GUIDE TO PUBLIC FUNDING

FOR THE SPACE ECOSYSTEM

3rd edition

FOREWORDS

ACKNOWLEDGEMENT

PRESENTATION

The 3rd edition of the Guide to Public Funding for the Space Ecosystem (the Guide) has been drafted by Alexandre Mencik, the founder and CEO of the **Space Platform** (**spacepp.com** and **findfund.space**).

Entrepreneur and co-founder of startups, Alexandre has wide experience in representing and managing the business interests of aerospace and deep-tech organizations.

Alexandre is Chief Business Officer of **SpaceDreams** and serves as Board member of the **ACCESS.SPACE alliance**, of the **French Astronomy Association**, as member of the Executive Committee of **EBAN Space**, and as and Director and Board member of the **Luxembourg Space Tech Angels**. He also serves as Mentor for the **CASSINI Business Accelerator**, **Copernicus Accelerator**, **EUSPA Space Academy**, **Astropreneur** and **space hubs networks**.

Alexandre is a former Executive Director and Associate General Counsel of a Fortune 200 company. He led successful advocacy efforts for the adoption of science-based policies by the US Congress, EU institutions and UN agencies.

Previously, Alexandre represented clients involved in the aerospace sector and other regulated industries. He orchestrated the establishment of industry-led consortium arrangements, including **Sea Launch** and the **Digital Video Broadcasting**.

Alexandre served in the European Commission, where he contributed to the adoption of the first EU Directive for the liberalization of air transport and participated in high level negotiations regarding EU accession and the **Trans-European Transport Networks**.

Alexandre Mencik has a background in Spacecraft Techniques and Technologies from the **CNES** in France and in Space Resources from the **Luxembourg Space Agency**, received his Juris Doctorate from the **University of Louvain** in Belgium and holds a Master degree in Air and Space Law from **McGill University** in Canada.

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EXECUTIVE SUMMARY

Public support remains vital for the space sector. The *raison d'être* of this 3rd edition of the **Guide to Public Funding of the Space Ecosystem** (the Guide). The Guide **gives a comprehensive overview of the funding opportunities for the space ecosystem** and other deep tech sectors at European levels during the 2021-2027 period. The Guide covers **48 funding programs of a total value of around €1.4 trillion**, close to 9% of the EU's 2022 GDP, from which **€21 billion** may be available to support the space ecosystem.

There has been **encouraging developments for the space ecosystem** during the initial phase of Multiannual Financial Framework (MFF) for the EU budget 2021-2022, including such as:

- **space supports in Europe** the creation of a **value added** estimated at **€46-54 billion per year**
- the **EU Space Programme** as such, and the proposal for **spending in 2023 €2.2 billion** through such program
- the **CASSINI initiative**, including the fact that **several venture firms have invested in space**
- the **ESA Ministerial 2022**, with an agreed upon (+17% increased) **budget of €16.9 billion** for the next 3 years
- **the ability of the European Commission (EC) to borrow money for the Member States** (the EC became the biggest issuers in € and the biggest green bond issuer in the world)
- increased acceptance of "**dual use**" **technologies** and their inclusion in funding schemes and defense-related funds
- **increases in European defense spending** for 26 countries, in excess of €200 billion in 2021, for first time
- rapid **progress** in the setting up of the new **EU Secure Satellite Constellation IRIS²**
- several public entities are **adapting their procurement process to New Space** and seeking to **increase the speed of their contracting processes**
- the possibility to **combine** different funding sources, exploit **synergies** and find "**niche" opportunities**, beyond the scope of the "traditional" funding programs.

Despite the above:

- the **crisis** of covid, Ukraine and inflation are **hitting the aerospace ecosystem hard**
- **the levels of VC-related investments has decreased** in 2022 and **market conditions have deteriorated**
- the **demand** for public support has **increased** and the **success rates** for funding programs remains low (despite recent improvements for Horizon Europe)
- **there is no mechanism to protect European companies from inflation** (along the side of the US Inflation Reduction Act)
- the need to **de-risk space-related investments and close the "valley of dead"** remains
- **secure and resilient space-related infrastructures such as spaceports** should be properly financed
- the events in Ukraine have **delayed certain space missions** and revealed the growing need for (secure) satellite communications and high-resolution imagery
- **reciprocity in international relations** should be increased

- **European access to foreign public funding and procurement programs** should be improved
- there is **no surveillance and tracking (SST) capability at European level** and operators are dependent on foreign data
- the focus remains on **short term actions**, for rapid market growth, especially those aligned with the EU green and digital priorities
- **frameworks for civil and military co-operation** should be developed
- there is **no "one-stop-shop**" **for European funding programs** and it is **difficult to navigate** through all funding opportunities, especially for startups and small companies; **guidance**, including the one provided by the Guide, is **often needed**
- certain **sectors are excluded** from funding
- **non-EU controlled entities cannot participate** to certain strategic funding programs.

At a time when an agreement on the €186.6 billion 2023 EU budget has been reached and the European Commission is preparing "an ambitious" 2023 mid-term review of MFF 2021-2027, the following fundamental questions remains:

- whether it will be **possible to close the €500 billion per year investment gap** to finance the green and digital transitions till 2030
- whether the **long-term EU budget will be adapted** to better respond to multitude of crises, address evolving needs and funding gaps
- whether the EU will have **sufficient resources to make necessary repayments** as from 2028
- whether future **space budgets will be proportionate to the above-mentioned challenges**
- whether **Europe will assume its role as a forward-looking global space power.**

In view of the above, when it comes to seeking public support, the focus of this Guide, **only the absolute best proposals can be funded** and entrepreneurs should therefore **carefully balance** the time-consuming task of seeking public funding with the need to develop business, find new customers and generate commercial revenues. After all, **clients are often the less expensive source of revenues**.

Finally, **money and public support are not sufficient to be successful**. A number of **next steps and actions are proposed hereunder**, especially in terms of advocacy and diplomatic efforts.

INTRODUCTION

Leaving the Earth and reaching the stars have long-term survival value. It is clear that *Homo Sapiens* and all forms of life will not be able to live on Earth forever.

But **taking action for the 2030 United Nation's Sustainable Development Goals** (the SDGs), with a sense of urgency, may **also have survival value for humankind**.

The **space** ecosystem is uniquely situated in this respect: it **can contribute to these long and short vital goals**, including **any and all of the 17 SDGs for 2030.** This is an **opportunity to be fully grasped** at the time when we are at the halfway point in the implementation of the SDGs adopted in 2015.

To do so, the **space ecosystem needs support**. **Public funding remains crucial for the European space ecosystem**. This is the *raison d'être* of the Practical Guide to Public Funding of the Space Ecosystem (the Guide).

The crisis of covid, inflation and Ukraine have **changed the geopolitical agenda** since the 1st edition of the Guide in 2021. No military operations are conceivable without the support of space-based systems. Space is not only acknowledged as a **potential theatre of operations**, but also seen as an **important strategic enabler** in support of all other defense domains.

Also, there is a need to **enhance resilience** of critical space-related assets and **ensure that Europe continues to have an autonomous access to space**.

This 3rd edition of the Guide has a **broader scope and covers**:

- **48 European public funding programs** of a **total value of around €1.4 trillion**, close to 9% of the EU's GDP in 2022, including **several additional and new programs**
- **potential beneficiaries of all size and type**, including startups, SMEs, midcap and large companies, universities, public–private partnership (PPP) and non-profit organizations
- **all types of funding forms**, including grants, prizes, procurement, loans, equity, debt and other financial operations, are supported by public budgets.

The **structure** of the Guide is as follows:

- **key EU policies and funding programs** (Section I)
- **EU space policy** (Section II)
- **key European agencies** (Section III)
- **other funding streams** (Section IV)
- **European Investment Bank group** (Section V)
- **North Atlantic Treaty Organization** (NATO) (Section VI) and
- situation at **national level** (Section VII).

We often answer the "**4 W's questions**" and relevant additional information is included in the **Annexes**.

The Guide includes **not only the space ecosystem but also many other "deep tech" sectors** within its scope. **It does not however cover all opportunities**. No guidance is provided hereunder for funding managed by national, regional and local authorities. The **information**

provided in the Guide is **of general application** and **thus may not be relevant to a specific situation.**

We hope that you will find this edition of the Guide useful and that it will contribute to your own success. For additional information or to provide **feedback**, feel free contacting the author of the Guide, Alexandre Mencik at **admin@spacepp.com**.

I. KEY EU POLICIES AND FUNDING PROGRAMS

INTRODUCTION

In December 2020, a historic political agreement has been reached on a **financial package**, including:

- an **EU budget of €1.074 billion** for the MFF 2021-2027 (compared to €1094 billion for the period 2014-2020, UK excluded) and
- **€750 million for the recovery plans**, mainly for the years 2021-2023.

The main elements of the agreements concluded are:

- more than **50%** of the total amount will support **modernization** through EU policies that include research and innovation, recovery and helping build a greener, more digital and more resilient European economy.
- the EU has taken the decision to **collectively borrow up to €723 million**
- the following **priorities** will have the highest share in the long-term EU budget:
    - a binding EU target of a net domestic **reduction of at least 55% in greenhouse gas emissions** by 2030 compared to 1990
    - an **overall climate target of at least 30%**, which will apply to the total amount of EU funding
    - at least **37% of expenditure** on investments and reforms contained in each national recovery plan should support **climate objectives** (based on a methodology for climate tracking) and
    - at least **20%** of the national recovery plan's allocation should foster the **digital transition** (based on a methodology for digital tagging) and
- all investments and reforms must respect the "**do no significant harm**" principle, ensuring that they do not significantly harm the environment or social welfare.

In November 2022, a political agreement has been reached on the total **EU budget for 2023 of €186.6 billion** in terms of total commitments (an increase of 1.1% compared to the 2022 budget and more than the European Commission June 2022 initial proposal of €185.59 billion). The agreement covers **€2.045 billion for the 2023 European Space Programme**, **€267 million for EUSPA** and **€138 million for the Union Secure Connectivity program**.

The space ecosystem nicely fits within the scope of the green and digital transitions.

The impact of the climate tracking and digital tagging methodologies on the space ecosystem is not yet clear.

EUROPEAN GREEN DEAL

The European Green Deal is the plan of the European Union (EU) to **make the EU's economy sustainable**.

The European Green Deal's **investment plan** intends to mobilize EU funding and create an enabling framework based on **3 dimensions**:

- **financing**: mobilizing at least €1 trillion of sustainable investments over the next decade via spending on climate and environmental action from the EU budget and private funding
- **enabling**: providing incentives to unlock and redirect public and private investment and
- **practical support**: the European Commission (EC) will provide support to public authorities and promoters executing sustainable projects.

As part of the plan, the **Just Transition Mechanism** (JTM) could mobilize around €50 billion in investments over the period 2021-2027 to ensure that the transition towards a climate-neutral economy happens in a fair way and support workers and citizens of the regions most impacted by the transition, via the following sources of financing:

- the **Just Transition Fund** (see below)
- a dedicated just transition scheme under the **InvestEU Programme** (see below) and
- a **Public Sector Loan Facility** (PSLF), leveraged by the European Investment Bank (EIB) (see Section VI).

For more information, please refer to **Annex I**.

INVESTEU

IN GENERAL

The objective of the **InvestEU Program** 2021-2027 is to provide the EU with **crucial long-term funding**, crowding in private investment, in support of the recovery and helping build a greener, more digital and more resilient Europe, with a budget of €341 million for 2023 (and an extra €2.5 billion in grants from NextGenerationEU). The **InvestEU Program** aims to trigger an agreed upon target of **€372 billion** in total of additional public and private investment investments via an agreed upon **EU budget guarantee** for the MFF 2021-2027.

The **InvestEU Program** includes:

- the **InvestEU Fund**, which bring together under one roof a multitude of EU financial instruments currently available to support investment in the EU
- the **InvestEU Advisory Hub**, which provides assistance to support the development of a robust pipeline of investment projects and access to financing
- the **InvestEU Portal**, which provides for a project database to promote visibility of investment projects searching for financing.

WHAT CAN BE FUNDED?

InvestEU could support investments in a wider range of projects compared to the Just Transition Fund (FTF), in particular via the InvestEU Fund, with **€2 billion allocated for SMEs**. The European Investment Bank (EIB) group has a strong role in the management of all policy windows of the Fund (75%). The Single Market Programme is also relevant for SMEs.

The **space ecosystem can benefit** from support under Invest EU **for the following strategic actions and investments** in space and defense and cybersecurity:

- the development and operation of **sustainable** (in-orbit and ground-based) space **infrastructure** that enable space services and space-based applications
    - this includes the manufacturing, assembly, testing, operation, maintenance and launch facilities towards the development of greener spacecraft, launch systems and associated facilities
    - such infrastructure should enable the greening of the space industry for launchers and spacecraft (e.g. satellites) and associated ground segments
    - such projects should target (i) autonomous, reliable and cost-effective access to and use of space enabled by European launchers, (ii) space surveillance and protection of assets, (iii) satellite communication and connectivity and (iv) other evolving needs
- **strategic launchers** (i.e., space launch vehicles for EU-controlled space systems), including innovative concepts such as re-usability, advanced manufacturing and New Space transportation systems
- a **cleaner use of space** through spacecraft de-orbiting and de-commissioning
- **support to the EU space program** components and related services
- **support to the space strategy** for Europe' objectives to maximize the benefits for the EU's society and economy
    - this includes the development of dedicated services and applications meeting existing and emerging users' needs, including in priority areas of climate change, sustainable development, connectivity and security
- **space products** defined in a list decided by the European Commission on an annual basis and communicated to the Steering Board of the InvestEU Program or
- **atomic clocks** (e.g., for Galileo positioning systems).

To be eligible, the above financing and investment operations must contribute to:

- **the EU policy objectives** such as the green and digital transitions, enhanced resilience and of strengthening strategic value chains
- the **development of the space sector** in line with the objectives of the Space Strategy for Europe or
- must fall within the scope of the following **policy windows that address market failures** or **suboptimal investment situations**:
    - to maximize the benefits for the EU society and economy
    - to foster the competitiveness of the space ecosystem by reducing the vulnerability of supply chains
    - to underpin space entrepreneurship, including downstream development and
    - to foster Union's autonomy for safe and secure access to space, including dual use aspects.

In related areas, financing and investment operations may also be eligible under the InvestEU Program as follows:

- for **defense**, investments in defense technologies and products identified in the annual work program for the European Defence Fund (EDF) (see below Section IV) and
- for **cybersecurity**, investments focusing on developing cybersecurity tools and solutions.

Eligible projects should contribute to the 30% climate target and a 7,5% of the total budget target reflecting biodiversity expenditures in 2024 and 10% in 2026 and 2027.

Investment projects are screened to determine whether they have an environmental, climate or social impact and are consistent with agreed upon principles, including the "do no significant harm" principle.

WHO CAN BENEFIT?

Selected implementing partners such as the **European Investment Bank (EIB) group** and other **financial institutions or intermediaries** deploy the InvestEU Fund. Such partners in turn select the eligible **final recipients**, which can be natural or legal persons established in an EU country or in a Third Country associated to the InvestEU Fund, including:

- private entities such as special-purpose vehicles (SPV) or project companies, large corporates, Midcap companies, including small Midcap companies and SMEs
- public entities (territorial or not) and public-sector type entities
- mixed entities, such as public–private partnership (PPP) and private companies with a public purpose and
- non-for-profit organizations.

Although InvestEU SME policy window focus on benefitting SMEs, small midcaps are also eligible for support.

Only final recipients such as startups and SMEs having a viable business model could receive support.

The list of selected implementing partners is available on the InvestEU's ***website***

Any recipients of EU funding should acknowledge the origin and ensure its visibility, including by the media and the public.

WHICH FUNDING FORMS?

The **EU budget guarantee**, which could amount to **€32 billion** for the MFF 2021-2027, is an irrevocable, unconditional and on demand budgetary guarantee to support financing and investment operations, to which the selected implementing partners will have access.

The guarantee may be used by the implementing partners for providing a **vast type of support and operations** such as loans, guarantees, counter-guarantees, capital market instruments, any other form of funding or credit enhancement, including subordinated debt, or equity or quasi-equity investments and funding or guarantees by an implementing partner to another financial institution.

Once the guarantee is granted, the implementing partners are fully responsible for the investment process and the necessary due diligence.

WHEN, WHERE AND HOW TO APPLY?

Applications by project promoters should be filed directly to the selected implementing partners.

The implementing partners may provide information about the funding opportunities available from the InvestEU Fund on their respective websites. In the case of certain implementing partners such as the European Investment Bank (EIB) and the European Investment Fund (EIF), information about calls for tenders and related documents is available on the eProcurement platform **TED eTendering**.

For more information, please refer to **Annex I**.

IN GENERAL

Under **NextGenerationEU**, the European Commission can make available between mid-2021 and 2026 up to **€723 billion** (in 2018 prices; close to 5% of EU 2022 GDP) in loan (€385 billion) and grants (€338 billion) to help repair the economic and social damage due to the coronavirus pandemic and related governmental measures.

