, with particular emphasis on possible conflicts of interest in the DG. Its implementation is being monitored and reported to the management twice a year. All necessary actions have been implemented. The results achieved during the year thanks to the anti-fraud measures in place can be summarised as follows:

- All newcomers colleagues attending the Welcome sessions in 2023 (including those online) were made aware of the importance of Ethics in their duties.
- DG R&I staff received communication related to ethical aspects, and 25 members of R&I staff (both working in DG R&I and seconded to Executive Agencies) attended the Ethics trainings.

On the basis of the available information, DG Research and Innovation has reasonable assurance that the anti-fraud measures in place are effective overall.

c) Safeguarding of assets and information (if applicable)

DG Research and Innovation's main assets, liabilities ⁽⁶¹⁾ and off-balance sheets ⁽⁶²⁾ relate to items managed and controlled in the context of financial instruments (InnovFin/RSFF), as detailed in the table below:

⁽⁶¹⁾ Source of data : Table 4 in Annex 3 reports on DG R&I's overall assets.

⁽⁶²⁾ Source of data : Table 5 BIS in Annex 3 reports on off balance sheet

	Amount in EUR million
Financial instruments: FVSD (Financial assets at fair value through surplus or deficits) investments - long term part	3.016,78
Financial instruments: FVSD Assets liquidable during the year	195,56
Current accounts and other liquidities < 3 months	198,37
Current financial liabilities	-284,76
Guarantees given for financial instruments	-2.356,38

Intangible assets are IT software, which represented EUR 47.88 million at the end of 2023. No security incidents with significant impact on the confidentiality, integrity or availability of Information Systems, were reported during the year.

d) Reliability of reporting (if applicable)

The findings and recommendations of the DG BUDG reports on the validation of Local Systems are subject to a systematic follow up by DG Research and Innovation. The DG had no open recommendations in 2023.

DG Research and Innovation implements a significant part of its budget through indirect management. It, therefore, relies on the reports and accounts provided by the relevant implementing bodies and considers that, overall, the reporting received is reliable and adequate for drawing assurance conclusions.

2.1.2. Efficiency of controls

Based on an assessment of the most relevant efficiency control results, DG Research and Innovation has assessed the and reached a positive conclusion.

Grant management

This section presents the main efficiency performance indicators for the activities carried out efficiency of the control system in DG Research and Innovation for Horizon 2020, Horizon Europe including Euratom namely **Time-to-Inform (TTI), Time-to-Grant (TTG) and Time-to-Pay (TTP)**. Some additional indicators on ex-post audits are presented in Annex 7.

By the end of 2023, 10 674 Horizon Europe grant agreements (15 of which in DG R&I) and 2 Framework Agreements had been signed for a total EU contribution of EUR 30.8 billion (EUR 28.94 million of which in DG Research and Innovation). Although still in its early stages, Horizon Europe currently enjoys a success rate of 17.26 % ⁽⁶³⁾, i.e., a little over 1 out of 6. Finally, by the end of 2023, 34 Euratom grant agreements were signed (2 of which in 2023) with an EU contribution of EUR 677.88 million.

⁽⁶³⁾ The respective success rate for H2020 was 11.95%

Time-to-Inform (TTI)

During 2023, 70.11 % of the Horizon Europe main-listed proposals received the information letters within five months (153 calendar days) from the respective call deadline. On average, information letters for all main-listed proposals were sent within 132 days.

Table: Horizon Europe Time-to-Inform:

Period	DG Research and Innovation (HE)		Research and Innovation family (HE)	
	Signed Grant Agreements where TTI <= 153 days	Average TTI for main-listed proposals (days)	Signed Grant Agreements where TTI <= 153 days	Average TTI for main-listed proposals (days)
2021-2023	98.9 %	80	61.92 %	134
2023	98.41 %	100	70.11 %	132

Time-to-Grant (TTG)

Table: Horizon Europe Time-to-Grant

During 2023, 93 % of Horizon Europe grant agreements were signed ⁽⁶⁴⁾ within 8 eight months from the respective call deadline, with an average of 221.5 days.

For the period covering 2021-2023, the respective figures were 85 % and 227.5 days.