The **Recovery and Resilience Facility** (the RFF) is the centerpiece of NextGenerationEU and is a temporary instrument to **to finance recovery and reforms**, with an agreed upon budget for 2023 of **€103.5 billion in grants to support economic recovery and growth** following the coronavirus pandemic and to address the challenges posed by the war in Ukraine. REACT-EU, which is one of the largest programs under NextGenerationEU is examined separately hereunder (refer to Section IV).

The **Recovery and Resilience Task Force** (**RECOVER**), established within the European Commission's Secretariat-General, is notably in charge of steering the implementation of the RFF.

Additional measures included the establishment of the **Primary Dealer Network** to facilitate execution, the launch of a **tailor-made auction platform** for EU-Bill and **bond auctions and a governance framework**.

Whilst repayment of EU borrowing will only start as of 2028 (and take place until 2058), there are already ongoing discussions, as part of the 2023 EU budget, on the need for the EU to have additional own resources to make necessary repayments, including possibly from emissions trading (ETS), the proposed EU carbon border adjustment mechanism (CBAM) and a share of the reallocated profits of very large multinational companies.

In view of the above, the European Commission shifted from being a small issuer, raising funds to finance relatively small programs, to being one of the biggest issuers in euro in the world and the biggest green bond issuer, with possibly additional own resources in the future.

*At **Disbursements**, it is possible to see the amount of grants and loans disbursed so far under the RFF to the EU Member States under the different policy pillars.*

The recovery and resilience scoreboard provides information about the implementation of the RFF and the national recovery and resilience plans.

WHAT CAN BE FUNDED?

The RFF is structured around six pillars: (i) green transition, (ii) digital transformation, (iii) economic cohesion, productivity and competitiveness, (iv) social and territorial cohesion, (v) health, economic, social and institutional resilience and (vi) policies for the next generation.
The **specific measures** that could be funded by the RFF are largely **defined at national levels** in each national recovery and resilience plan, which have all, to date, been adopted, reviewed and approved.

The European Commission has nevertheless identified the following **common challenges** that Member States are facing and hence that may be included in the plans:

- **Power up**: future-proof clean technologies and acceleration of the development and use of renewable power generation needed by 2030
- **Renovate**: the improvement of energy efficiency of buildings and by 2025, contribute to the doubling of the renovation rate
- **Recharge** and **refuel**: the promotion of future proof clean technologies to accelerate the use of sustainable, accessible and smart transport, charging and refueling stations (by 2025, build 1/3 of the 3 million charging points needed in 2030 and half of the 1000 hydrogen stations needed)
- **Connect**: the rollout of broadband services, including fiber and 5G networks well as developing quantum encryption communication
- **Modernize**: the digitalization of public administration and services and healthcare systems, including the provision of a European digital identity (e-ID) by 2025
- **Scale-up**: the increase in European industrial data cloud capacities and the development of the most powerful, cutting edge and sustainable processors
- **Reskill and upskill**: the adaptation of education systems to support digital skills and training for all ages.

In May 2022, the proposal to amend the RFF to address the socio-economic hardships and global energy market disruption was made and a related **guidance** adopted.

*The EC has developed a **guidance document** relating to the national recovery plans, which encourages cross-border cooperation in the space and defense sector.*

*The **scoreboard** includes a set of common indicators related to the objectives of the RFF and show the progress of the implementation*

*It has been proposed to amend the RFF to address the socio-economic hardships and global energy market disruption and a related **guidance** was adopted.*

WHO CAN BENEFIT?

The RFF specifically targets **public entities**, creating preferential lending conditions for projects that do not generate sufficient revenue to be financially viable. Indirectly, public and private **entities identified in the national plans**, including the space ecosystem, may benefit.

The space ecosystem can contribute shaping the national recovery plans.

By judging from certain national plans, entities that are owned and/or controlled by nationals but also foreigners may benefit, provided that the supported measures generate an economic return in the countries concerned.

As part of the above reskill and upskill challenge, the **Pact for Skills** (the Pact) was launched in 2020 in the **aerospace and defense industries.** Since its launch, around 200,000 people currently in the workforce receive training each year and 300,000 people will be trained to join the sector. This corresponds to a public and private investment of €1 billion over the next ten years. The RFF , as well as other relevant funding instruments, can support the Pact.

The Commission made 2023 the European Year of Skills, giving a fresh impetus for investment in skills across the EU.

WHICH FUNDING FORMS?

The RFF's funding sources may mainly come from the EU, in particular, the **€385 billion in loans** that the European Commission (EC) could borrow on capital markets at more favorable rates than many Member States and then redistribute the amounts. The RFF may also provide up to **€338 billion in grants**. The investment efforts proposed in the national recovery plans can be **direct** (e.g. financing a project with public money) or **indirect** (e.g. public schemes to incentivize private investments).

The national plans can propose using for such efforts **all generally accepted financial instruments, support schemes, subsidies and other facilities**, including guarantees, loans, equity and venture capital instruments and dedicated investment vehicles, provided they would target clearly identified market failures linked with the above objectives of the RFF.

WHERE, WHEN AND HOW TO APPLY?

The RFF entered into force in February 2021. Despite challenging market conditions and increases in interest rates, to date, €97 billion of grants and €47 billion of loans have already been disbursed to at least 20 Member States under the RFF. Member States can request loan support until 31 August 2023.

The specific supporting measures and funding schemes and the implementation details are set out in the national recovery plans and related actions.

Information on the national recovery plans is available on the **Facility's website**. At **Findfund.space**, the application entitled **FindTechno enables to search across all national recovery plans**.

For more information, please refer to **Annex I**.

HORIZON EUROPE

IN GENERAL

Horizon Europe is EU's key funding program for research and innovation (R&I) for the MFF 2021-2027. With an agreed upon budget of **€95.5 billion** (current prices) for 7 years and of €12.3 billion for 2023 (and €1.8 billion in grants from NextGenerationEU), Horizon Europe is the **most ambitious R&I program ever**.

Horizon Europe's program consist of various pillars and clusters. The most relevant cluster for the space ecosystem is **Cluster 4 – Digital, industry and space**, under Pillar II – Global Challenges and European Industrial Competitiveness (Cluster 4). Cluster 4 is mainly managed by the **European Health and Digital Executive Agency** (**HaDEA**).

Where appropriate, activities under all Horizon Europe clusters should use EU space-enabled data and services.

WHAT CAN BE FUNDED?

The following space-related actions may be funded under **Horizon Europe's Cluster 4,** with an adopted budget of €12.4 billion for 2023 (1.1% bigger than in 2022) :

- providing **support with R&I funding** to the EU space sector (**axe A**) and
- preparing future **evolutions of the European Space program components** (**axe B**).

Under **axe A**, the following can be funded:

- foster **competitiveness** of space systems
- reinforce the EU capacity to **access to space**
- targeted and strategic **actions supporting the EU space sector** and
- space **entrepreneurship** ecosystems, including New Space, startups and skills.

Under **axe B**, the following can be funded:

- evolution of **space and ground infrastructures** for Galileo/EGNOS
- evolution of **services** for Galileo, EGNOS and Copernicus
- development of **applications** for Galileo, EGNOS and Copernicus
- **innovative space capabilities**: SSA, GOVSATCOM and quantum.

The space ecosystem **may support other clusters** under Horizon Europe including:

- **Cluster 1: Health**; living and working in a health-promoting environment for instance by geo-observation and monitoring of pollution or tackling diseases and reducing disease burden by geo-observation and monitoring of disease vectors

- **Cluster 3: Civil security for society**, where the space ecosystem can contribute to crisis management, emergency services and provide space-based cybersecurity solutions.
- **Cluster 5: Climate, energy and mobility**, where the space ecosystem can help monitoring and fighting climate change, monitor greenhouse gas emissions and promote smart cities and mobility.
- **Cluster 6: Food, bioeconomy, natural resources, agriculture and environment,** where the space ecosystem can for instance support precision farming, advanced applications for agriculture and protect the environment and biodiversity.

The space ecosystem may also receive funding from other **Horizon Europe's pillars related initiatives**, including:

- the **European Innovation Council** (EIC)
- the **European Institute of Innovation and Technology** (EIT)
- the **European Research Council** (ERC)
- the **European Innovation Ecosystem** (EIE) (see also below).

Finally, Horizon Europe can support **European partnerships** such as the **European Partnership for Globally Competitive Space System**, which aims to support the competitiveness of the sector and reinforce EU capacity to access and use space. Such partnership is planned to be operational in the first quarter 2023, with the signature of the memorandum of understanding.

The space ecosystem may also contribute to **other** newly proposed European **partnerships** such as on key digital technologies, clean hydrogen, clean aviation and air traffic management.

Despite improvements, success rates for researchers applying for Horizon Europe grants stand at 15%.

To date, around 50 space research projects implemented by the HaDEA and EUSPA have been supported and close to €200 million have been allocated, under Horizon Europe's Cluster 4.

Energy security and strategic autonomy (including possibly autonomous access to space) may be on top of the research agenda for the second half of Horizon Europe (2024-2027).

For information about the **specific topics** for which proposals are invited, please refer to **Horizon Europe work program (wp) for 2023-2024 Cluster 4** and to **Annex I**.

The need for Europe to access and operate safely in space is an important component of the wp for 2023-2024.

Contributions to climate actions are made by 48% of the Cluster 4 €1.32 billion budget for 2023-2024.

The development of innovative chipsets and receivers that industry would not yet invest in on its own initiative could be financed directly by the Galileo and EGNOS budgets.

Under Horizon Europe, security research should use available instruments such Galileo and EGNOS, Copernicus, Space Situational Awareness and GOVSATCOM.

WHO CAN BENEFIT?

The **admissibility and eligibility criteria** for the Horizon program are determined by various documents, that should be checked carefully.

In principle, **any legal entity,** but not natural persons, regardless of its place of establishment, including startups, SMEs, non-profit entities, universities, research organizations, non-governmental or civil society organizations, foundations and non-governmental organizations (NGOs) and international organizations, **can participate**, subject to any conditions laid down in the work program or call for proposals.

The issue of whether the proposal can be submitted by a **single entity** or must be submitted by **several entities** such as a consortium vary depending on the type of actions and may vary depending upon the specific calls.

A consortium should in principle include at least one independent legal entity established in a Member State and at least two other independent legal entities each, established in different Member States or associated countries.

For actions related to EU **strategic** assets, interests, autonomy or security, legal entities (regardless of their place of establishment) directly or indirectly **controlled** by third countries or by legal entities of third countries, maybe **excluded** from participation or their **participation subject to conditions**.

Certain space-related programs, space-based and/or ground-based space-related infrastructures and other activities may be considered as "strategic".

To be **eligible for funding**, entities must be established in:

- **an EU Member State**, including in overseas countries and territories or
- **eligible non-EU countries** such as:
  - countries associated to Horizon Europe
  - certain low- and middle-income countries or

- other third countries, when provided for in the specific call conditions or their participation is considered essential.

All **legal entities** established in any country, including non-associated third countries can in principle **participate** to Horizon Europe, but **must bear the cost** of their participation, except in certain cases (e.g., if they are established in certain low to middle income countries).

15 third countries are associated to Horizon Europe.
UK and Swiss entities are currently not eligible to funding under Horizon Europe, but this may change in the future in light of an agreement reached in February 2023.

Whilst participants from most low- to middle-income third countries are automatically eligible for funding, those from other third countries are not automatically eligible and therefore often have to participate at their own cost (with exceptions).

Applicants must have stable and sufficient resources to successfully implement the projects and contribute their share.

WHICH FUNDING FORMS?

Whilst **grants** are the main form of support in Horizon Europe, funding may also be provided through **prizes**, **procurements** and **blended finance** such as a combination of a grant or a reimbursable advance with an investment in equity or other repayable form of support or a combination thereof.

Only certain types of costs (eligible costs) actually incurred for the project can be reimbursed at various funding rates.

The amounts of funding and other parameters are determined in the **call for proposals** and in the **grant agreements**, when applicable.

Innovation action are generally funded at 70%, except for non-profit legal entities, where a rate of up to 100% applies.

Grant proposals under Horizon Europe need to set out how the expected impacts, aka destinations, will be achieved.

Grants should not be awarded for actions where activities go above TRL 8.

The grant amount may be reduced in case of non-compliance.

Costs incurred prior to the date of submission of the grant application are not eligible, except in certain cases.

The same costs can never be financed twice by the EU budget.

WHEN, WHERE AND HOW TO APPLY?

Horizon Europe was **launched in February 2021**. and entered **into force retroactively on January 1, 2021**.

The **Single Electronic Data Interchange Area** (SEDIA) is the entry point for participants in the Horizon Europe program.

The eProcurement platform **TED eTendering** include information about calls for expression of interest and call for tenders under Horizon Europe managed by HaDEA.

> *There may be delays in the finalization of the Horizon Europe work programs.*
>
> *The SEDIA site is currently under construction to integrate Horizon Europe.*

For more information, please refer to **Annex I**.

EUROPEAN INNOVATION COUNCIL (EIC)

WHAT CAN BE FUNDED?

The **European Innovation Council** (**EIC**) has been set up to support Horizon Europe's **Pillar III**: **Innovative Europe**, which respond to the needs of entrepreneurs aiming to realize **breakthrough innovation for rapid market growth**. The EIC is subject to a specific governance, under the leadership of the European Commission.

The **EIC** is a one-stop-shop for innovators, including startups and SMEs, and provides support from the early-stage scientific research on breakthrough technologies for rapid market growth and promotes the EU's strategic autonomy.

With an agreed upon budget of **€10 billion** for the MFF 2021-2027 (together with the EIE), 70% of which is dedicated to SME, the EIC provides the **following funding opportunities**:

- **Pathfinder** to support high-risk cutting-edge projects for radical innovations and new market opportunities at TRL 1 to 4
- **Transition** to mature a novel technology and develop a business case at TRL 4 to 5/6 to bring it to the EU market
- **Accelerator** to bridge the "valley of death" between research and commercialization by supporting essentially market-creating innovation at TRL 5/6 to 8, including acceleration services such as coaching, mentoring and partnering and
- **Prizes** to take the challenge and compete for a prize which rewards Europe's leading innovators.

The majority of funding under the EIC is awarded via **open calls,** with no predefined thematic priorities and which are open to proposals in **any field** of science, technology or application. (open funding). The Pathfinder also provide for competitive challenges to develop key strategic objectives (challenges).

The EIC may offer the following **funding opportunities** for the space ecosystem:

- EIC Pathfinder for a vision for a breakthrough technology at TRL1 to 4 (to be developed interdisciplinary in collaboration)
- the same applies for EIC Accelerator for technologies at TRL 5/6 to 8 and
- prizes for innovators shaping the future of innovation in Europe.

The EIC work program for 2023 includes technologies such as in-space solar power, novel propulsion approaches and innovative space technologies and services to ensure Europe is able to service and protect its own space infrastructure and avoiding the risk of losing its strategic autonomy over its own space assets.

Certain capital-intensive, long-term space-related projects such as in the area of space resources may be considered as eligible under the EIC Accelerator.

Despite their survival value, breakthrough initiatives for deep space and interstellar travels may be difficult to finance due to the absence of rapid market growth potential.

Technologies or application that harm the environment or social welfare or for military purposes cannot be funded under the EIC.

EIC funded projects involving earth observation, positioning or navigation and related technologies must use Copernicus and Galileo/EGNOS data, services and technologies.

The EIC launched series of podcasts. The first episode is on eliminating space debris with innovative technologies.

WHO CAN BENEFIT?

Any legal entity, regardless of its place of establishment, including legal entities from non-associated third countries and international organizations, is **eligible to participate**, subject to any conditions laid down in the rules for participation and specific call or topic.

With respect to **eligibility for funding**, in case of multi-beneficiary actions (EIC Pathfinder, EIC Transition where specified), the application must be submitted by a consortium including at least 3 (for Pathfinder) or a minimum of 2 and a maximum of 5 (for Transition) independent entities, each one established in a different eligible country, and with at least 1 established in an EU Member State.

For the EIC Accelerator, the application can in principle only be filed by a **startup** or a **SMEs** (including spinouts) or a **natural person** intending to launch its legal entity (a startup or a SME). **Small Midcaps** (>500 employees) are not eligible for grants but can apply for investment.

In case of mono-beneficiary actions such as prizes, the beneficiary can be a legal or natural person.

Eligible countries are:

- EU Member States (including overseas countries and territories) or

- Associated Countries or
- Low and middle-income countries.

€627 million has been awarded to 99 innovative companies by the EIC) Accelerator, including several space-related startups and startups using space-related technologies.

The EIC is highly selective and only the absolute best proposals can be funded; for instance, in 2020, 14000 applications from SMEs and startups were received for a success rate of 3%; in 2022, out of 1092 Step 2 applicants, 240 were invited to the Step 3 interviews (22%) with an EIC Accelerator success rate of 7.1%.

Legal entities established in other countries may still be eligible for funding when provided for in the relevant call.

Unsuccessful SME applicants may be awarded a seal of excellence providing access to a number of acceleration services and which may facilitate funding from other sources.

WHICH FUNDING FORMS?

The EIC can provide **various forms of support** as follows:

- EIC Pathfinder: **grants-only** of up to €3 million (open) or €4 million if challenge driven) (or more if properly justified)
- EIC Transition: **grants-only** of up to €2 million (or more if properly justified)
- EIC Accelerator: in the form of **grants** and/or via a unique form of **blended finance**, which can be **grants** of up to €2.5 million **and/or equity** (or quasi-equity such as convertible loans) via the EIC Fund of between €0.5 million and €15 million per company, with ownership stakes from 10% to 25% (or higher if for strategic reasons) and
- **several prizes** integrated in the EIC for innovators.