Period	DG Research and Innovation (HE)		Research and Innovation family (HE)	
	Signed Grant Agreements where TTG <= 245 days	Average TTG for main-listed proposals (days)	Signed Grant Agreements where TTG <= 245 days	Average TTG for main-listed proposals (days)
2021-2023	80 %	145.5	85 %	227.5
2023	71 %	166.7	93 %	221.5

During 2023, two Euratom Horizon Europe main-listed proposals received the information letters within 5 months (153 calendar days) from the respective call deadline. In addition, two Euratom Horizon Europe grants signed in 2023, were signed within 8 months (245 calendar days) of the respective call deadline. The average Time-to-Grant period was 88 days.

⁽⁶⁴⁾ In 2023 3 465 Horizon Europe grant agreements were signed (7 for DG R&I (and in addition 7 signed by DG R&I for EDCTP 3 before its autonomy that have been transferred to EDCTP3)). During 2023, 71 % of Horizon Europe grant agreements were signed by DG R&I within 8 eight months from the respective call deadline, with an average of 166.7 days. The signature of 2 grants was delayed due to the need to amend the Work Programme (WP) as in the original WP the lump sum funding was omitted and due to the non-respect of deadlines by the consortium for the bank account validation.

Timely payments

For year 2023, the timely payment score for DG Research and Innovation is 100%. It has increased compared to last year (97%). ⁽⁶⁵⁾.

Timely Payments	RTD Score	EC Score
	100%	99%

Joint Undertakings (Art. 187), Public-Public Partnerships (Art. 185) and Executive Agencies

DG R&I contributed to further reduce the investment backlog on the European Innovation Council (EIC) Fund. The EIC Fund has now reached cruising speed under Horizon Europe in the processing of decision making, with timeframes significantly reduced across the various stages of the investment process.

During 2023, significant efforts were undertaken to ensure:

- the revision by decision adopted by the Commission of the instrument of delegation to EISMEA in order to clarify the tasks and responsibilities of the Agency in line with the restructuring of the EIC fund.
- the signature of the Memoranda of Understanding with EISMEA in line with the restructuring of the EIC Fund
- the completion of the Joint Action plan (EISMEA/RTD/CNECT) adopted in response to the IAS audit on design and early implementation of the EIC.
- the drafting and update of several harmonised templates and decisions for Joint Undertakings, in close cooperation with the operational units in charge of the Joint Undertakings and the Joint Undertakings themselves (i.e. Financial Framework Partnership Agreement, Consolidated Annual Activity Report, Annual Work Programme, Governing Board decisions, Synergy Agreement).
- the implementation of harmonised IT tools, with the support of RTD and horizontal IT units, and based on the operational feedback of Joint Undertakings. This included notably the launch of two tools for the planning and reporting of in kind contributions to additional activities, launched in May and October 2023, respectively.
- setting up a horizontal approach regarding the impact of UK association to Horizon Europe on the budgets of Joint Undertakings, in close cooperation with the CPC.
- the correct reporting by Joint Undertakings on their Phasing Out Plans, as required by the Single Basic Act.

⁽⁶⁵⁾ Details on the calculation of this Timely Payments' indicator is presented in Annex 4: Financial Scorecard.

- the smooth implementation of European Partnership on Metrology ⁽⁶⁶⁾, the successor of the article 185 body EMPIR, by preparing the necessary templates (e.g. Financial Framework Partnership Agreement/Contribution Agreements; the Model Grant Agreement).

DG R&I is coordinating the three-year evaluations for all Executive Agencies, which shall be finalised in 2024.

InnovFinn Financial instruments

The Innovfin financial instruments are managed efficiently, in accordance with the delegation agreements concluded with the EIB and the EIF.

2.1.3. Economy of controls

This section assesses the costs of the internal control system.

Grant management

In accordance with the Commission central services' guidance ⁽⁶⁷⁾, the cost of controls in direct grant management is assessed by the cost of the different control measures. The overall assessment is derived from the ratio between these costs and the total amount paid in the year for grants.

The overall cost of the controls in grant management for DG R&I is estimated at 3.66 % (EUR 6 million in 2023) of the total implemented budget (in terms of payments) in 2023. The increased compared to last year (3.59 %) is not significant.

Therefore, the implementation of controls can be considered as a cost-effective operation taking into account the reduction of economy of scale linked due to the delegation of programme implementation to Executive Agencies that took place in 2021.

The costs of controls for direct grant management is divided into three main categories:

- Costs of controls in DG Research and Innovation (2.20%);
- Costs of the common support services provided by REA for proposal evaluation/selection (0.82%);
- Costs of services for controls provided by the Common Implementation Centre which is hosted by DG Research and Innovation (0.64%).