Funding rates of the grants are 100% of the eligible costs.

EIC Fund's investments will normally be made with a long average perspective (7-10) years) and a maximum of 15 years, following an exhaustive due diligence performed by the EIB.

WHEN, WHERE AND HOW TO APPLY?

The EIC was officially launched in March 2021 and the establishing regulation adopted in April 2021. .
Information about funding opportunities and the application process is available on **EIC's website**.

More information on the first EIC Accelerator and Pathfinder calls is available on **EIC's website** and the **EIC Work Programme 2023.**

Potential applicants can also contact the European Innovation Council and SMEs Executive Agency.

Applications must be submitted electronically directly via EU funding & tender opportunities portal **SEDIA**.

Certain participants in eligible projects funded by Horizon 2020 or Horizon Europe can apply via a **Fast-Track scheme**.

The 16 third countries associated with Horizon Europe are in principle those associated to the EIC and the UK and Switzerland are currently excluded (this may change).

Paper submissions are not possible.

There are limitations on the number of times applications can be submitted.

Proposals will be first evaluated and scored by EIC expert evaluators.

EIC Accelerator applicants must not be in a situation of concurrent submission or implementation.

There may be delays in the review of applications.

The EIC has been restructured in 2022 and an appointed external fund manager will take investment decisions, following due diligence by the EIB and input of an expert advisory committee.

The EIC Board asked in 2022 to fast track the funding (grants and investments) to companies whose very survival in Europe.

For more information, please refer to **Annex I**.

EUROPEAN INSTITUTE OF INNOVATION AND TECHNOLOGY (EIT)

WHAT CAN BE FUNDED?

The **European Institute of Innovation and Technology** (**EIT**) is the EU body to reinforce the innovation capacity by fostering the integration of education, research and business, with an agreed upon budget of **€2.6 billion €**for the MFF 2021-2027 and of €905 million for the 2023-2025 period.

The EIT operates through large institutionalized **European partnership**, the **Knowledge and Innovation Community** (**KIC**), selected and designated by the Governing Board of the EIT, according to agree upon **priorities**, including those of the Horizon Europe program.

With its largest funding allocation of €890 million for 2023, the EIT can invest in the following thematic areas:

- entrepreneurial education programs and courses
- business creation and acceleration services

- innovation driven research projects.

*EIT Climate-KIC has published a new **strategy** to support skills development for the space and geoinformation sectors.*

WHO CAN BENEFIT?

There are currently **eight operational KICs** in the areas of climate change, digital transformation, energy, food, health, raw materials, urban mobility and added-value manufacturing, including the **EIT Climate-KIC initiative**, EU's largest public private partnership addressing climate change through innovation.

By 2019, there were more than 600 businesses, 250 higher education institutions (HEIs), 200 research organizations and more than 50 civil society organizations and authorities participating in the eight KICs.

The EIT Climate-KIC initiative has already adopted certain actions to support the space ecosystem such as encouraging the use of satellite data and information and will likely continue to do so during the MFF 2021-2027.
The EIT uses the majority of its budget to support:

- the eight **existing KICs**, and their transition towards the delivery of the new implementation criteria for European Partnerships and Horizon Europe's priorities and
- the setting up of **new KICs.** .

The space ecosystem can contribute to the objectives of several Kicks such as those on climate, digital, energy and urban mobility.

The EIT and the KICs may support universities and higher education institutions offering air and space-related studies and programs such as masters.

Only the KIC legal entities are eligible for applying for the cross-KIC activities as beneficiaries.

WHICH FUNDING FORMS?

The EIT essentially supports the KICs via **grants**.

The KICs themselves, including the EIT Climate-KIC initiative, offer **various forms of support**, including grants, procurement and venture financing opportunities (e.g., a non-priced grant agreement for up to €500K that can be converted into equity).

EIT funded projects are in principle eligible to receive additional resources from other EU programs.

WHEN, WHERE AND HOW TO APPLY?

The eight existing KICs are operational. The new KIC **Cultural and Creativity** (CCSI) is to be launched soon and the second should relate to the water, marine and maritime ecosystems in 2024.

Information about funding opportunities, the conditions for the grants and calls for proposals and tenders are available on the **EIT web site** and the web sites of the respective KICs, such as **EIT Climate-KIC**.

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The EIT financial contribution to the KICs may cover up to 100% of the total eligible costs of KIC added-value activities in the initial stages of the KIC life.

The KICs can assess the startups and fast track them directly to the full application stage of the EIC Accelerator.

New guidelines for the 2023-2025 KIC business plans and estimated budgets have been adopted.

For more information**,** please refer to **Annex I**.

EUROPEAN RESEARCH COUNCIL (ERC)

The **European Research Council** (ERC) is part of Horizon Europe and aims to support top researchers.

The main activity of the ERC is to provide **grants to support groundbreaking, high-risk/high-gain research**. ERC grants are open to researchers of any age, any career stage and any nationality, who may reside in any country in the world. The ERC grant is however awarded to the institution that engages and hosts the relevant researcher(s) and which must be located in the EU or in country associated to Horizon Europe . Also, research funded by the ERC is expected to lead to advances at the frontiers of knowledge and to set a target for frontier research across Europe. The ERC can also award **complementary funding** for the principal researcher funded by the main grants.

All scientific fields are eligible for ERC funding. The ERC has already funded a wide range of research in the fields of universe sciences such as astrophysics, solar system, planetary systems, astronomy, cosmology and space sciences and can continue to do so during the MFF 2021-2027.

Applications for ERC grants should be filed via the **EU TED portal**, which contains all information on each call. The National Contact Points could also provide information and support in different languages.

The ERC encourage proposals from researchers based in non-associated third countries wishing to carry out a project with a host institution in the EU or an associated country.

The constitution of the research teams is flexible and team members could be located in the same or different countries.

There are distinctions between "starting", "consolidator", "advanced" and "synergy" grants, of maximum amounts ranging from €1.5 million to €5 million for 5 years and additional amounts up to €1 to 4 million.

Whilst the maximum grant amount varies by grant type, it can cover up to 100% of the total eligible direct costs of the research plus a contribution for indirect costs.

For more information**,** please refer to **Annex I**.

EUROPEAN INNOVATION ECOSYSTEMS (EIE)

The **European Innovation Ecosystems** (**EIE**) is part of Horizon Europe and aims to create more **connected and efficient innovation ecosystems** to support the scaling of companies, encourage innovation and stimulate cooperation among national, regional and local innovation actors.

The EIE program supports a number of actions under destinations CONNECT and INNOVSMES, including actions using space-based technologies.

The EIE also supports the **European Partnership for Innovative SMEs**, the continuation of the **Eurostars** programs (Eurostars-3). The EIE acts in complement and synergy with the EIC and the EIT.

Under **Eurostars** program, calls for proposals for (< 3 years) projects in technology areas and market fields, having a civilian purpose, are issued. The consortium must include at least two independent partners established in at least two different Eurostars Participating States. Organizations from any other country may participate (as a third country).

Information and details on funding opportunities is available on the **EIE website** and on **Eureka's website**.

All funding information and details on how are available on the **Single Electronic Data Interchange Area** (SEDIA).

*The Eurostars Program offers an **online tool** to assess the financial strength of each applicant before applying for funding; whilst passing the test is not an eligibility criterion, it remains an important element in the funding decision-making process at national levels.*

INNOVATION FUND

WHAT CAN BE FUNDED?

The **Innovation Fund** (the Fund) is one of the world's largest funding programs for the demonstration of innovative low-carbon technologies. The Fund is financed by revenues from the **auctioning of allowances** under the **EU Emissions Trading System** (EU ETS), which may amount to about **€10 billion** for the period 2020-2030, depending on the carbon price.

The EU ETS covers emissions from more than 10 000 **heavy energy-using installations** (power stations & industrial plants), including possibly aerospace and engineering industries and airlines. Since April 2021, the Fund is managed by the European Commission and the **European Climate, Infrastructure and Environment Executive Agency** (**CINEA**). The European Investment Bank (EIB) is in charge of the monetization of the Fund allowances and the management of the Fund revenues.

In November 2022, calls were launched with a €3 billion for large-scale projects on innovative clean technologies, with a special focus on energy-related issues.

In January 2023, €1.8 billion has been granted to 16 "green" projects (for 10 years) covering ground-breaking technologies such as green hydrogen, synthetic sustainable aviation fuel and methanol production from renewable hydrogen.

Under the New European Innovation Agenda, proposed actions include to help deep tech to scale-up, increase the size of VCs, facilitate public listings and promote the use of stock options for startups.

WHO CAN BENEFIT?

The Fund aims to support small and large scale (>€7.5 million) **low-carbon technologies projects** in the EU Member State and Norway and Iceland.

Projects are **selected based on**:

- effectiveness of greenhouse gas emissions avoidance
- degree of innovation
- project maturity
- scalability and
- cost efficiency.

Industrial plants from aerospace companies may be considered "energy intensive industry sector" and be eligible for support by the Innovation Fund.

WHICH FUNDING FORMS?

The Fund provides grant support in the form of **lump-sum payments**, upon reaching agreed project milestones.

WHEN, WHERE AND HOW TO APPLY?

Information about the regular calls for proposals under the lifetime of the Innovation Fund are available on the **Single Electronic Data Interchange Area**.

The Innovation Fund adopted a dashboard to show the portfolio of (52 so far) projects that have signed grant agreements.

DIGITAL EUROPE PROGRAMME

WHAT CAN BE FUNDED?

The **Digital Europe Programme** (**DIGITAL**) is the first EU financial instrument focused on bringing digital technology to businesses and citizens. With a budget of **€7.5 billion** for the MFF 2021-2027 and €1.3 billion for 2023, DIGITAL can provide funding in five strategic areas:

- high performance computing
- Artificial intelligence (AI)
- cybersecurity and trust
- advanced digital skills and
- deployment and best use of digital capacity and interoperability.

The **space ecosystem may contribute** to actions in certain of these areas such as:

- space-based **connectivity** to give all Europeans access to digital technology
- space-based high performance **computing technologies** such as quantum technologies
- space-based technologies for a **ubiquitous digital single market and a digitally connected world**, for everything from the IoT to Augmented Reality and autonomous vehicles
- space-related **cybersecurity** infrastructures, **cloud** computing, **AI** capacities and **ledger technologies** such as blockchain
- space-related technologies such as **robotics**, **big data** (e.g., for earth observation) and other key digital technologies
- **emergency communications** in the EU and
- intelligent **edge computing** (e.g., smart farming where space-based technologies can assist).

The **European Health and Digital Executive Agency** (**HaDEA**) manages the above actions under AI, advanced digital skills and digital capacities and interoperability.

WHO CAN BENEFIT?

To participate to DIGITAL, **legal entities must be established** in:

- an EU Member State or an overseas country or territory (OCT) or
- a third country associated to DIGITAL.

Natural persons are not eligible to participate, except for grants awarded to support access to advanced digital skills and training opportunities. Legal entities created under EU law and international organizations of European interest are eligible to participate.

Startups, SMEs and Midcaps have a central role in DIGITAL.

In certain areas such as cybersecurity, legal entities that are controlled from third countries may be excluded from participation or subject to requirements to protect security interests.

WHICH FUNDING FORMS?

DIGITAL may provide funding in various forms allowed under the Financial Regulation, including **procurement** or **grants** or **prizes** but also **guarantees** and **blending operations** and other combined funding.

Procurement is the primary funding form of DIGITAL.

Innovation hubs such as the European Digital Innovation Hub can only receive grants.

WHEN, WHERE AND HOW TO APPLY?

The EU Council gave the green light to DIGITAL in March 2021 and the European Parliament voted in April 2021. DIGITAL retroactively started as from January 1, 2021.

The **Single Electronic Data Interchange Area** (SEDIA) is the entry point for participants in DIGITAL.

The procurement platform **TED eTendering** include calls for expression of interest and tenders the are managed by **HaDEA**.

Information about DIGITAL's calls for tenders and proposals for all actions is also available on DIGITAL's **website**.

For more information, please refer to **Annex I**.

EU SPACE POLICY

EUROPEAN SPACE PROGRAMS

WHAT CAN BE FUNDED?

Space is a shared competence of the EU and its Member States. The EU must adopt a **space policy** to promote scientific and technical progress, industrial competitiveness and address key EU political priorities (Article 189(1) TFEU). The necessary measures must be set out in the form of a **European space program**, to be adopted by the European Parliament and the Council (the space program), excluding any harmonization of the laws and regulations of the Member States. (Article 189(2) TFEU

With the largest ever budget of **€14.88 billion** for the MFF 2021-2027, the space program could help nearly every Europeans carrying out everyday activities on Earth and beyond.

The space program can in principle fund the following:

- the continuity and evolution of the EU flagship program **Galileo**, **EGNOS** and **Copernicus** (the flagship programs), which offer earth observation data and positioning, navigation and timing services
- a new and more holistic approach for space surveillance and tracking (SST) of space hazards, called **Space Situational Awareness** or **SSA**
- **Governmental Satellite Communications** (**GOVSATCOM)**
- actions to ensure an **autonomous access to space** for the EU such as to procure and gate launching services at European level (there is however no dedicated budget) and
- actions to reinforce competitiveness, innovation, entrepreneurship, skills and capacity building, notably for **SME and startups** (upstream and downstream uptake actions).

By contrast:

- **research and innovation activities** relating to the space program are mainly financed via the following programs:
  - Horizon Europe
  - InvestEU Fund
  - European Defence Fund (EDF) and
  - funds or programs under shared management and
- technologies for the **defense-component** of the space program may be supported by the EDF and possibly other funding programs supporting "dual-use" technologies such as Horizon Europe and the Cohesion Policy programs.

For more information, please refer to **Annex II**.

GALILEO AND EGNOS

Galileo is Europe's Global Navigation Satellite System (GNSS), which can be used by a variety of public and private actors in Europe and worldwide.

EGNOS or the **European Geostationary Navigation Overlay Service** is a civil regional satellite navigation system, which aims to improve the quality of open signals from existing systems such as Galileo.

The **following can** in principle **be funded** under the Galileo and EGNOS programs, which have received a financial envelope of **€9.017 billion** for the MFF 2021-2027:

- the **exploitation phase of the program**, consisting of:
  - the management and evolution of space and ground-based infrastructures
  - the development of future generations of systems, services and downstream applications
  - certification and standardization activities
  - other necessary activities and

- **actions** such bootcamp, incubation and acceleration services to promote the use and uptake of the data, information and services and support related downstream applications.

By contrast, systems evolution, design and development of parts of the **ground segment** and of **satellites** will more likely be financed by other means such as ESA budget.

Apart from the above funding opportunities, the space ecosystem may also in principle benefit from **prize competition** under the Galileo and EGNOS programs such as GalileoMasters and MyGalileoSolution as well as **incubation** services.

More than 2 billion Galileo-enabled devices have been sold to smartphone users.

EGNOS is operational in more than 350 airports and heliports

*The delivery of **High Accuracy Service** (HAS) has started in 2023, including free-of-charge, high accuracy (<25cm horizontal in nominal conditions) worldwide.*

*Contracts were awarded in 2021 to initiate the **launch the 2nd generation of Galileo satellites**.*

For more information, please refer to **Annex II**.

COPERNICUS

Copernicus is an operational Earth observation (EO) system under civil control, one of the largest, world-class, high-quality EO data provider in the world. Copernicus sentinels are Copernicus dedicated EO satellites systems. Copernicus enhances the monitoring of the atmosphere, marine, climate change, environment and natural disasters.

The **following can** in principle **be funded** under the **€5.421 billion** 2021-2027 MFF Copernicus program:

- the development and operations of the Copernicus **sentinels** and the dissemination **infrastructures** or to **enhance continuity** of existing missions or infrastructure
- to develop and operate **further sentinels and related systems**
- **data** and **information access and distribution** such as
    - ensuring access to necessary data or enhance access
    - additional infrastructure to foster the distribution, access and use or
    - acquisition of data from third parties or from dedicated dissemination platform (core ground segment)
- support for the **Copernicus six thematic services** (see below) and
- user uptake, market development and capacity building actions such as the **Copernicus Startups Programme**.

Apart from the above funding opportunities, based on past actions, the **space ecosystem may** in principle **benefit from the Copernicus program as follows:**

- The **Copernicus Startup Programme** consisting of four components:
    - Copernicus Prizes organized in the context of the Copernicus Masters to actively push the objectives of the Copernicus startup program (€10K)
    - Copernicus Hackathons for instance to develop software based on Copernicus data and services (€20K price)
    - Copernicus Accelerator to speed up the uptake of Copernicus
    - Copernicus Incubation, focused on the EU EO technology (up to €50K grant for successful participants)
  - **coaching** and **mentoring** for SMEs
  - **kick-start** activities in relevant areas
  - **bridging** innovative downstream EO and Copernicus services
  - Action for supporting Copernicus **digital skills** initiatives.
  - **IoT** space capabilities (ESA) and
  - **risk** quantification and recovery of disasters.

*Under the **Copernicus Climate Change Service**, ongoing actions aims to increase the resilience of ecosystems and reduce biodiversity loss around the world.*

The Copernicus Data Space Ecosystem portal enables access to sentinel satellites as well as other data together with data processing functionalities.

Mercator Ocean is in charge of the Copernicus Marine Environment Monitoring Service and can issue calls for tenders.

Copernicus must evolve to take the changing user and New Space needs into account.

For more information, please refer to **Annex II**.

SPACE SITUATIONAL AWARENESS (SSA)

Under the **European space program**, a more holistic approach for **space surveillance and tracking (SST)** of the **main space hazards** (space objects and space debris) and to include space weather services and near-earth objects (NEO) capacities within its scope (collectively **Space Situational Awareness** or SSA) will be developed. SST and SSA are essential for sustainable near-Earth orbit operations.

The **following SSA-related actions may** in principle **be funded** with the envelope of €442 million for SSA (and for GOVSATCOM) for the MFF:

- to enhance SST capabilities to monitor, track and identify space objects and space debris
- to increase the performance and autonomy of SST capabilities and
- to provide space weather services or to map and network Member States NEO capacities.

In November 2022, a SST Partnership of 15 Member States was signed, as foreseen in the EU Space Regulation 2021/696 .

SSA currently provides tracking and surveillance services for more than 210 satellites.

For more information, please refer to **Annex II**.

GOVERNMENTAL SATELLITE COMMUNICATION (GOVSATCOM)

GOVSATCOM is a user-centric satellite communications service under civil and governmental control with a strong security dimension. Its users are the EU and Member State authorities managing security critical missions and infrastructures.

The **following** actions **may in principle be funded** under the envelope of €442 million for GOVSATCOM (and for SSA) for the MFF 2021-2027:

- **GOVSATCOM components and capacities** (coming from national systems and space capacities roughly until 2025), including space and ground segment infrastructure, user equipment and interoperability and standardization measures
- ensuring an appropriate level of **non-dependence from third parties** in GOVSATCOM components, such as space and ground technologies, manufacturing industries, owners and operators of space systems and physical location of ground system components.
- GOVSATCOM **services** and
- preparations for the **next generation** of GOVSATCOM.

For more information, please refer to **Annex II**.

WHO CAN BENEFIT?

Persons and entities established in the following countries should in principle be eligible for public funding under the European space program, subject to more specific rules in the different programs concerned:

- EU Member States, including overseas countries and territories
- EFTA/EEA members
- Candidate countries and potential EU candidates and
- Countries covered by the European Neighborhood Policy, except for the SST.

For GOVSATCOM, persons and entities established in other countries than mentioned above could only participate when established in **Association Agreement countries**.

Actions under the European space program may be awarded a seal of excellence certification under certain conditions.

The EC may adopt more restrictive eligibility rules and exclude entities subject to control by a third country or entity or, on the contrary, waiver the control requirement.

WHICH FUNDING FORMS?

Public funding and support may be granted via the "traditional" forms of **grants**, **prizes** and **procurement** (of works, supplies and services) but also **other forms** such as vouchers, innovation partnerships and joint or cumulative or blended funding operations, in particular to

enhance access to finance and promote synergies with other related programs and financial instruments.

The EU may cover up to 100% of the eligible costs for grants and prizes.

Cumulative funding from different programs that do not exceed the total eligible costs of the action is encouraged.

WHEN, WHERE AND HOW TO APPLY?

EUSPA has developed an **opportunities database** for all related procurement, , grants and prizes as well as **fundamental elements**, which is a specific EU R&D funding mechanism supporting the development of EGNSS-enabled chipsets, receivers and antennas, with a total budget for 2021–2027 of €43 million.

Information about prizes, awards and other support measures and opportunities is also available are the respective websites of the flagship programs components **Galileo Masters** and **Copernicus**.

Information about calls for expression of interests and proposals for the procurement of the space and ground components of the flagship programs and dissemination infrastructures is available at the **EU TED portal**.

For procurements related to the Copernicus Climate Change and Atmosphere Monitoring Services, information is also available at the European Centre for Medium-Range Weather Forecasts (ECMWF) dedicated **eProcurement portal**.

*The GNSS Agency publishes a **programming document** with information on its future procurement plans.*

EUROPEAN COMMISSION CASSINI INITIATIVE

In January 2021, the European Commission (EC) initiated the **Competitive Space Startups for InnovatIon** (**CASSINI) initiative**, including a **€1 billion European space fund-of fund** (the space fund concept).

The space fund concept is based on the experience acquired with the InnovFin Space Equity Pilot, which has been set up under Horizon 2020 work program 2018-2020 to invest, via the EIF, in venture capital and other risk-capital funds focused on innovative SMEs and small midcaps. (for information about InnovFin Space Equity Pilot, please refer to **Annex V**).

The space fund is funded by various means including InvestEU, Horizon Europe and the EIF, which is in charge of the management of the space fund.

To date, CASSINI supported and, will support, the following:

- a number of **VCs specialized in investing in space** and/or operating with an EU investment guarantee for space investment have been set up
- a **space-oriented index** on Euronext stock exchange (showing a price increase from 1K to 4K since 2010).

- a series of **matchmaking events** for startups and SMEs started in 2022, with new themes for 2023
- **prizes and competitions**, including (i) **hackathons, (i) mentoring**, with the future Hackathon "Space for Defence & Security" in March 2023,
- **myEUspace Competition,** to support the development of innovative commercial solutions
- a number of **prizes** have been offered and future prices will be to develop space solutions to track and remove marine plastic pollution and protect wildlife (May 2023).
- **CASSINI Business Accelerator**, with an application deadline of March 31, 2023.

Information about funding opportunities and other measures is available on the **CASSINI web site**.

For information about the specific topics for which actions related to the CASSINI initiative will be undertaken in 2023-2024 under the Horizon Europe, please refer to the **Horizon Europe Work programme 2023-2024 – Cluster 4. Digital, Industry and Space and to Annex II**.

For more information, please refer to **Annex II**.

EU SECURE CONNECTIVITY PROGRAMME IRIS2

The **proposed** EU **Secure Satellite Constellation** initiative (Infrastructure for Resilience, Interconnectivity and Security by Satellite or "**IRIS²**"), with an agreed upon total **EU budget of €2.4 billion**, complemented with €685 million from ESA and the rest covered by the private sector, is receiving strong support and making good progress.

The **European Parliament voted favorably on IRIS² on February 14, 2023** and agreement has been reached to allocate €138 million in 2023. The procurement process for IRIS²'s initial assets could start soon in 2023 and it could become **operational before the end of the decade**.

IRIS² will enable the EU to have its own satellite constellation to offer services to governments and the civil society over the EU and other areas such as Africa and the Artic.

It will be implemented via the following **activities and procurement contracts**:

- construction and launch (by institutional and/or micro-launchers) of the required multi-orbital space and of the ground infrastructure
- development and integration of the quantum communication infrastructure into the secure connectivity system
- complementary activities to provide services
- exploitation activities, including the provision of governmental services and of commercial services by the private sector.

Startups and SMEs could be involved in IRIS² as follows:

- R&DI activities via Horizon Europe program to develop and validate the secure connectivity system and related technologies
- as part of the public-private partnership (PPP), which should in principle foster their involvement along the entire value chain

- via space-launch related activities and other activities.

Whilst the European Commission has overall responsibility for implementation of **IRIS²**, it may entrust EUSPA and ESA with tasks under indirect management.

> *The issue of how and from where IRIS's assets will be launched still need to be discussed and determined.*
>
> *The amendments proposed by the European Parliament include the requirement to maximize the integration of new entrants, startups and SMEs, including via the establishment of specific quotas.*

SPACE AND DEFENCE

Space and defense are interlinked since the launch of the first satellite Sputnik in 1957 by the R-7 Semyorka rocket, derived from an intercontinental ballistic missile.

Whilst the EU's space assets are under civil control and the EU Space Programme is a civil program, there is a pressing need to complement the current space strategy and enhance the security and defence dimensions of the Union in space.

A number of related policy initiatives and actions have already taken place, especially in 2022 and 2023 at European levels, to seek to support EU's security and defence efforts in space, propose actions and related funding efforts, reinforce space-based capabilities, continue to invest in critical space technology, develop technologies, reinforce security of infrastructures, develop standards and deter and respond to any threats on sensitive space systems.

As a follow-up and to enhance EU's strategic standing in the geopolitical context, the European Commission intends to present an EU Space Strategy for Security and Defence in 2023. Such strategy will likely aim to:

- strengthen the resilience and security framework for EU national and commercial space systems
- reinforce the ability to respond to threats
- to increase the use of space for security and defence operations
- implement an EU space law to establish common rules on safety, security and sustainability.

For more information, please refer to **Annex II**.

SYNERGIES BETWEEN CIVIL, DEFENCE AND SPACE INDUSTRIES

The European Commission (EC) adopted an **Action Plan on synergies between civil, defence and space industries** in February 2021 (the Action Plan).

The Action Plan lays the ground to deliver concrete **policy actions**, including in terms of **measures to enhance access to finance and synergies** which could be useful for the space ecosystem such as:

- fostering **synergies among** relevant **EU funded programs and instruments** (e.g. between the EU space program, Horizon Europe, the Digital Europe Programme (DEP), the European Defence Fund (EDF), InvestEU, the Recovery and Resilience Facility, and the Cohesion Policy funds) and **funding at national and regional levels** via for instance co-funding of EU projects
- **blending facilities at EU level**, involving a combination of different forms of investment support from the EU budget (e.g. grants and repayable resources) and other financing sources
- **transfers of funds between programs** including those under shared management
- **promoting** that EU funding for research and innovation has dividends for EU citizens and
- the **seal of excellence mechanism**.

In 2022, the EC adopted its first report on the implementation of the Action Plan. The Observatory of Critical Technologies could issue its first (classified) report in 2023. A number of constraints that impede synergies have however been identified as well as possible (yet to be implemented) solutions and work around plans.

For more information, please refer to **Annex II**.

KNOWLEDGE CENTRE ON EARTH OBSERVATION

Earth observation (EO) data has become increasingly valuable to public and private efforts that improve our planet and people and for achieving several EU priorities and policies such as the green deal and the climate and digital transitions, conservation of nature, biodiversity, civil protection, disaster management, including pandemia, sustainable and smart agriculture and ocean and costal management and maritime surveillance.

In light of the above, in April 2021, the European Commission launched the **Knowledge Centre on Earth Observation** (the Center).

The Center help **increasing the coherence and effectiveness of EU policies and actions**, better **coordinate** their impact in other areas and **help achieving international efforts and commitments** such as the UN Sustainable Development Goals (SDGs).

The Center:

- provide **open and transparent access** to quality and trusted EO data, including certain data such as on land protection that are currently not generally available to the public
- help to **prioritize investments** in next-generation EO technologies and the related support provided by the Horizon Europe and the Copernicus programs and
- provide a **forum for dialogue** with stakeholders and the general public and may be contacted for seeking guidance.

II. KEY EUROPEAN AGENCIES

EUROPEAN SPACE AGENCY (ESA)

DOING BUSINESS WITH ESA

The **European Space Agency (ESA)** is an international organization with extensive expertise in the space domain. With an **agreed upon budget of €16.9 billion** for the next 3 years, ESA supports the following relevant programs and initiatives for the space ecosystem:

- **Advanced Research in Telecommunications Systems** (**ARTES**) program for telecommunications and integrated applications, with so-called ARTES 4.0 program from 2023-2027
- **Technology Research Programme** (**TRP**) to research basic principles observed from actual system completion to experimental proof of concept
- **General Support Technology Programme** (**GSTP**) to develop new technologies and projects
- **Future Launchers Preparatory Programme** (**FLPP**) to fund activities related to the development of technologies for future European launch vehicles and improvements to existing launch vehicles
- **InCubed** to gain financial and practical support for industry projectsESA Business Application program to Space Solutions to
- **ESA Business Applications program** to support the development of sustainable services that use space assets and offers expert support to entrepreneurs and funding opportunities, including **Kick-Start** for any SMEs and startups looking for opportunities to develop their ideas and business applications.
- ESA new **ScaleUp program** to help deliver the new organization opportunities in European space.

ESA funding rules differ from those applicable to EU bodies and may follow the principle of fair return or "juste retour".

ESA funding remains available for UK-based entities following the Brexit.

To interact with the ESA, the **space ecosystem could notably**:

- **register** by using **esa-star** (registration is mandatory for all entities (whether a natural or a legal person or group of persons or a public entity or body) wishing to do business with ESA)

There are 2 levels of entity registration: "light" and "full". A "light" registration will grant access to esa-star services, including proposal submission. The award of ESA contracts requires "full" registration.

It is possible to register with esa-star a new business unit which is part of a legal entity already registered.

The SME status to benefit from special tendering and payment conditions is only granted subject to verification.

- **consult** the upcoming invitations to tender (ITT), the ITT, requests for quotation and information about ESA's procurement process on **esa-star Publication**

Access to esa-star publication is possible as a guest without registration.

- use **esa-match** to get **visibility**, find business partners and **cooperation** with others

Esa-match includes a searchable entity directory and a place to advertise offers and needs, accessible without registration as a guest.

- **submit project proposals**, including for the above-mentioned ESA programs, including ARTES, TRP and GSTP, by using **esa-star Tendering** online system
- **seek** to benefit from **funding** via **ESA Kick-start Activity**
- **apply** to gain financial and practical support via **InCubed**
- **apply** at any time via **ESA Space Solutions** as a point of entry for several actions (see below)
- **submit** ideas for the specific programs on various **ESA** web sites and act as a "think tank" via **General Studies Programme** (GSP) interfaces.

To seek to ensure fair access to its programs for SMEs, ESA applies a set of clauses, known as the "C1-C4 clauses", to certain types of procurements.

Entities that are established in ESA Member States, Associate Member States or Cooperating States can in principle register and participate in tendering procedures unless they do not satisfy other eligibility requirements or fall under one of the exclusions.

ARTES

ESA ARTES supports projects at any point of the technology development process (TRLs 2 to 8). The space ecosystem located within ESA Member States can submit proposals via the various elements of the **ARTES** program. Every **ARTES** element includes a funding framework and follows certain criteria that must be met. Under **ARTES Competitiveness & Growth (C&G)**, it is necessary to indicate in advance the intention to submit an application for support and to take ESA guidance into account.

ESA C&G Program may support up to €25 million (up to 75% of the project total costs). New Space companies who wish to demonstrate their new and innovative hardware, systems and

services through an end-to-end satellite system and may cover the development, launch and in-orbit demonstration of small satellites.

Funding of the individual prime or subcontractors, for **ARTES C&C** and **ARTES** applications activities, is subject to authorization of the required **ARTES** budget by the related **National Delegations**.

ARTES 4.0 for 2023-2027 remains the central programme for ESA's activities in the area of Telecommunications and Integrated Applications, with the objective to improve the innovation capability and competitiveness of European industry in the world satellite communications market and to enable satellite-based solutions responding to societal and general policies' needs.

TRP

The **Technology Research Programme** (**TRP**) is the backbone of ESA's innovation effort, supporting all of ESA's fields of activity across the entire spectrum of technical disciplines, providing the technological nucleus for most future developments covering up to proof-of-concept TRL 3. **TRP** supports projects based on the "Innovation Triangle" concept, requiring the collaboration of 3 different entities: an inventor, a developer and a customer. Procurements plans are made annually, with 100% contracts offered to industry and universities on an open competitive basis. About €50 million are granted in industrial contracts per year. IITTS are issued continuously throughout the year on **esa-star Publication**, with registration needed for access. About 150 contracts are granted per year.

GSTP

GSTP supports projects in all technology disciplines and for all applications at TRL 2 to 8, except telecommunications covered by the **ARTES** programs, with a budget envelope of around €450 in the last 5 years. **GSTP** IITTS are issued regularly on **esa-star Publication**. Around €45-60 million are granted for industrial contracts per pear for around 60 to 80 activities.

THE FUTURE LAUNCHERS PREPARATORY PROGRAMME (FLPP)

The Future Launchers Preparatory Programme (**FLPP**), which began in 2003, comprises 3 elements (Develop, Make and Fly). It is instrumental in the European strategy for access to space. As from 2023, the FLPP will prepare technology disruptors, space logistics, rapid demonstrators and building blocks to respond to future needs in space transportation.

INCUBED

Incubed aims to support industry-led initiatives that will open new market opportunities, bring innovative systems and products faster to market, and compete in the global marketplace. The space ecosystem located in Incubed Participating States can apply for a chance to gain financial and practical support for industry projects. **ESA** could co-fund up to 50% of a proposed venture of sufficient technical readiness and market viability and provide access to **ESA** expertise and technical support.

During ESA Ministerial 2022, Cubed was renewed with a 65% budget boost to encompasses a host of actions designed to further stimulate and accelerate European innovation and competitiveness in commercial Earth observation.