The calculation of the percentage of costs of controls by category is detailed in annex 7 section 8.

⁽⁶⁶⁾ The Decision (EU) 2021/2084 on the participation of the Union in the European Partnership on Metrology jointly undertaken by several Member States entered into force on 1 December 2021.

⁽⁶⁷⁾ Guidance on the estimation, assessment and reporting on the cost-effectiveness of controls- DG BUDG Updated edition – December 2020

Joint Undertakings (Art. 187), Public-Public Partnerships (Art. 185) and Executive Agencies

Total costs for supervision of Joint Undertakings (Art. 187 bodies-JUs) incurred in 2023 by DG Research and Innovation are estimated at EUR 3.99 million, i.e., 0,38% of the payments made to these bodies in 2023.

Total costs of supervision of Public-Public Partnerships (Art. 185 bodies) incurred in 2023 by DG Research and Innovation are estimated at EUR 0.56 million, i.e., 0.30% of the payments made to these bodies. Total costs of supervision of Executive Agencies incurred in 2023 by DG Research and Innovation are estimated at EUR 3.74 million, i.e., 1.76% of the total expenditure sub-delegated by DG Research and Innovation to them, covering also the administrative costs.

Table: DG Research and Innovation cost of supervision of Executive Agencies, Joint Undertakings and Public-Public Partnerships

Executive agencies and Indirect Grant Management	Payments (a)	FTE	Total direct costs (b)	Horizontal costs (0,16% of payments see table Y annex 6) (c)	Total costs (b) + (c)	Total costs as % of (a)
Executive Agencies	212.412.323,58 €	23,60	3.401.131,70 €	339.859,72 €	3.740.991,42 €	1,76%
Article 185	186.318.279,38 €	1,83	263.731,82 €	298.109,25 €	561.841,07 €	0,30%
Article 187 (JU's)	1.045.347.784,94 €	16,13	2.323.866,47 €	1.672.556,46 €	3.996.422,92 €	0,38%
Total	1.444.078.387,90 €	41,56	5.988.729,99 €	2.310.525,42 €	8.299.255,41 €	0,57%

The supervision of Executive Agencies includes the implementation of their operational budget, which is not a direct part of the DG R&I budget and thus not covered directly by the assurance of this report. During 2023, REA, ERCEA and EISMEA implemented a total of EUR 6 693 million payment appropriations ⁽⁶⁸⁾ from the 2023 operational budget for research and innovation framework programmes. HaDEA and CINEA implemented EUR 3 522 million payment appropriations. These amounts have been taken into account when assessing the cost-effectiveness of supervision.

Overall, the control system put in place for Executive Agencies and indirect management is considered to be cost-effective.

Financial instruments (InnovFin) -EIB/EIF

In the year 2023, DG Research and Innovation's payments to the European Investment Bank (EIB) and the European Investment Fund (EIF) amounted to EUR 65.10 million, out of which the EIB and the EIF deducted EUR 17.7 million for administrative, treasury asset management and policy-related incentive fees ⁽⁶⁹⁾.

⁽⁶⁸⁾ Data from ABAC 12/02/2024

⁽⁶⁹⁾ This amount is based on reports received throughout 2023. The final amount will figure in the statement of fees for 2023, expected on 31 March 2024.

The share of fees of the three instruments in the 2023 payments is 27 %, which is within the annual limit and the cumulative threshold. This percentage is higher than historic values from the active lifetime of the program due to the low number of payments in this non active/ legacy period and to cashing in arrears from previous periods. These fees were withdrawn from the EU account according to the terms of the Delegation agreements, which were drafted specifically for the sound management of funds.

The amounts transferred for the management and other fees payable each year vary. For this reason, a full account of the share of management fees out of the total implemented amounts will only be possible upon the closure of the programme.

The supervision of the activities implemented by the EIB and the EIF was carried out in 2023 by 0.8 Full Time Equivalent DG Research and Innovation staff. The total cost of this supervision was estimated at EUR 0.1 million in addition to the costs of the horizontal control tasks estimated at EUR 0.1 million (0.16% of payments). See table Y in Annex 7.