ESA BUSINESS APPLICATIONS

ESA Business Application program is the entry point for several initiatives such as:

- **Kick start**, a funding scheme with thematic activities, open to any industry, including startups ansd SMEs to develop ideas for new commercial applications, including funding up to 80% of the total cost and up to €64 000 in co-funding.
- **Feasibility studies** funded up to 50% of the total cost.
- **Demonstration projects,** also funded up to 50% of the total cost.
- **Technology transfer** supported by technology experts as part of the by ESA's technology broker network.
- **ESA Business Application Ambassadors**
- **ESA Business Incubation Centres (ESA BICs**), including support with: (1) office space and logistics support, (2) technical support, (3) business assistance, (4) seed money and access to equity loan facilities, (5) access to inventors, VCs and other finance opportunities and (6) help to find partners and launch business internationally through the extensive **ESA BIC network**.

Under ESA Business Applications program, businesses from any sector, including the space ecosystem, can propose idea directly via **open call for proposals** (by way of direct negotiations). The first step is the inform the ESA about relevant ideas and implementation plan via the online questionnaire **Activity Pitch Questionnaire (APQ)**. The activities proposed must be relevant to **ESA's Business Applications** program objectives.

The program is open to any public or commercial space-related entities worldwide (be it as group of users, public body or non-governmental organization) residing in any of the ESA Member States that are participating to the program.

Businesses from any sector, including the space ecosystem, can also participate to **competitive tenders**, when already engaged in developmental or commercial activities. In this case, although not a competitive tender, the Call for Proposals is published on **esa-star Publication**.

ESA AGENDA 2025

In April 2021, the Agency issued its **ESA Agenda 2025**, setting out the **Agency's strategic priorities and goals** (the Agenda). The Agenda **encourages Europe to be more ambitious** to stay ahead in the space race.

In terms of public funding of space-related activities, recognizing the gap between Europe and the US, the Agency proposes to:

- facilitate access to capital by **offering its expertise** as technical partner/adviser in new cooperative schemes with funding entities like venture capital funds and business angels.

- stimulate public demand by **acting as user and first buyer/anchor customer** in certain areas
- **double spending on game-changing technologies** and **enhance in-orbit demonstration and validation opportunities** and
- **simplify access** to ESA programs and activities by setting open standards and interface to facilita
- te new entrants' integration in the supply chains.

> *ESA expertise could be offered in the frame of ESA's Business Incubation Centres and/or the business incubator contemplated by the CASSINI initiative (see above).*
>
> *Whilst this is already done by certain national space agencies such as the CNES, offering ESA expertise to third parties represents a shift in ESA's practices.*

Follow-up discussions and implementation measures will be necessary to transform the agenda into reality. A space summit will take place in 2023.

For more information, please refer to **Annexes II and III**.

ESA LUNAR AND TERRAE NOVAE 2030 INITIATIVES

The **ESA** is supporting a lunar surface mission to demonstrate technologies needed to enable **In-Situ Resource Utilization** (**ISRU**) on the Moon (**PROSPECT**). The goal of this **ISRU** mission is to show, by 2025, that water or oxygen production on the Moon is feasible. To implement this mission, the **ESA** intends to procure mission-enabling services from the commercial sector. Such services may include payload delivery, communication, and operations services.

Also, ESA is exploring the concept of **lunar satellites** and of **several satellites in different orbits around the Moon** providing lunar missions with reliable, real-time communications and navigation services.

ESA is working on **plans for a European Large Logistic Lander** to provide different types of uncrewed missions, from supply runs for Artemis astronauts, to stand-alone robotic science and technology demonstration missions and even a **lunar return mission** to bring samples to laboratories on Earth. It envisages regular launches starting in the later part of this decade and continuing into the 2030s.

The Agency published its **Space Exploration Roadmap "Terrae Novae 2030+"** to maintain and ensure Europe's leading role in space exploration and guide decision-makers. The following objectives are proposed:

- to create new opportunities in **Low Earth Orbit** for a sustained European presence in the post-ISS era
- to enable the first **European to explore the Moon's surface by 2030** as a step towards sustainable lunar exploration in the 2030's
- to prepare the horizon goal of Europe being **part of the first human mission to Mars**.

ESA MINISTERIAL 2022

Despite the difficult context, in December 2022, the European Space Agency (ESA) Member States have agreed upon a **budget of €16.9 billion for the next 3 years**. This reinforces the position that **space is more relevant than ever**, that Europe has no choice but to assume its role as a forward-looking global space power and supports the interest for the return of humankind to the Moon.

The agreed upon budget is an increase by 17% v. 2018-2022 (€1.5 billion less than what ESA requested) and enables to address all major priorities such as work on a lunar cargo lander, funding a share of IRIS, revamp the ExoMars rover mission and extend ESA's participation on the ISS to 2030). No major project has been cancelled.

The following has been decided:

- continuing to secure a guaranteed autonomous access to space for Europe
- maintain development and support for Ariane 6 and Vega C and ESA common infrastructure
- to allow operational European micro-and mini-launch systems to compete for ESA satellite launch service procurements.

For more information about programs and activities following within the scope, please refer to our **Blog**.

> *ESA needs to adopt a zero-debris approach for its missions, reduce its carbon footprint by 46% by 2030 and better capitalize on its potential.*

SCALEUP

The vision of ESA's cross directorate ScaleUp program is to make Europe a space organization hub, a place to launch and grow global space companies that make sense for our future, with:

- a **first pillar** INNOVATE to help to transform great ideas into commercial realities, via a series of actions including not only the ESA BICs (see above) but also network of Φ-labs (Φ-labNET) and the support of technology transfer and patenting via the ESA Technology Brokers.
- A second pillar INVEST to allow companies to take more risks, hit the market faster and attract private and institutional investors by introducing innovation through the establishment of ESA network of business accelerators and an ESA marketplace.

EU AGENCY FOR THE SPACE PROGRAMME (EUSPA)

The EU Space Programme Regulation 2021/696 (the EU Space Regulation) establishes the **European Union Agency for the Space Programme** (**EUSPA**).

With a total EU contribution in 2023 of €74,8 million for EUSPA budget and a growing total staff of around 267 (36 posts more than in 2022), EUSPAwhich replaces and expand the **European GNSS Agency** (whilst remaining in Prague),is in charge of the management of the following flagship programs, including communication, market development, promotion activities and uptake actions:

- increased responsibilities in managing the exploitation of Galileo and EGNOS, including their service provision and operational security
- procurement and the operation of the GOVSATCOM ground infrastructure (Hubs) and coordination of the user-related aspects of GOVSATCOM, in close collaboration with the Member States and other involved entities
- security accreditation of all components of the EU Space Programme
- the communication, promotion and development of downstream markets and fostering of innovation based on Galileo, EGNOS, and for the commercial users of Copernicus.

To accomplish this, EUSPA:

- ensure the safe and secure management of all space components
- supports research & innovation
- engages market stakeholders to develop innovative & effective GNSS applications
- leverages synergies between the space programme components
- makes sure that Europe's space-based services are secure, safe & accessible
- provides in-depth market analysis.

EUSPA also has a key role for implementing certain aspects of the European Commission's Space Entrepreneurship Initiative CASSINI, focusing on the commercial growth of space-related startups and SMEs and improving access to risk capital by attracting more venture capital funds to focus on space investments and making companies investment-ready.

The European Commission may also decide to entrust EUSPA with other tasks in the future.

In general, EUSPA can fund up to 70% funding of the eligible total costs.

EUSPA regularly adopts interesting documents and publications. For instance, it has identified 6 manners space can benefit the insurance and financial service/stock exchange markets, namely claims assessment, index-based phenomena, risk modelling, commodities trading, financial risk assessment and timing and synchronization.

EUSPA is tasked to undertake activities related to the user uptake in relation to EU space program's components other than Galileo and EGNOS, such as Copernicus, GOVSATCOM and SSA.

For more information, please refer to **EUSPA Single Programming Document Program** for 2022-2024 and to **Annex III**.

For information about CASSINI, refer to **Annex II**.

The Financial Framework Partnership Agreement (FFPA) and the Contribution Agreements, which results from the negotiations between the Commission, the European GNSS Agency and ESA was adopted on 22 June 2021, and which is not publicly available, may contain more information.

EUROPEAN DEFENCE AGENCY (EDA)

IN GENERAL

The **European Defence Agency** (**EDA**) supports the EU Member States and the Council in their effort to improve European defence capabilities. With an agreed upon operational budget of **€43.5 million for 2023** (a 15% rise 15% compared to 2022), EDA's **programs and initiatives** that may be of interest for the space ecosystem include:

- autonomous access to space
- Satellite Communications (SatCom)
- Space-Based Earth Observation (SBEO)
- Positioning, Navigation and Timing (PNT)
- Space Situational Awareness (SSA).
- .

The space ecosystem may also contribute to improve capabilities in terms of:

- **cyber defence**, with a focus on technology, training and protection of EU assets, and maritime security and
- **remotely piloted aircraft systems** (RPAS) and **drones**.

DOING BUSINESS WITH EDA

The EDA supports the space ecosystem by:

- concluding multi-beneficiary grant agreements for the preparatory action on defence research
- awarding contracts for the procurement of certain works, supply or services in the fields of defence and securityawarding on a yearly basis prizes to stimulate innovative ideas in defence with potential impact either on future defence capabilities or filling existing capability gaps (€30K reward), such as Defence Innovation Prize competition.

Actions should in principle take place in the **EDA Participating Member States**.

The space ecosystem can find relevant **procurement** information on **EDA Procurement webpage**. Information about EDA's **calls for tenders** is available on the **eTendering platform**.

EDA procurement rules differ from those applicable for EU procurement and are adapted to meet various security requirements.

Norway, Switzerland, Ukraine and Denmark, ESA and the Organisation for Joint Armament Cooperation (OCCAR) have concluded arrangements with the EDA and the Agency has established cooperations with other partners.

*The EDA launched its **Defence in Space** (DiS) Forum in 2022.*

For more information, please refer to **Annex III**.

SATCEN

The **EU Satellite Centre** (**SatCen**) was founded in 2002 as an EU agency. SatCen supports the EU decision making and actions in the field of Common Foreign and Security Policy (CFSP) such as the Common Security and Defence Policy (CSDP), with a budget increased in 2021 by 1.48% up to €**13 million**. The SatCen provides products and services resulting from the exploitation of relevant space assets and collateral data, including satellite imagery and aerial imagery, and related services.

The SatCen regularly organize negotiated **procurement procedures** for the acquisition of supplies, works and services for geospatial intelligence and related activities (low to middle value contracts in the range of €15K to €143K (in 2019). It also issues call for **tenders** (for higher value contracts).
The space ecosystem can find information on procurement at **SatCen procurement webpage**. Information about SatCen calls for tenders is also available on the **eTendering platform**.

Since June 2022, EUSPA is responsible for SST front desk operations via EUSPA's Galileo Security Monitoring Centre (GSMC) in Madrid.

EUMETSAT

The **European Organization for the Exploitation of Meteorological Satellites** (**EUMETSAT**) is the European operational satellite agency for monitoring weather, climate and the environment from space, with an operational budget of €58 million over 2021-2026 for the organization's network of Satellite Application Facilities (SAFs)21. Tof .

EUMETSAT is involved in the establishment, exploitation and maintenance of the European systems of meteorological satellites, including cloud infrastructure and ground stations. Certain related **procurement** activities may be relevant for the space ecosystem. Applications should be filed via EUMETSAT's invitation to tender (ITT) system **EUMITS**.

EUMETSAT's competitive ITTs are open to offers from any firms or institutions of the 30 EUMETSAT Member States.

*EUMETSAT published in 2022 its Copernicus data user uptake **report**, including some reflections of the first phase of the program.*

For more information, please refer to **Annex III**.

III. RELEVANT FUNDING STREAMS

EUROPEAN DEFENCE FUND (EDF)

WHAT CAN BE FUNDED?

The **European Defence Fund** (the **EDF**) provides a key contribution to Europe's strategic autonomy, protecting and defending its citizens. With an agreed upon budget of **€7.9 billion** for the MFF 2021-2027 and of €626 million in 2023, the **following actions can be funded**:

- create, underpin and improve knowledge, products and technologies, including disruptive technologies for defence
- increase interoperability and resilience
- studies such as feasibility studies
- design of a defence product, component or technology and the definition of the technical specifications and
- prototyping, testing or certification a defence product, component or technology.

The **space ecosystem may contribute** to certain of the above actions such as:

- Earth observation (EO) from space, including with automated interpretation of data and information
- EO-related artificial intelligence, cloud solutions and real time on-board processing by space-based sensors
- space-based capabilities for Intelligence, Surveillance and Reconnaissance (ISR)
- permanent ISR and communication air and space platforms and sensors
- space-based capabilities for C4ISR
- Space Situational Awareness (SSA) and early warning capabilities
- high speed secure space optical communications and
- space based surveillance and tracking for maritime surveillance or other defense or dual use related purposes.

The EDF is in principle under **direct management** by the European Commission.

The award decisions are adopted in the form of implementing acts, involving Member States.

In 2022, EDF issued calls for proposals for responsive space systems (€20m), innovative space ISR capabilities (€40m) and space-based missile warning (€90m). In 2023, close to €1 billion will be allocated for European defence R&D projects and space systems are on top of the fund's wish list.

The EDF does not support basic research.

The EFD can support both new products and technologies and the upgrade of existing products and technologies.

Dual-use technologies can be supported and synergies between civil and defence research are encouraged.

Actions must comply with human rights, humanitarian laws and ethical principles.

Actions for the development of products and technologies prohibited by applicable international law are not eligible.

WHO CAN BENEFIT?

Actions eligible under the EDF must be carried out by:

- **legal entities**, including SMEs and Midcaps (but not natural persons)
- cooperating within a **consortium** of at least 3 eligible legal entities established in at least 3 different (i) Member States (including in overseas countries or territories) or (ii) associated countries (including EFTA/EEA members).

For disruptive technologies and studies, the actions could however be carried out by a **single legal entity**.

Legal entities must have their executive management structure in the EU and **cannot be**, during the entire action period, **controlled** (regardless of their place of establishment) , directly or indirectly, by a non-associated third country or a non-associated third-country entity (with certain exceptions).

EU or associate country (Norway only)-based legal entities are eligible for funding as recipient or subcontractor only if they can provide guarantees relating to their management structure.

WHICH FUNDING FORMS?

The EFD may provide funding in the forms laid down in the Financial Regulation, including **procurement** or **grants** or **prizes** and, when appropriate for certain actions, **blending operations**.

SMEs may benefit from higher financing rates to promote cross-border activities.

Projects by consortia which include SMEs are preferred.

WHEN, WHERE AND HOW TO APPLY?

The EU Council gave the green light to the EDF in March 2021 and the European Parliament voted in April 2021 on the regulation establishing the EDF, which started retroactively as from January 1, 2021.

The EDF **National Focal Points** (NFPs) support the implementation of the fund, working closely with the European Commission (DG DEFIS) and can provide information and advice to potential applicants.

Information about the calls for proposals and tenders is available on EDF's **website**.

> *The EDF cannot provide support for actions prohibited by applicable international law.*

For more information, please refer to **Annex III**.

CONNECTING EUROPE FACILITY (CEF)

WHAT CAN BE FUNDED?

The **Connecting Europe Facility** (**CEF**) is a key EU funding instrument to promote growth, jobs and competitiveness through infrastructure investment at European level, with an agreed upon budget of €2.9 billion for 2023. The CEF supports **trans-European networks and infrastructures** in the sectors of transport, telecommunications and energy since 2014.

The CEF has already funded certain projects involving the use of satellite-based technologies such as the seamless inclusion of **Geographical Information Systems** (**GIS**) like interactive maps and satellite overlays (e.g. **OpenStreetMap**) to support the **Trans-European Transport Network Policy (TEN-T)**.

The CEF can continue to support the space ecosystem and fund greener, more sustainable transport and energy networks and digitalization, for which the space ecosystem can contribute, with an agreed upon budget of **€33.7 billion** during the MFF 2021-2027.
The **space ecosystem can also contribute** to achieving certain policy objectives supported by the CEF during the MFF such as **Broadband Europe**, including to turn Europe into a Gigabit Society by 2025 and the **digital compass** for Europe's digital transformation by 2030.

For instance, the space ecosystem may contribute as follows:

- **satellite constellations** for broadband communication networks linking the EU and partners in the Balkans and/or Africa
- space-based **assets** to ensure excellent and secure connectivity for everybody and everywhere in Europe (focusing on covering the remote and/or sparsely populated areas hard to reach otherwise)
- space-based **systems** to enhance air traffic management (ATM) capabilities and
- space-based **solutions** for safe and secure infrastructure and mobility (e.g. satellite-based quantum gravity sensors to measure gravitational fields to detect obstacles, subsidence and water resources and monitor natural phenomena).

All transport, energy or digital infrastructure project proposals are assessed to ensure that they are compatible with EGNOS/Galileo and Copernicus.

The CEF may support the development of spaceports and other space-related ground infrastructures.

WHO CAN BENEFIT?

CEF's beneficiaries are any entity with **legal personality** or an Entity which do not have legal personality, provided that their representatives have the capacity to assume legal obligations on their behalf and offer a guarantee. Proposals cannot be submitted by natural persons.

WHICH FUNDING FORMS?

The CEF may provide support in the forms of **grants** and **procurement** but also **Financial instruments** such as equity, loans and guarantees.

The CEF Transport can award grants without a call for proposals under certain conditions.

WHEN, WHERE AND HOW TO APPLY?