2.1.4. Conclusion on the cost-effectiveness of controls

Based on the most relevant key indicators and control results, DG Research and Innovation has assessed the effectiveness, efficiency and economy of its control system and reached a positive conclusion on the cost-effectiveness of the controls for which it is responsible.

The first objective of the control system is to achieve the main policy objective – to create growth and jobs, in particular, by contributing to more and better research and innovation in Europe. In this sense, the controls aim to ensure good work programmes, to select the best proposals to be funded and to verify the project’s deliverables.

The second objective of the control system is to ensure that the EU contribution paid to the beneficiaries complies with the internal control objectives. Thus, that legal and regular transactions are carried out in a cost-effective way.

Overall, given:

- the achievements of research and innovation policy as set out in Part 1,
- the quantitative and qualitative benefits arising from the control systems adopted (common approach on processes and interpretation of rules thanks to the Common Implementation Centre, quality of proposals due to reviews which are performed by panels of independent external experts in the scientific field complemented by a real competition for funds, amount of rejected funding following ex-ante checks, and the amount recovered following the implementation of audit result),
- the error rates, which are at levels considered as being appropriate when balanced between different policy objectives and between trust and control,
- the costs of the control system compared to the level of expenditure,

It is considered that the cost-effective control system in place is balanced with the objectives of the research and innovation policy.

The same conclusion applies to the InnovFin financial instruments (managed in accordance with the delegation agreements concluded with the EIB, EIF), the Joint Undertakings (Article 187 bodies), the Public-Private Partnerships (Article 185 bodies) and the Executive Agencies. These are monitored in conformity with the supervision arrangements described above and in a cost-effective manner.

2.2. Audit observations and recommendations

This section sets out the observations, opinions and conclusions reported by auditors – including the limited conclusion of the Internal Auditor on the state of internal control. Summaries of the management measures taken in response to the audit recommendations are also included, together with an assessment of the likely material impact of the findings on the achievement of the internal control objectives, and therefore on management's assurance.

Internal Audit Service (IAS)

According to the IAS, DG R&I's internal control systems in place for the audited processes proved to be effective with the exception of two very important recommendations (one on EU Missions issued in IAS Audit on Horizon Europe Governance arrangements, preparation of the work programmes and budget, planning, allocation and monitoring, and one on the analysis and (internal) reporting of the root causes of errors in relation with ECA's findings issued in the IAS multi-DG thematic review on the Commission risk at payment.)

Further information on the IAS recommendations is available in Annex 7.

European Court of Auditors (ECA)

For the financial year 2022, the Court reported an estimated level of error of 2.7% ⁽⁷⁰⁾ for Chapter 5.

Regarding the 2022 DG R&I Annual Activity Report, the Court concluded that it gave a fair assessment of the DG's financial management in relation to the regularity of underlying transactions.

The Court addressed four recommendations to the Commission, all related to the implementation of lump sum funding. The Commission fully accepted three. The fourth, inviting the Commission to "Define the scope of ex-post controls of lump sum grants" was partially accepted. As stated in the Commission replies to the ECA's Annual reports concerning the financial year 2022 ⁽⁷¹⁾,

"The Commission is developing an ex post control strategy for Horizon Europe grants (including lump-sum grants) based on the rules of the Financial Regulation. Ex-post technical reviews will be a key element, verifying proper implementation according to the applicable rules whilst increasing the focus on content.

The Commission will continue performing robust risk assessments and will focus its control resources on high-risk areas. The Commission does not accept the part of the recommendation dealing with the ex-post control of the use of resources, since the budgeted resources are systematically checked ex ante. Although the Commission cannot predetermine

⁽⁷⁰⁾ This level of error, although above the materiality threshold, is the second lowest ever reported (2015 (4.4%), 2016 (4.1%), 2017 (4.2%), 2018 (2%), 2019 (4%), 2020 (3.9%) and 2021 (4.4%).

⁽⁷¹⁾ https://www.eca.europa.eu/ECAPublications/AR-2022/AR-2022_EN.pdf (p. 415)

high-risk areas, the Commission notes that any further checks on the use of resources would require financial checks (in particular of time sheets of staff working on the action) which would invalidate the potential simplification of using lump sums.”

These recommendations are currently being implemented. Annex 7 presents the Court's recommendations.

In year 2023, three performance audits related to DG Research and Innovation activities were finalised⁽⁷²⁾:

- “Smart cities – Tangible solutions, but fragmentation challenges their wider adoption”,
- “The EU's support for sustainable biofuels in transport – An unclear route ahead”,
- “EU aquaculture policy – Stagnating production and unclear results despite increased EU funding”.

Finally, all ECA and Discharge recommendations with end date in 2023 are duly closed.

⁽⁷²⁾ The synthesis is presented in Annex 7

2.3. Assessment of the effectiveness of internal control systems

The Commission has adopted an Internal Control Framework based on international good practice, to ensure the achievement of its policy and management objectives. Compliance with the internal control framework is a compulsory requirement.

DG Research and Innovation uses the organisational structure and the internal control systems suited to achieving its policy and internal control objectives in accordance with the internal control principles and has due regard to the risks associated with the environment in which it operates.

The internal control assessment was performed in compliance with the methodology established by DG BUDG⁽⁷³⁾. It was based on an evaluation of monitoring indicators defined in the DG Research and Innovation Internal Control Framework complemented by a desk review of the analysis of information from various sources such as:

1. the Directors' reports for 2023 and the 2023 risk assessment exercise at Directorate-General level;
2. the reports on recorded exceptions, non-compliance events and any cases of confirmation of instructions (art 93.2 FR);
3. the observations and recommendations reported by the Internal Audit Service and conclusion of the Internal Auditor on the state of internal control in DG Research and Innovation;
4. the observations and recommendations reported by the European Court of Auditors;
5. the DG BUDG reports on follow-up of recommendations on the validation of Local Systems;
6. the error rates for the Seventh Framework Programme and Horizon 2020.

DG R&I has assessed its internal control system during the reporting year and has concluded that it is effective and the components and principles are present and functioning well overall, but some improvements are needed as minor deficiencies were identified related to

- **the definition of clearer requirements on implementation of Horizon Europe lump sum grants**, specifically regarding grants funded using the lump sum Simplified Cost Option;
- **the assessment of the financing capability of Mission cities** and more specifically, their capability to pool together the necessary funding for the achievement or provide the necessary support in cases of identified inability to do so;
- **the detailing of governance arrangements for EU Missions**; and

⁽⁷³⁾ Implementation guide of the internal control framework of the Commission.

- **the analysis and (internal) reporting of the root causes of errors in relation to ECA's findings.**

The improvements and/or remedial measures implemented or envisaged are:

- For lump sum grants, further specify the requirements defining proper implementation, including the elements of each work package that will trigger payment, as well as provide detailed guidance to those involved in assessing the implementation of projects.
- Regarding Mission cities,
 - a) Take stock of the capacity of the cities participating in the Mission on Climate-Neutral and Smart Cities to pool sufficient public and private funding, including EU funding, to achieve their climate-neutrality goals; and
 - b) Enhance the support provided to the cities where financing weaknesses that could endanger the achievement of the Mission goals are identified, by paying particular attention to synergies with national and regional sources of funding and private investment.
- Concerning the Governance arrangements of EU Missions, DG R&I, in cooperation with and/or supported by the DGs and services involved in the Missions should: (a) improve the effectiveness and overall coherence of the governance arrangements for EU Missions; (b) assess the needs of and, if needed, implement enhanced support from the CPC; (c) improve the budgetary processes for EU Missions; and (d) analyse the effectiveness of the various tools/solutions currently used by the services to detect conflicts of interest and specify the approach to be taken by all services.
- Following the IAS recommendation in the Limited Review on Commission's Risk at Payment, perform and document a structured analysis of the ECA findings. The results of this analysis should facilitate the identification of the appropriate actions to mitigate recurrent ECA errors (for accepted findings) and allow for the documentation of categories and reasons for disagreements (for rejected findings). Subsequently, DG R&I should report on the analysis above in line with the guidance to be defined by DG BUDG.

It should be noted that all actions of the common Action Plan (together with EISMEA and DG CNECT) of the IAS audit on the design and early implementation of the EIC, under the responsibility of DG R&I, have been sent for review to the IAS, respecting the established deadlines. These actions included

- a) the finalisation the Memorandum of Understanding for Horizon Europe;
- b) a revision of the Delegation instrument (Commission Decision C(2021)949), accounting for the governance of the EIC Fund, and ensuring clear definition of the roles and responsibilities of DG R&I and EISMEA; and
- c) the definition of clear rules on the conflict of interest and (in)compatibility between functions.