HaDEA is managing the **CEF for transport and the digitalization** aspects such as the EF-2 program Digital strand (2021-2027). **CINEA** is in charge of managing the **energy-related aspects** of the CEF.

HaDEA and **CINEA** websites contain information about the application, evaluation and selection process.

Information about calls for proposals and calls for tenders is available on CINEA's **website**.

HaDEA's website contains information about calls for proposals and calls for tenders for transport and digitalization as well as calls for experts.

*Programs managed by CINEA are indicated on a **dashboard**.*

For more information, please refer to **Annex III**.

SINGLE MARKET PROGRAMME

WHAT CAN BE FUNDED?

With 450 million citizens and €16.9 trillion GDP in 2022, the European Union Single Market is the largest market in the world. The **Single Market Programme** (SMP) consolidates a range of related activities into one program, with an agreed upon total budget of **€4.2 billion** for the MFF 2021-2027 and of €593 million for 2023. The SMP aims to protect and empower citizens, consumers and businesses, in particular SMEs, under management by the European Commission and implementation by EISMEA.

With respect to strengthening the competitiveness and sustainability of SMEs, including space-related SMEs, the SMP aims to:

- foster the growth, scale-up and creation of SMEs
- facilitate access to markets
- promote entrepreneurship, the acquisition of skills and a favorable business environment for SMEs, including the digital transition and new business opportunities
- promote the modernization of industry.

Under the SMP work program for 2021-2024, the space ecosystem could contribute to certain actions such as in the area of digital transformation and sustainable development.

WHO CAN BENEFIT?

The **space ecosystem** and, in particular, startups, SMEs and those entities providing various forms of related support such as information, mentoring, training, education and advisory services, **may benefit from the SMP**.

Participation to the SMP is open to entities established in:

- EU Member States, including overseas countries and territories
- third countries associated to the SMP
- other third countries if the SME's activities are relevant for the program.

.

Legal entities are eligible for to the program if they are created under EU law or are an international organization.

In certain circumstances, the SMP can cover up to 100% of eligible costs.

WHICH FUNDING FORMS?

The SMP can provide funding in any of the forms laid down in the Financial Regulation, in particular **grants**, **prizes**, **procurement** and **blending operations**.

WHEN, WHERE AND HOW TO APPLY?

In April 2021, an agreement was reached on the SMP.

The **Single Electronic Data Interchange Area** (SEDIA) is the entry point for participants in the SMP.

Information about the calls for proposals and tenders is available on **EISMEA website**.

For more information, please refer to **Annex III**.

EU SOLIDARITY FUND (EUSF)

WHAT CAN BE FUNDED?

The **European Union Solidarity Fund (EUSF)** was set up in 2002 to respond to emergency situations, including natural disasters and public health emergencies that exceed certain thresholds. Budgetary resources of around €800 million were forecasted in March 2020.

WHO CAN BENEFIT?

Eligible states are in principle the EU Member States, candidate counties or a region in the event of a major natural disaster.

Payments from the EUSF are limited to financing measures alleviating non-insurable damage and shall be recovered if the cost of repairing the damage is subsequently met by a third party.

WHICH FUNDING FORMS?

The EUSF can cover a wide range of measure to contain the disease and offer aids in the amount of 2.5% of the total amount of public spending 2.5% of the total amount of public spending below €1.5 billion (in 2011 prices) and 6% above the same threshold.

WHEN, WHERE AND HOW TO APPLY?

Applications should be filed with the European Commission (DG Regional and Urban Policy) within 12 weeks of the date of the first damage caused by the disaster or the first official action against the emergency.

INTERNAL SECURITY FUND (ISF)

WHAT CAN BE FUNDED?

The Internal Security Fund, with a total budget of €1.93 billion for the MFF 2021-2027 and of €310 million for **2023**, is a fund to combat terrorism, organized crime and cybercrime.

The ISF **specific objectives** are to:

- increase the exchange of information
- intensify cross-border cooperation, including joint operations
- support efforts to strengthen capabilities to combat and prevent crime, terrorism and radicalization and manage security-related incidents, risks and crises.

The space ecosystem can contribute to such objectives.

WHICH FUNDING FORMS?

The ISF can provide funding mainly in the form of **grants** and **procurement**.

WHO CAN BENEFIT?

A broad number of public and private entities, such as state/federal police, research institutes, universities, international organizations and private and public law companies, are eligible beneficiaries.

WHICH FUNDING FORMS?

A broad range of actions, ranging from the purchase or procurement of ICT systems, education and training, testing, monitoring and concrete operations, can be supported by the ISF.

WHEN, WHERE AND HOW TO APPLY?

Eligible entities must be established in an EU Member State (except Denmark) or a third country listed in the work program.

Certain fund tasks are under direct management by the European Commission and others are under shared or indirect management.

MODERNISATION FUND

WHAT CAN BE FUNDED?

The **Modernisation Fund** is an EU program to support certain Member States to meet 2030 energy targets by helping to modernize energy systems and improve energy efficiency.

The Fund invests at least 70% of its resources in the following priority areas:

- generation and use of electricity from renewable sources
- improvement of energy efficiency (including in transport, buildings, agriculture, waste, and except in energy efficiency related to energy generation using solid fossil fuels)
- energy storage
- modernization of energy networks
- support to a just transition in carbon-dependent regions in the beneficiary Member States

It can also cover up to 70% of the relevant costs of non-priority investments, as long as the remaining costs are financed from private sources.

The resources of the Fund come from the auctioning of 2% of the total allowances for 2021-30 under the EU Emissions Trading System (EU ETS) and additional allowances from 5 countries having opted so.

The space ecosystem can contribute to the priorities of the Fund as well as to certain non-priority actions.

*The investment proposals under the Fund are available at **link**.*

WHO CAN BENEFIT?

The following lower-income EU Member States can benefit from the Fund: Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania and Slovakia.

WHICH FUNDING FORMS?

The Modernisation Fund envisages two types of investments:

- priority investments that have to fall into at least one priority area as defined by the ETS Directive.
- Non-priority investments that do not fall into a priority area but meet the Modernisation Fund objectives and demonstrate reduction of greenhouse emissions.

Co-financing from private and public entities is possible under certain conditions.

WHEN, WHERE AND HOW TO APPLY?

The Member States select the investments they wish to submit for Modernisation Fund support and file their application either to the European Investment Bank (EIB), the Fund Investment Committee or the European Commission at any time of the year.

Following confirmation that the proposed investment falls within the priorities, and a due diligence assessment, the European Commission takes a decision and the resources of transferred by the EIB to the Member States concerned.

LIFE PROGRAMME

WHAT CAN BE FUNDED?

Combating climate change is a statutory objective of the EU policy on the environment. The **Programme for the Environment and Climate Action** (**LIFE**) is the EU's funding instrument for the environment and climate action created in 1992. The LIFE program, with an agreed upon budget of **€5.4 billion** for the MMF 2021-2027 and €728 million for 2023, is divided into four components:

- nature and biodiversity
- circular economy and quality of life
- climate change mitigation and adaptation and
- clean energy transition.

Since April 2021, **CINEA** is managing LIFE.

Funding opportunities for space-related activities and solutions under LIFE may include the following:

- developing Earth observation applications and solutions and
- participating to programs were the use of space-based solutions is integrated into broader actions aiming at meeting LIFE's objectives.

In 2022, an investment package of >€380 million for 168 new projects under LIFE (27% increase on last year's amount) was approved. Certain projects such as to adapt cities to climate change will rely on satellite data to rank cities according to critical environmental problems or on Earth observation for monitoring habitats and ecosystems.

751 proposals were made for a total cost of €2.9 billion under LIFE in 2022 calls for nature, environment, climate action and clean energy transition projects.

WHO CAN BENEFIT?

Any legal entity established in any country, including non-associated countries, can in principle **participate** to LIFE, but must bear the cost of its participation. **Natural persons cannot participate**.

The following entities are eligible to as **beneficiaries**:

- legal entities (including public bodies and NGOs) established in:
    - an EU Member State, including in overseas countries and territories or
    - third country associated with LIFE
    - other third countries listed in LIFE's multiannual work program
- any legal entity created under Union law or any international organization.

Legal entities established in a non-associated third country which is not associated with LIFE may be exceptionally eligible to participate but must in principle bear the costs of their participation.

The beneficiary entity coordinating the project must in principle be EU based.

The EC is however, discussing with 7 non-EU countries (Albania, Andorra, Faroe Islands, Israel, Moldova, North Macedonia and Turkey) participation to the LIFE program for environment and climate.

Beneficiaries should publicize the LIFE Program, use LIFE's logo and mention the EU support received.

WHICH FUNDING FORMS?

Funding under LIFE is mainly in the form of **grants** (81% of LIFE's budget) but may also take the form of public **procurement** or **other interventions**.

LIFE's sub-program for climate change can co-fund up to 50% "traditional" projects in areas such as climate change mitigation or adaptation or governance and information or up to 60% for integrated or preparatory projects.

Capacity-building projects can be financed at 100% of eligible costs.

There are special rules for operating grants supporting costs of non-profit making entities.

WHEN, WHERE AND HOW TO APPLY?

In 2021, an agreement was reached on LIFE and **multiannual work program** for the years 2021-2024 adopted.

> *Under LIFE in 2022, a service, called* Green Assist, *to help preparing green or greener investment projects, across diversified sectors, was launched.*

All LIFE calls for proposals are be published on **CINEA's website** and the **European Commission's Funding & Tenders portal.**

For more information, please refer to **Annex III**.

EUROPEAN ENVIRONMENT AGENCY (EEA)

The **European Environment Agency** (the **EEA**) is an EU agency, whose task is to provide sound, independent information on the environment, with an operational budget of **€60 million** in 2023.

The EEA has 32 member countries and six cooperating countries. The EEA has funded and can still offer funding opportunities for the space ecosystem during the MFF 2021-2027. For instrance, the **European environment information and observation network (Eionet)** is a partnership network of the EEA to bring together environmental information, including by using satellite solutions.

The EEA is a partner of the "land" components of the Copernicus program, the **Copernicus Land Monitoring Service**.

The EEA is part of the eProcurement platform **TED eTendering**.
Information about calls for expression of interest, proposals, tenders and contract opportunities (negotiated procedure) at the EEA is also available on **EEA's website**.

> *EEA-Eionet Strategy 2021–2030 requests to exploit Copernicus data and seek funding to use their full potential.*

FRONTEX

The **European Agency for the Management of Operational Cooperation at the External Borders of the Member States of the European Union** (**FRONTEX**) is European border and coast guard agency.

With an agreement for a total EU contribution of **€839 million in 2023** FRONTEX can provide funding in terms of grants, procurement, prizes and blending operations for legal, natural persons and public-private partnership bodies established in EU Member States or the Schengen Associated Countries for projects aligned with the need to manage the European borders and coasts.

FRONTEX is part of the eProcurement platform **TED eTendering**. Information about calls for expression of interest, proposals, tenders and contract opportunities (negotiated procedure) at the EEA is available on FRONTEX'S **website**.

*Since Frontex is an autonomous EU Agency, it has its own **financial regulations**.*

*An **arrangement** between FRONTEX, EFCA and EMSA, covering surveillance via space-based infrastructure, was concluded in 2021.*

For more information, please refer to **Annex III**.

INTEGRATED BORDER MANAGEMENT FUND (IBMF)

The **Integrated Border Management Fund** is made of two components: the **Border Management and Visa Instrument** (BMVI), and the Customs Control Equipment Instrument (CCEI).

The BMVI ensures strong and effective European integrated border management at the external borders and support the common visa policy

The IBMF is set up with a total budget of €7.37 billion for the MFF 2021-2027 and €1.1 billion for 2023.

BMVI's mission is to ensure a strong and effective European integrated border management at the Union's external borders, ensuring a high level of internal security within the Union while safeguarding the free movement of persons within it. The **BMVI** contributes to the achievement of **two specific objectives**:

- to support an effective European integrated border management at the external borders
- to support the common visa policy.

Actions funded through BMVI can include a wide range of initiatives, to which the space ecosystem can contribute, such as improving border controls, IT systems in the area of borders management and innovative solutions and new technologies.

A broad number of public and private entities, such as constituent elements of the European Border and Coast Guard, i.e. national authorities of Member States responsible for border management, state and federal authorities, local public bodies, education and research organisations and private and public law companies, are eligible beneficiaries.

To be **eligible for funding under the** BMVI entities must be established in:

- all EU Member States except Ireland or an overseas country or territory linked to it
- eligible third countries associated to the BMVI or in other third countries under certain conditions.

International organisations, including those established outside the Member States participating in the BMVI, can participate.

Whilst the largest share of the BMVI is allocated to the national programs under shared management and mainly via procurement, grants can be awarded following the evaluation of proposals submitted by applicants invited directly by the European Commission.

Information about funding opportunities is available at **link**.

EUROPEAN MARITIME SAFETY AGENCY (EMSA)

The **European Maritime Safety Agency** (**EMSA**) is an EU agency to serve EU maritime interests for a safe, secure, green and competitive maritime sector, with a foreseen EU contribution for its 2023 budget of **€€86 million**. EMSA is in charge of providing surveillance and communication services, largely based on earth observation and satellite communication, and to carry out other activities.

EMSA may provide funding in terms of grants, procurement, prizes and blending operations for legal, natural persons and public-private partnership bodies established in EU Member States, the UK, EFTA/EEA countries and candidate countries (except Turkey), for projects to enhance European maritime safety. EMSA can also award very low (€1-15K) and low-value (€15-60K) contracts to such persons and bodies.

EMSA will continue in 2023 its cooperation with ESA in the field of integrated space-based solutions and technologies for enhancing maritime safety and surveillance services.

EMSA may accept participation by economic operators from other non-EU member states to particular procurement procedure.

For more information, please refer to **Annex III**.

COHESION POLICY AND EUROPEAN STRUCTURAL AND INVESTMENT FUNDS

The EU Treaty includes the objective of promoting economic, social and territorial **cohesion and solidarity between Member States**. The **new EU cohesion policy** is delivered through the following specific funds, with an agreed upon budget of around **€392 billion** for the MFF 2021-2027:

- **European Regional Development Fund** (**ERDF**)
- **European Social Fund+** (**ESF+**) and
- **Cohesion Fund (CF)**
- **Just Transition Fund** (JTF).

INFOREGIO *is a database containing information about certain projects having benefited from support under the cohesion policy.*
Grants shall not be used to reimburse support received from financial instruments implemented via a structure such as a holding.

the following **other relevant funds can contribute** to regional development and their actions are coordinated with the Cohesion policy:

- the **European Maritime, Fisheries and Aquaculture Fund** (**EMFAF**) and
- the **European Agricultural Fund for Rural Development** (**EAFRD**).

All such funds (except the **Just Transition Fund** (JTF) are known as the **European Structural and Investment Funds** (**ESI Funds**) are managed based on a system of shared responsibility between the European Commission and the Member State authorities, whereby the later manage the programs and and the European Commission has shared responsibility for sound economic governance.

ESI Funds are subject to **common rules** and to **common national procurement requirements and guidance**, including the following:

- a **broad range of support** can be provided, including in the form of grants, prizes, repayable assistance, flat rate financing, interest rate subsidies and guarantee fee subsidies and other financial instruments, or a combination thereof as well as voluntary payments to relevant international organizations.
- **support** could be provided to certain **public private partnerships** (PPP)
- certain **"dual use" technologies can in principle be supported**
- support from the ERDF and the CF is generally provided for entities **established** in the EU and not in overseas countries and territories (OCTs) or elsewhere (OCTs may nevertheless participate in Interreg programmes)
- by contrast, EFTA/EEA members, acceding countries, candidate countries and potential candidates and certain third countries can in principle **participate** to the ESF (Employment and Social Innovation strand)
- the ERDF and the CF **cannot support** certain industries and activities, including certain investments in airport infrastructure or air traffic management systems or aircrafts.

*80 **simplification measures in cohesion policy** were adopted, including moving away from invoices, reducing red tape and implementing the seal of excellence mechanism.*

Failures by grant recipients to comply with procurement laws is a leading cause of claw back of funding.

For more information, please refer to **Annex III**.

EUROPEAN REGIONAL DEVELOPMENT FUND (ERDF)

The **European Regional Development Fund** (the **ERDF**) supports the overall EU cohesion policy objectives with a budget of **€379 million** for the MFF 2021-2027 and reduce disparities between the levels of development of its various regions, including by promoting sustainable development and addressing environmental challenges.

Whilst the ERDF is a shared management fund, the **European Urban Initiative** is implemented by the European Commission in direct and the **EIC** and the **European Innovation Council and SMEs Executive Agency** (**EISMEA**) manage the innovation part of the ERDF, and help businesses work with innovation actors in relevant regions.

EISMEA can provide grants for:

- **Innovation Actions** (IA) for partnerships to connect demand and supply to accelerate interregional innovation investments in line with the **smart specialisation strategy (S3)** and
- **Simplified Innovation Actions** (SIA) for less developed regions to increase the capacity of regional innovation ecosystems to participate in global value chains.

The ERDF **still need** to adopt specific policy objectives and identify the specific type of activities which can be supported by the fund.

Since the **ERDF has helped the space ecosystem** developing certain initiatives such as the following, it can continue doing so:

- setting up of a **space center in Slovenia** (€7.8 million EU investment)
- in the area of **space technologies based on photonics**, via the **Interreg** Europe program.
- **Nanostar** student challenge.