Finally, it is worth emphasising the negative trend of the recorded deficiencies not only in terms of absolute figures (38 in 2022 vs 29 in 2023) but also in their qualitative aspect (1 “critical”, 6 “major” and 31 “moderate” in 2022 vs 3 “major” and 26 “moderate” in 2023).

2.4. Conclusions on the assurance

Based on the analysis of the results of the controls in place shown in the indicators outlined above, and the examination of the evidence available, DG Research and Innovation's management is in a position to provide **reasonable assurance on the following areas:**

- policy-development activities;
- the processes relating to the selection of contractors and beneficiaries and the underlying financial operations (legal and financial commitments);
- payments relating to administrative expenditure and procurement;
- Horizon 2020, Euratom and Horizon Europe payments for grants;
- management of the RSFF/INNOVIN financial instruments and the underlying financial transactions with the EIB and EIF;
- payments to Joint Undertakings and Article 185 initiatives;
- the operating subsidy paid to the Executive Agencies.

Because of the 'de minimis' threshold for financial reservations introduced in 2019 ⁽⁷⁴⁾, a quantified reservation is not needed for the Seventh Framework Programme (see detail in annex 9).

DG Research and Innovation considers that its overall control strategy is appropriate as it ensures a good balance between low errors and efficient controls at a reasonable cost.

DG R&I issued a reservation in its Annual Activity Report 2022, following the criticality of the IAS report on the design and early implementation of the EIC, received at the end of January 2023. This reservation has been lifted in 2024 as major IAS recommendations have been implemented by the end of 2023 (see detail in Annex 9). The restructuring of the EIC Fund has been finalised and it is managed under indirect management as of 1st January 2024.

In conclusion, based on the elements reported above, management has reasonable assurance that, overall, suitable controls are in place and working as intended; risks are being appropriately monitored and mitigated; and necessary improvements and reinforcements are being implemented. The Director-General, in his capacity as Authorising Officer by Delegation has signed the Declaration of Assurance.

⁽⁷⁴⁾ According to this threshold, quantified AAR reservations related to residual error rates above the 2% materiality threshold, are deemed not substantial for segments representing less than 5% of a DG's total payments and with a financial impact below EUR 5 million. See detail in annex 9.

2.5. Declaration of Assurance [and reservations]

I, the undersigned,

Director-General of Research and Innovation

In my capacity as authorising officer by delegation

Declare that the information contained in this report gives a true and fair view ⁽⁷⁵⁾.

State that I have reasonable assurance that the resources assigned to the activities described in this report have been used for their intended purpose and in accordance with the principles of sound financial management, and that the control procedures put in place give the necessary guarantees concerning the legality and regularity of the underlying transactions.

This reasonable assurance is based on my own judgement and on the information at my disposal, such as the results of the self-assessment, ex-post controls, the work of the Internal Audit Service and the lessons learnt from the reports of the Court of Auditors for years prior to the year of this declaration.

Confirm that I am not aware of anything not reported here which could harm the interests of the institution.

Brussels, 23/04/2024

[Signed in ARES]

Marc Lemaître

Director-General DG Research and
Innovation

⁽⁷⁵⁾ True and fair in this context means a reliable, complete and correct view on the state of affairs in the DG/Executive Agency.

3. MODERNISING THE ADMINISTRATION

3.1. Human resource management

In 2023, DG R&I continued its work towards a flexible, digital and green workplace in a joint effort with managers and staff taking into consideration the challenges and the role of the DG in the general political context.

An organisational development action plan was developed as a follow up of the 2021 staff satisfaction survey. Colleagues in DG R&I invested a lot of time and effort in the development of this plan. Seven work streams were defined, each with a list of concrete actions. All actions stemming from the organisational development plan were screened as to their feasibility and implemented where possible with the support of the Senior management in this process. With regard to internal communication and ahead of the 2023 staff satisfaction survey, the overall state of play of the implementation of the action plan has been publicised, highlighting the progress and showcasing the actions that drove concrete results.

With regard to the gender representation target in middle management, DG RTD has not achieved the goal of three female appointments, as there have been no vacancies during 2023 in middle management since the target was established. Additionally, the total number of middle management positions has been further reduced due to the elimination of two units.

Moreover in particular regarding the aim to improve staff engagement and support of the DG in the delivery of policy priorities, the R&I senior management held strategic workshops on key priorities and staff had the opportunity to engage during collaborative policy workshops in relation to the priorities and structure of the next framework programme (FP10).