Information about ERDF's previously funded projects is available on ERDF's **website** and EISMEA's **website** contains information on calls for proposals and tenders.

It is not possible to benefit from funding from both the ERDF and actions supporting the reduction of greenhouse gas emissions.

For more information, please refer to **Annex III**.

EUROPEAN SOCIAL FUND+ (ESF+)

The **European Social Fund+** (the **ESF+**) supports the overall cohesion policy objectives and is the main instrument to implement the **European Pillar of Social Rights**, support jobs, recovery, create a fair and socially inclusive society, with a budget of **€93 billion** for the MFF 2021-2027.

Whilst the ESF+ is a shared management fund, and support under the ESF+ is mainly managed by Member States, for actions required at EU level, the mployment and social innovation strand is implemented by the European Commission with a budget of **€762 million** for the MFF.

Since the **ESF has already helped the space ecosystem** developing certain actions such as **University of Malta fist nation's space mission**, it can in principle continue doing so.

The **Single Electronic Data Interchange Area** (SEDIA) is the entry point for participants in ESF.

*Information about ESF's funded projects is available on ESF **website**.*

For more information, please refer to **Annex III**.

COHESION FUND

The **Cohesion Fund** (the **CF**) supports the overall EU cohesion policy objectives by contributing to projects in the field of environment and trans-European networks in the area of transport infrastructure, and invests **€43 billion** for the MFF 2021-2027.

The CF is a shared management fund, but trans-European transport networks projects is financed from the CF via both shared management and directly under the Connecting Europe Facility (CEF).

For the 2021-2027 period, the Cohesion Fund concerns Bulgaria, Czechia, Estonia, Greece, Croatia, Cyprus, Latvia, Lithuania, Hungary, Malta, Poland, Portugal, Romania, Slovakia and Slovenia.

37% of the overall financial allocation of the Cohesion Fund are expected to contribute to climate objectives.

Since the **CF has already helped the space ecosystem** developing certain initiatives such as the following, it can in principle continue doing so:

- setting up of a **space center in Slovenia** (€7.8 million EU investment)
- in the area of **space technologies based on photonics**, via the **Interreg** Europe program.

For more information, please refer to **Annex III**.

JUST TRANSITION FUND (JTF)

The aim of the **Just Transition Fund** (**JTF**) is to mobilise around **€27.5 billion in investments for the MFF 2021-2027** (€1.5 billion for 2023 and €5.4 billion in grants from NextGenerationEU), , is to **alleviate the impact of the climate transition** by financing the **diversification and modernization** of the economy and **mitigating the negative repercussions on employment**.

All activities supported by the JFT must be in line with EU priorities.

The tobacco industry, nuclear power stations and fossil fuels are excluded.

The JFT is under shared management between the EC and the EU Member States. The Member States prepare **just transition plans** identifying the territories, sectors and persons mostly affected by the climate transition during the period up to 2030, and the plans are approved by the European Commission.

In principle, **jobseekers**, affected **workers** as well as **SMEs**, including microenterprises and startups, may benefit from support from the JTF for their diversification, modernization and reconversion efforts.

*The European Commission made a **preliminary analysis** of the sites and territories that are most affected by the climate transition and presented a map with certain recommendations.*

Support can in principle be provided by **grants, procurement or prizes** or **other means** such as business incubators and consulting services, leading to job creation.

The EU Member States **just transition plans define the practicalities** to receive support. Information about funding opportunities under the JTF is available on the **Just Transition Platform**.

*The **platform** is a single access point and knowledge on Europe's transitions.*

For more information, please refer to **Annex IV**.

EUROPEAN AGRICULTURAL FUND FOR RURAL DEVELOPMENT (EAFRD)

The EU is in charge of defining and implementing a **common agriculture policy** (CAP. Following the adoption of a new CAP **for 2023-2027** (new CAP). the **European Agricultural Fund for Rural Development** (the **EAFRD**) supports the new CAP with a total allocation of €95 billion.

Between 2021 and 2022, the EAFRD supported the EU's rural development objectives as defined via rural development programmes (RDPs). Since 2023, rural development actions are included under the framework of the national **CAP strategic plans**, which have been approved by the European Commission in 2022.

The EAFRD can also provide **direct investment support** for rural enterprises and projects through financial instruments, such as loans, microcredit, guarantees and or equity.

Space data, technology and services can support precision farming, soil monitoring, forest management, food security and traceability and much more.

The CAP and the EAFRD have **already helped the space ecosystem** developing certain initiatives such as the following and can in principle continue doing so:

- innovative projects using **satellite imagery for on-farm decision support**, including:
  - **MIKÄ DATA** is a Finnish operational group that is building a data analysis service allowing farmers to check yields and variations in soil types and nutrient levels
  - the **Group of Earth Observation Global Agricultural Monitoring (GEOGLAM)** initiative is aimed at improving food security through increased use of earth observation (EO) data
  - the improvement of the control of agricultural subsidies by radar (SAR)-technology) **IMCASSAR project**, aimed at developing and validating end-user-oriented products
  - **Sen2Agri**, Sentinel-2 satellite for agriculture, to validate algorithms and best practices to produce products for agricultural monitoring and
- **space based data to ensure compliance with CAP subsidies**.

Information about calls for agriculture and rural development is available on the eProcurement platform **TED eTendering**. Details about financial instruments available under the EAFRD are provided on the online advisory platform **Fi-Compass**.

*As part of the Green Deal and the CAP, the EU **farm to fork strategy** asks to make the best use of space-based solutions.*

CAP strategic plans could include measures such as EU space technologies (e.g., Copernicus, Galileo).

*Information about implementation plans for GEOGLAM can be found **here** and associated tables **here**.*

For more information**,** please refer to **Annex III**.

EUROPEAN MARITIME, FISHERIES AND AQUACULTURE FUND (EMFAF)

The maritime economy is a high-potential economic sector whose worldwide output is estimated at **€1.3 trillion** today and could more than double by 2030. The EU is in charge of defining and implementing a Common fisheries policy (CFP), including aquaculture activities.

Also, the EU **Integrated Maritime Policy** (IMP) is a policy framework aiming to foster the sustainable development of all sea-based activities and coastal regions by improving the coordination of policies affecting the oceans. , seas, is.

The **European Maritime, Fisheries and Aquaculture Fund** (the **EMFAF**) aims to channel funding from the EU to support the CFP and the IMP with a budget of **€6.1 billion** for the MFF 2021-2027 and €1.1 billion for 2023.

The EMFAF is a key enabler for sustainable fisheries, the conservation of marine biological resources, for food security, for a sustainable blue economy and healthy, safe, secure, clean and sustainably managed seas and oceans.

Whilst the EMFAF is a shared management fund, the European Commission (EC) directly manages, with the assistance of **CINEA**, **€797 million** for the promotion of clean and healthy seas and the implementation of the European strategy for plastics in a circular economy. The EMFAF may provide funding via a **broad range of support,** in particular procurement, grants and financial instruments within blending operations.

The **EMFAF could support investment** in new maritime markets, technologies and services such as ocean energy, marine biotechnology and the blue economy, to which the space ecosystem can contribute. For instance, EU program Copernicus and European Marine Observation and Data Network (**EMODnet**) could reduce the investment risks and facilitate sustainable practices in the fisheries and aquaculture sector.

Information on the EMFAF's actions delegated to CINEA is available on EC's **website**.

Information about calls for proposals and tenders managed by CINEA, as well as ad hoc grants and service requests, is available on CINEA's **website** as well as on the eProcurement platform **TED eTendering**.

Under the work program for 2022 and 2023 (adopted in February 2023), actions involving the monitoring of the impact of fisheries and human activities on fisheries stocks are included, to which the space ecosystem can contribute.

For more information**,** please refer to **Annex III**.

REACT-EU

The **Recovery Assistance for Cohesion and the Territories of Europe** (**REACT-EU**) is a rapid response to the impact of the COVID-19 crisis and related governmental measures. REACT-EU has €50 billion of resources, financed under the NextGenerationEU instrument (see above Section I), and distributed to the Member States via the ERDF, the ESF and the European Fund for Aid to the Most Deprived (EFEAD). The final date of eligibility under REACT-EU is December 31, 2023.

The Member States can direct the REACT-EU resources according to their needs or allocate some of them to new actions or programs, including to support SMEs' investments. The **space ecosystem may thus benefit from REACT-EU**, depending upon Member States' priorities and allocation decisions.
For more information**,** please refer to **Annex III**.

DEVELOPMENT COOPERATION POLICY

The primary objective of the EU development cooperation policy is the reduction and, in the long term, the eradication of poverty. The EU is the largest development cooperation donor in the world.

The **Directorate-General for International Partnerships (**DG INTPA) oversees designing European international cooperation and development policy and delivering aid throughout the world. DG INTRA closely works with the EU Member States and other stakeholders. This joint approach is called the **Team Europe Initiatives** (TEIs) and it made up of the EU institutions and services, the EU Member States, the European Investment Bank (EIB) and the European Bank for Reconstruction and Development (EBRD).

Development cooperation actions, including international cooperation, crisis response and peace-building actions are taking place during the MFF 2021-2027 under the umbrella of the **Neighbourhood, Development and International Cooperation Instrument** (NDICI), also known as **Global Europe**, with a budget of €79.5 billion .

The space ecosystem has contributed to the EU development cooperation policy during the MFF 2021-2027 and could benefit from it. In particular, European satellite navigation systems could foster the socio-economic development.

- For instance, In 2020, the EU has allocated **€82.5 million** for six new projects under the **Pan-African Programme** to strengthen its cooperation with Africa in multiple sectors. Many of the projects share the innovative use of space applications, such as satellite imagery, to contribute to sustainable economic growth and climate action in Africa.

- 12 million and €10 million funding helped respectively building national Earth observation centers in Panama in 2022 and in the Philippines in 2023.
- The **EU-AU Data Flagship**, currently under design, is expected to be a key-asset for advancing the Global Gateway partnerships by supporting the emergence of an African data economy and data society, in close relationship with the EU, including via space-based digital technologies.

Information about calls for proposals under Global Europe is available under the **Single Electronic Data Interchange Area** (SEDIA). Information about funded projects is available at **international partnerships**. An Overview of Team Europe Initiatives is available at **link**.

ERASMUS+

Erasmus+ is the EU's program to support **education, training, youth and sport in Europe**. It has an estimated budget of **€26.2 billion** for the MFF 2021-2027 and of €3.5 billion for 2023.

The program offers Erasmus+ offers mobility and cooperation opportunities in:

- higher education
- vocational education and training
- school education (including early childhood education and care)
- adult education
- youth
- sport.

The program places a strong focus on social inclusion, the green and digital transitions and promoting young people's participation in democratic life. It can offer **financial support** via the pilot debt financing initiative run by the European Investment Fund (EIF) and through financial intermediaries such as banks and social investment funds.

Guidance on how to take part of the Erasmus+program either as individual, as an organisations or as partners is available.

Space plays an important role in, and contributes to, the development of skills needed to build a resilient society capable of addressing global challenges in a changing world. Europe needs to foster skills development in certain areas such as digital and data analytics and to develop a pool of talent with space-specific skills. The Erasmus+program can play an important role in this respect.

*The financial intermediaries which can offer financial assistance under the program are listed at **link**.*

EUREKA

EUREKA is the world's largest **public network for international cooperation in R&D** and innovation, present in over 45 countries. EUREKA is a publicly-funded, open platform for **international cooperation** to support market-oriented R&D and innovation projects across all technological sectors, including thus the space ecosystem (offering, via the **National EUREKA**

Offices that are the responsible direct contact, rapid access to skills and expertise across Europe and national public and private funding schemes across participating countries).

EUREKA projects should involve a **partnership** of at least two EUREKA Members. Partners can consist of SMEs, large companies, research institutions and even universities. Funding levels are determined at national or regional levels.

In June 2022, an agreement for a €1 billion partnership on innovative SMEs, with a focus on sustainability, as part of the Eureka's network was reached, to be disbursed to SMEs and other organizations through competitive calls running until 2027.

Information about open calls for projects is available on Eureka's **website**.

Funding rules under Eureka vary from country to country.

ENERGY, MINING AND SPACE RESOURCES

The EU policy on energy promotes security of energy supply, energy efficiency and savings and the development of new and renewable forms of energy. The space ecosystem is well placed to foster sustainable energy approaches.

Also, energy and mining industries are increasingly interested about the issue of **Space Resources**. A number of space-related entities are currently developing solutions in this area. Additional effort is needed to ensure the development of enabling technologies (e.g. for energy generation and storage, robotics and autonomy, dust mitigation).

Finally in 2022, the European Commission presented **REPowerEU**, a plan for a more affordable, secure and sustainable energy market and announced its intention to draft a **Critical Raw Materials Act** to ensure secure and sustainable access to the necessary raw materials such as lithium and rare earths. The space ecosystem can support the energy market and play a role in ensuring the envisioned rare earth independence.

*The European Commission has set up the **Project Development Assistance (PDA)** to support ambitious sustainable energy projects.*

The Luxembourg Space Agency is actively supporting the development of space resources in cooperation with other partners.

The GOLDENEYE project aims to make a synergistic use of EO and GNSS to support mining operations.

EU SOLIDARITY WITH UKRAINE

The EU, its Member States and European financial institutions have made available and/or committed **around €50 billion to Ukraine** in light of the ongoing geopolitical and military developments.

The main relevant areas of support and cooperation are:

- up to €18 billion of macro-financial assistance, of which €3 billion were disbursed on 17 January 2023
- €450 million of additional assistance for 2023, including €305 million in bilateral support to increase Ukraine's resilience and €145 million in humanitarian assistance.
- enhanced cooperation in the field of research such as Ukraine's association to Horizon Europe
- economic cooperation and access to the Single Market and the possibility for Ukraine to join the Single Market Programme and the Connecting Europe Facility
- strategic partnership on biomethane, hydrogen and other synthetic gases
- humanitarian and early recovery aid to the country (over €1 billon since 2014)
- the Cohesion's Action for Refugees in Europe (CARE), to mobilise cohesion policy funding to assist refugees, including total additional payments from the EU budget, capped at €5 billion in 2022 and €1 billion in 2023
- pre-financing to Member States welcoming refugees fleeing Ukraine: €3.4 billion in total under the REACT-EU program

Whilst it does not seem that space-related activities have (yet) been included in the above areas of support and cooperation and approaches, this may be the case in the future and nothing prevents the space ecosystem from making proposals in this respect.

Information about EU Solidarity with Ukraine is available on the **EC website**. See also information about **CARE** and **REACT-EU**.

IV. EUROPEAN INVESTMENT BANK GROUP

The **European Investment Bank (EIB) group** consists of the **European Investment Bank** (**EIB**) itself, which is a majority shareholder of the **European Investment Fund** (**EIF**). It has a specific governance structure and provides many funding and financial opportunities.

EUROPEAN INVESTMENT BANK (EIB)

The **European Investment Bank** (**EIB**) is the world's largest multilateral financial institution and the bank of the EU. The EIB is a key partner for implementing many European policy priorities.

In general, the **EIB can offer to space-related entities** during the 2021-2027 MFF **the following**:

- **loans** to support growth and job creation in the private sector
- **equity** to stimulate private capital through investment in equity and funds
- **guarantees** to cover the risks of projects and
- **advisory services** to help to develop investment projects via technical and financial expertise.

The most suitable tool will depend on the objectives of the project and various other factors. Loans can also be blended with grants from private and public sector partner institutions, such as ESA and the European GNSS Agency and its successor EUSPA.

The EIB operates in the EU but could also provide loans **outside of the EU** in support to EU Development and Cooperation Policies worldwide. The EIB could support "dual-use" technologies.

EIB past initiatives for the space ecosystem include:

- EIB and others agreeing on a contingent loan of €100 million for a new launcher program
- first €100 million venture capital programme under InnovFin to support space technology companies (see also below)
- first direct financing for a **startup in the European New Space sector** by a €20 million venture loan, backed by the EFSI
- €200 million financing agreement to back investments related to **satellite advanced broadband services** in Europe and neighboring areas
- venture loan of €18 million to fund a nano-satellite platform
- loan of €300 million in 2023 to finance a new satellites program offering digital services.

Under the EIB group operational plan 2023-2025, EIB's venture debt operations under EFSI and the Pan-European Guarantee Fund (EGF) will continue to be focused on space technologies (as well as quantum computing, AI, cybersecurity), including dual-use technologies and, via the **European Tech Champions Initiative** (ETCI), will make investments into large-scale venture capital funds, which focus on innovative technology companies such as space and cybersecurity.

Also, in September 2022, the European Commission announced its intention to create a new **European Sovereignty Fund** to ensure that the future industry is made in Europe, but it is not yet clear whether the EIB group will be involved.

*The **EIB web site** lists all projects submitted for financing purposes.*

For more information, please refer to **Annex IV**.

EUROPEAN INVESTMENT FUND (EIF)

The **European Investment Fund** (**EIF**) is the cornerstone investor in Europe. It is a key implementing partner for the European Commission and Member States, with a view to addressing the COVID-19 crisis and EU priorities such as climate targets. With a new capital increase (by cash injection) of **€1.25 billion**, the EIB can continue supporting the European economy and its recovery and helping to access capital across Europe.