The Directorate-General updated its newcomer onboarding measures in accordance with new DG HR guidelines, including frequent updates to the Newcomers guide and the establishment of a mentoring scheme.

As part of the prevention of psychosocial risks at work and awareness on diversity and inclusion policy, all R&I managers participated in trainings on preventing psychosocial risks at work. The DG R&I's efforts to increase awareness of diversity and inclusion policies were recognized with an award for the external initiative of the year.

In relation to the improvement of the wellbeing and working conditions, DG R&I defined a wellbeing program promoting wellbeing activities throughout its premises including mental health aid by trained staff.

The internal communication team has supported the local HR Business correspondent in all necessary activities. For example, timely publication of vacancies (103 in 2023 for all different staff status), timely update of the DG organigram, supporting the integration of newcomers and trainees (training/meetings and article to welcome them, at least 2 for each

category per year) or with the organisation and hosting of the all-staff meeting held in November 2023.

Finally, following staff reductions undertaken in the last years and in view of further reductions until 2026, in 2023 DG R&I further adapted the organisational structure of the Directorate-General with the aim to become leaner and to ensure that sufficient staff is allocated to core activities and to achieve further coherence in the portfolio of units and clear reporting lines at senior management level.

3.2. Digital transformation and information management

Digital solutions

The Common IT Service Department supplies the IT tools under the eGrants suite to a total of 62 programmes (including Horizon 2020 and Horizon Europe respectively) for which grants are managed seamlessly with common fully electronic workflows from call management to audit and reporting.

Data protection

In implementation of the Commission's Data Protection Action Plan: (1) the middle and senior management were reminded of the target set in the Strategic Plan of having, by the end of 2024, 100% of the staff trained on data protection; statistics were created and updated with the training needs per organisational entity and solutions were provided for reaching the target of at least 80% of staff trained on data protection before the end of 2023 (including the organisation and delivery of three training sessions for newcomers and of dedicated trainings to Directorate Prosperity and Unit Coordination & Interinstitutional Relations); (2) the concerned data processing records were updated; and (3) the lawful exercise of their rights by the data subjects were ensured, in particular by timely answering their requests and complaints.

The CIC has also completed the works of the Task Force on Elimination and Retention Safeguards (TFERS), that managed the elimination of over 5 million obsolete personal data records from R&I IT systems and coordinated the setup of measures to ensure the recurrent elimination of obsolete data going forward. Thus, the risks of personal data breaches from RTD's R&I IT systems have been mitigated.

The Common Legal Support Service continued to advise and assist the operational controllers to fully comply with their data protection obligations, including the elimination of obsolete personal data outside the corporate IT tools.

Data Assets

The main developments on data collection and transformation from the CIC are:

- Update of the eGrants universe integrating a subset of data from SCOPUS (publication matching data) and Orbis (companies' data);

- Release of the new ECS universe for eExperts. The new ECS2 complements the EMM2. It also covers more functions and features originating from the ECS Experts Portal for reporting purposes – with a special focus on monitor type contracts;
- New release of the eGrants DataStore with additional reference data, legal entities, publication data, Mobility Declaration, Impacts and Exploitation;
- Integration of EIC accelerator proposals data into the eGDR (CORDA) Data Warehouse
- EIT XML file support for proposals and projects.

Development continued for the Dashboards, with, as main achievements:

- release of a non-Research & Innovation dashboard: EU4HEALTH financial overview for internal to the Commission users;
- release of non-Research & Innovation dashboard: DIGITAL Europe programme for the Digital Europe Implementation Group (Programme Committee Members, CNECT and HaDEA staff);
- 2 new videos and several external presentations and internal trainings reinforced the communication efforts around the Horizon dashboards.

Monthly data releases (Dashboards) to Member States and Associated Countries for the LIFE and DIGITAL EUROPE programmes have been established, building on the positive experience and learnings of the eCORDA solution focused on R&I programmes.

Corporate Digital Strategy

DG R&I continuously takes actions to enhance digital culture in line with the Strategic Objectives of the corporate Digital Strategy: DG R&I set up the DG R&I IT Scrutiny Board to ensure that its information systems are created and operated in full compliance with Commission corporate governance; DG R&I organised a pro-active campaign for migration to Welcome, with ad hoc monitoring leading to an almost full migration of staff; DG R&I developed trainings to increase skills related to MS365 and collaboration tools for all staff, awareness communication campaigns, and dedicated coaching sessions for middle and senior managers.

3.3. Sound environmental management

DG R&I implements the actions programmed for 2023 through the “DG R&I Greening Strategy 2022 – 2024” and its action plan, approved by the DG R&I senior management in July 2022, to put into practice at DG level the Communication on Greening the Commission.

During 2023, DG R&I has actively contributed to the EMAS network requests, both participating and sharing fruitful comments at the EMAS Director’s Committee, EMAS Network and EMAS training meetings. The internal communication team was a constant partner of the RTD EMAS representative. Both via monthly meetings to define actions and how to raise awareness/ implement them (e.g., via intranet articles (20 in the 1st half of the year) or other), but also supporting the definition of the local strategy on ‘Greening the Commission’.

DG R&I implemented a series of actions and information to staff as programmed on mobility/commuting, contribution to greenhouse gases reduction, raising awareness campaigns on the impact of digitalisation. The details are presented in the annex on output/results table. A visit was organised to Permafungi to raise awareness on circular economy and use of waste as intrant for producing mushrooms.

Internally, it has particularly focused on monitoring the Green House Gas (GHG) emissions generated from staff business trips, to achieve the target committed in the internal DG strategy of the 35% emission’ reduction in 2023, in comparison to 2019. This is done by a senior management decision to limit the budget and allocate an initial 80%, which was subject to the mid-term evaluation. Directors and Heads of Unit were informed regularly on the evolution via a monthly dashboard on budget consumption and GHG emissions generated based on MIPS data, with the aim of facilitating the monitoring of the emissions. Thanks to an active monitoring since April 2023, DG R&I achieved a 34.4% reduction showing that the methodology used was effective. With a continuous monitoring starting immediately in January 2024, DG R&I will achieve the 50% reduction target end of 2024.

As part of the continuous information process and in order to foster staff engagement on greening matters, a Greening Survey was launched in June to take stock of staff knowledge, perception and opinion on the different greening topics and actions related (knowledge on corporate and DG Greening strategy, source of EC emissions, energy savings actions; staff behaviour and habits on commuting, energy and waste, staff perception on dynamic collaborative spaces). Upon analysis of results, DG R&I will develop and fine tune the information to, and actions for staff engagement in greening actions.

Green public Procurement (GPP)

The Public Procurement sector of DG R&I is implementing green provisions and progressively implementing GPP principles wherever possible. However, in several cases our procurements concern studies, where the possibility of use of GPP elements is limited. Nevertheless, for such procurements, the Public Procurement sector always evaluates the possibility of using GPP for certain parts of the planned project. In particular, the specifications concerning

procedures covering also organisation of events, contained relevant provisions for the organisation of greener events.

In this regard, the use of GPP elements is the most developed in the currently published call for tenders for a FWC for organisation of events and related communication services for a budget of EUR 168 M, requesting certain environmental standards for different types of services, as well as using environmental aspects in one of the award criteria. In 2023, contracts representing around 80% of the total value of the contracts awarded or in progress (EUR 303 360 000) have the above-mentioned green provisions.

Additionally, DG R&I continues to use the available corporate eProcurement tools: all open procedures and procedures below the Directives threshold are launched using the EC corporate Public Procurement Management Tool (PPMT).

3.4. Examples of economy and efficiency

Continued On-boarding direct granting programmes

The IT department has continuously been on-boarding direct granting programmes of the MFF 2021-27. In this context, and in order to gain efficient processes and to scale up the user support activities with the objective to achieve the corporate mission of the eGrants IT tools suite, a number of achievements were realised by the IT Services sector of the IT Department, such as integration of SUMMA into eGrants, the further on-boarding of programmes (e.g. EIC accelerator pre-award process), Learning and training capsules were further developed (short videos based on frequent questions received from users or on rolled-out functionalities).

Use of Lump sum

Another continuous example which is taking more and more importance in the implementation of the R&I Framework Programme is the use of lump sum. DG R&I continued the roll out of simplified cost options such as lump sums in Horizon Europe. The first significant wave of lump sum funding was launched in more than 100 topics of the work programme 2023. The DG is committed to streamline and simplify reporting obligations as much as possible. Based on the assessment of current reporting requirements, this will be a guiding principle for the 10th Framework Programme (FP10) and the future of the European R&I policy.