The EIF relies on **two main initiatives** in 2021-2023:

- the **Pan-European Guarantee Fund** (**EGF**) and
- **InvestEU**, for which it will manage 75% of the budgetary capacity (for InvestEU, see above Section I and below **Annex I**).

Relevant **EIF's initiatives for the space ecosystem include:**

- setting up with the European Commission (EC) the **€1 billion space fund** as part of the CASSINI initiative
- in partnership with the EC, and backed by InvestEU, fully deploying the **InnovFin Space Equity Pilot**, including by **supporting other ventures** than those that have already received support
- making contributions to climate targets by **investing** in the ecosystem and
- **contributing** to ecosystem building **in the area of disruptive technologies**, such as space technologies, AI, blockchain, cybersecurity and quantum computing.

At the COP27 climate conference in 2022, the EIF signed investments of €247 million to enable five equity funds to back €2.5 billion of climate action investment that helps to deliver the European Union's climate and energy targets.

Under the EIB group operational plan 2023-2025, the EIF will continue to deploy resources available under InvestEU in complement with sectorial programmes in notably digital, defense, blue economy, space, and semiconductors.

Information about EIB and EIF calls for tenders is available on the eProcurement platform **TED eTendering**.

The EIF is facing strong demand both on the equity and debt sides.

The ventures that have received, and could benefit from, support under the InnovFin Space Equity Pilot are either specialized space funds and deeptech funds having a particular space focus; those venture may support in total around 50 space-related entities.

*Financial institutions and potential beneficiaries interested about **InnovFin Space Equity** could contract the EIF.*

- *The EIF has issued its term sheet under the InvestEUEquity program which sets out the terms for intermediaries such as VCs and eligibility criteria for recipients.*

*The **access to finance site** helps to search for funding opportunities such as loans, guarantees, equity and venture capital granted by certain financial intermediaries.*

Certain capital-intensive, long-term space-related projects such as in the area of Space Resources may be eligible under InnovFin, especially in case of lack of available financing on acceptable terms from other sources.

For more information, please refer to **Annex IV**.

VII. NORTH ATLANTIC TREATY ORGANIZATION (NATO)

The **North Atlantic Treaty Organization** (NATO) is an intergovernmental military alliance set up in 1949, with 30 member states, including certain, but not all European Union (EU) Member States. The EU such is not a member of NATO, but shares with NATO a majority of members and is an essential partner, with similar threats and challenges.

As a result of the geopolitical context, an agreement was reached on **NATO's civil and military budgets for 2023** of respectively €370.8 million and €1.96 billion, representing a 27.8% and 25.8% increase.

For over 70 years, NATO has stayed at the forefront of technology to ensure the defence of its Allies and the success of its operations.

Certain emerging technologies are changing the world, have a profound impact on security and present both risks and opportunities for NATO and Allies.

NATO has defined the following nine **priority emerging and distruptive technology areas**:

- artificial intelligence (AI),
- data
- autonomy
- quantum-enabled technologies
- biotechnology
- hypersonic technologies
- novel materials and manufacturing
- energy and propulsion
- space (emerging and disrupting technologies or EDTs).

As a result, NATO, in cooperation with public and private partners, including the EU, decided as follows with respect to EDTs:

- to launch the **Defence Innovation Accelerator for the North Atlantic** (**DIANA**)
- to establish a **multinational venture capital fund** to support EDTs **(NATO Innovation Fund**).

NATO and the European Commission announced their intention to enhance their cooperation and pointed to space and the protection of critical infrastructures such as spaceports among areas of future cooperation.

DIANA

The Defence Innovation Accelerator for the North Atlantic (DIANA) was launched in 2021. It is a new NATO body that works directly with leading entrepreneurs, from early-stage startups to more mature companies, to solve critical problems in defence and security. DIANA will launch competitive challenge programmes.

Each program will be based on critical defence and security problems and will seek to foster the most impactful technological solutions. Innovators that are accepted into DIANA will gain

access to a network of more than nine Accelerator sites and 63 Test Centres in innovation hubs across the Alliance, and receive non-dilutive financing. They will also gain access to a network of top-tier trusted investors, business mentorship and education from DIANA's expert staff, state-of-the-art testing opportunities, and the possibility for development and adoption contracts with Allies for proposed dual-use technologies.

It has been agreed in December 2022 that **energy resilience, secure information sharing and sensing and surveillance** will be the priority areas of focus for DIANA's work on EDTs in 2023 via a series of pilot activities as early as summer 2023 and full operations in 2025.

NATO INNOVATION FUND

In 2021, an agreement was reached to establish a **€1 billion venture capital fund** to provide strategic investments in startups developing dual-use EDTs in strategic areas (the fund). The fund will be the world's first multi-sovereign venture capital fund, with a 15-year run-time better suited to the extended time horizons necessary for deep-tech startups. The fund will focus on early-stage investments and will also have the ability to invest in other top-tier deep-tech venture capital funds that align with the following strategic objectives:

- to seek out cutting-edge technological solutions that solve the Alliance's defence and security challenges
- to bolster deep-tech innovation ecosystems across the Alliance
- to support the commercial success of its deep-tech startup portfolio.

The fun, supported initially by 22 participating countries, **will begin initial investments in 2023**.

OTHER ACTIONS

Additional NATO's actions to support EDTs include:

- **NATO Advisory Group on EDTs**, an independent group that provides external expert advice since 2020 on how it can optimize its innovation efforts
- **NATO Innovation Board**, chaired by the Deputy Secretary General, to bring together high-level civilian and military leadership from across the Alliance and look at new ideas from outside of the organization, foster adoption of best practices and secure cross-NATO support for changes that will help NATO innovate
- **other NATO innovation bodies** are also invested in the Alliance's innovation activities and are driving technological development and adoption across NATO.

> *NATO's Science and Technology Organization (STO) supports numerous EDT-related research projects, including on space weather environmental modelling.*

VIII. NATIONAL LEVEL

The scope of the Guide is public funding opportunities that are available at **European level**. However, the following recent developments have rendered the situation at national level increasingly relevant for the European space ecosystem.

NATIONAL RECOVERY PLANS

Following the agreement to make **€672.5 billion** in loans and grants available via the **Recovery and Resilience Facility** (the Facility), the EU Member States are in the process of preparing their **national recovery and resilience plans** (the national plans), which set out a package of reforms and public investment projects to be implemented by 2026 to benefit from the support of the Facility.

All national plans must:

- effectively address challenges identified in the **European Semester**, particularly the **country-specific recommendations** adopted by the Council
- include **measures to reap the benefits of the green and digital transitions**
- **contribute to the following "dimensions**" to achieve sustainable growth:
    - environmental sustainability
    - productivity
    - fairness and
    - macroeconomic stability.

The national recovery plans must still be ratified by all national parliaments and are subject to an approval process at EU level to ensure consistency with the above.

Since national competent authorities have a growing influence on certain public funding opportunities available at European level, it may be useful to liaise with them.

For information, please refer to **Annex V and to the web sites spacepp.com and findfund.space**.

FRENCH SPACE PLAN

Certain countries such as France have already **included the space ecosystem within the scope of their national recovery plan**s.

The **following support measures** for the French space ecosystem, which are currently being implemented, have been announced:

- **€500 million** will be available in 2021 for the space ecosystem, including €365 million in terms of loans, €100 million for R&D activities on "dual use" technologies and €35 million for startups and SMEs
- the plans ambit to **cover all needs** of the space sector, focusing on SME and Midcaps' needs
- certain **priority areas** have already been defined:
    - optical communications for GEO satellites

    - "flexible" telecommunications satellites
    - ground segment virtualization
    - terminals for GEO satellites, HTS and VHTS constellations and IoT
    - data economy platforms and applications and
- there is also a **nanosatellite plan** to accelerate the in-flight validation of equipment and payloads and to strengthen and structure the French ecosystem of nanosatellites.

The French Space Agency, the **CNES**, leads the implementation of the French space plan, which will be also monitored by a steering committee made up of several other public bodies.

In 2022, it was announced during the IAC in Paris that €9 billion will be made available during 3 years to support the space sector

BREXIT

Following the departure of the United Kingdom from the EU, the EU and UK authorities and the and the UK have reached an **agreement** which contains certain provisions aiming to ensure **continuity** of space-related services.

The deal reached however introduces **important changes** notably in terms of the 4 freedoms (for instance no more right for UK citizens to work, study or live in an EU country and vice-versa and/or easy recognition of professional qualifications).

Also, pursuant to such agreement, the UK **no longerhas access to**:

- a number of space-related EU programs such as **Galileo** or **EGNOS** (from June 2021) (but devices such as smart phones can still use Galileo and EGNOS)
- **EU Space Surveillance and Tracking** program (but UK users can continue to access such services) and
- broader programs such as **Erasmus+** (student exchange) (but a replacement program, called the Turing Scheme, **NextGenerationEU** and **SURE**.

UK's membership of the European Space Agency (ESA) is not affected.

It is difficult for UK-based entities to access EU defence R&D funding, and to participate to "sensitive, high-security" projects.

Also, the UK currently does not have **access to Horizon Europe** program, but this may change in light of a political agreement reached in early 2023.

CONCLUSION

The European space ecosystem is of **strategic importance** and a growing number of citizens, users, military forces, technologies, services and applications are **dependent** on the ecosystem. Indeed, approximately 10% of the EU's GDP is dependent upon the European space ecosystem.

Space is arguably **the only economic sector that can support any and all of the 17 UN SDGs**. The space ecosystem **nicely fits with the European policy priorities** for 2021-2027, including research and innovation, climate-related actions (30% of EU expenditure) and the digital transition (20% of EU expenditure). Space is also an important **strategic enabler** to support an effective peace and defense strategy and a net contributor to the EU trade balance.

Despite a vibrant entrepreneurial spirit, **public support remains vitally important** for the success of the European space ecosystem, **especially during these difficult times.**

The 3rd edition of the Guide has identified 48 public funding programs that can help the space ecosystem until 2027.

The **space ecosystem has thus a fair chance to get a decent amount of public support** during the next years. In details:

WHAT CAN BE FUNDED?

The **total public expenditures for the European space ecosystem could be in the range of €21 billion** until 2027. Virtually all types of spaced-related projects and actions can in principle be supported, ranging from a specific project to a vision for a breakthrough technology for the upstream, mid-stream and downstream segments. The following "caveats" have been identified:

- public support tends to **focus on short term actions**, for **rapid market growth**, aligned with the policy priorities
- certain programs **cannot support** technologies or application that harm the environment or social welfare or for military purposes and **certain sectors are "blacklisted"**
- sometimes the **EU flagship programs** (Galileo/EGNOS and Copernicus) **must be used** as a condition for public support.

WHO CAN BENEFIT?

The space ecosystem and many related activities such as ICT, robotics, AI, advanced high-performance computing, quantum technologies, cybersecurity, cloud infrastructure technologies, IoT and synthetic biology **may benefit from the public funding opportunities identified in the Guide**. The following must be taken into account:

- the **demand** for public support has **increased** since the pandemic crisis and the success rates have dropped, sometimes below the 10% bar; **only the absolute best proposals can be funded**
- the space ecosystem can often **contribute to broad/cross-sectoral actions and partnerships** and
- increasingly, non-EU controlled entities cannot participate to strategic funding programs.

WHICH FUNDING FORMS?

The **"traditional" forms** of public funding, namely grants, procurement, prizes, loans and sometimes equity will **remain dominant** during the MFF 2021-2027. However, **many other forms of support** are available, including blending operations, vouchers, repayable assistance, flat rate financing, interest rate subsidies, guarantees, and, especially for startups and SMEs, kick-start activities, coaching, mentoring, incubation, hackathons and acceleration services.

WHERE, WHEN AND HOW TO APPLY?

All 48 programs identified in the 3rd version of the Guide are operational, with agreed upon objectives and supported actions, program budgets, application processes and eligibility criteria.

However, unlike in the US were a single web site covers >1000 of programs available at federal level, there is **no "one-stop-shop" for European public funding**. Despite simplification efforts and mergers between programs, is **remain difficult to navigate** through all different programs and websites; **guidance is often needed; hence this Guide**. Initiative such as **spacepp.com** and **findfund.space** can provide assistance in this respect.

NEXT STEPS

Despite unprecedented amounts of public money floating around, a number of **next steps and actions are necessary** to ensure that Europe becomes a well-funded spacefaring region:

- adopt an **innovation strategy for New Space**, encompassing access to private and public capital
- **increase** the number of **startups and SMEs**, **bridge the "valley of death"** and **focus** public support **on the areas where Europe can lead**
- clearly define a **common roadmap for the evolution and next generation** of launchers, launch technologies, infrastructures, products, services and applications
- **stimulate demand** by having public entities acting as user and first buyer/anchor customer
- foster **synergies and complementarities** among relevant EU funded programs and between funding at EU and national/regional/local levels and **avoid duplications**
  enable space agencies to offer expertise as technical partner/adviser for funding entities like VCs and business angels
  support "one-stop-shops" for public funding initiatives such as **spacepp.com** and **findfund.space.**

A number of platforms and alliances can help the space ecosystem accessing capital and shaping the environment, including the **Space Platform** and the **ACCESS.SPACE alliance**.

Finally, if you believe that reaching the stars and helping to fulfill the 17 UNSDGs on planet earth with a sense of urgency both have survival value, then **it is time to get busy, seek support and guidance and have fun**.

ANNEX I – KEY EU POLICIES AND FUNDING PROGRAMS

EUROPEAN GREEN DEAL

The **European Green Deal** plans to make the EU's economy sustainable by turning climate and environmental challenges into opportunities and making the transition just and inclusive for all. To help implementing the European Green Deal objectives, as well as to build a more digital and more resilient Europe, it has been estimated at least **€1 trillion should be mobilized over the next decade** via a combination of funds provided by the EU budget and further public and private investments triggered by it. A **greater share** of spending on climate and environmental action from the EU budget than ever before will crowd in **private funding**, with a key role to be played by the European Investment Bank (EIB). The EU provides **tools for investors** by putting sustainable finance at the heart of the financial system and facilitate sustainable investment by public authorities by **encouraging green budgeting and procurement**.

Since unprecedented amounts of public money are floating around, **ways to refinance budgets need to be found**. In addition to its "traditional" revenue sources (VAT, custom duties & national contributions), the European Commission has introduced a new national contribution based on **non-recycled plastic packaging waste** and there are ongoing discussions on the need for additional own EU ressources . Decisions in these areas will require unanimity.

INVESTEU

INVESTEU FUND

The **InvestEU Program** 2021-2027 brings **under one roof the InvestEU Fund** (the Fund), the successor of the European Fund for Strategic Investments (which had at its disposal around €500 million until end 2020) **and 13 other centrally-managed financial instruments**. It makes EU funding for investment projects in Europe **simpler, more efficient and more flexible**.

The Fund support action are divided into **four policy windows**:

- sustainable infrastructure (€9.8 billion)
- research, innovation and digitalization (€6.5 billion)
- social investment and skills (€2.8 billion) and
- SME (€6.9 billion).

Each above window is made of **two compartments**: an EU compartment and a Member State compartment. The former will address EU-wide or Member State specific market failures or suboptimal investment situations.

The **EIB Group** is in charge of implementing 75% of the EU guarantee under the EU compartment and to support the implementation of the EU compartment of the InvestEU Fund, and, where applicable, the Member State compartment.

The Fund, which targets higher risk innovation projects and SMEs, aims to **trigger an estimated €372 billion** in total additional public and private investment investments. Each financial partner is expected to contribute some resources to ensure that their interests are

aligned, adding an estimated total of €6.55 billion, so the **total guarantee could be around €32 billion**.

The **selection** of eligible projects for the EU guarantee will be made by the **independent external experts** member of the **Investment Committee** based on compliance with the eligibility criteria set by the InvestEU Regulation and the **investment guidelines**, following a scrutiny test by the European Commission.

Financial intermediaries could consult the offering of the **partners in charge of implementing the program** such as financial institutions since it will be up to the later to select the former through procedures such as calls for expressions of interest.

The guarantee may be used by the implementing partners for providing a **vast type of support and financial operations** such as loans, guarantees, debt or equity. InvestEU supported direct equity operations submitted by an implementing partner should not exceed 50% of the total project cost and, for indirect operations, 50% of the fund size. For indirect debt operations, at least 20% of the exposure must be retained by the financial intermediary.

It should be possible to **combine InvestEU financing with EU grants** (including those funded by the centrally managed EU budget or by the EU Emissions Trading System (ETS) Innovation Fund) or with financial instruments (or both) in certain cases such as to address particular market failures or investment gaps.

INVESTEU ADVISORY HUB (THE HUB)

The **InvestEU Program** includes the **Hub**, which provide assistance to support the development of a robust pipeline of investment projects and access to financing. The Hub support is available via a **central point of entry**. The Hub should in principle be available to provide project **advisory services**, **capacity building and market development services** to public and private project promoters, as well as financial and other intermediaries and institutions, and to financial and non-financial intermediaries.

INVESTEU PORTAL (THE PORTAL)

The **Portal**, already initiated under the **European Investment Project Portal (EIPP)**, allows **project promoters to reach investors** that they may not be able to reach otherwise. It also provides project promoters with **other options to finance their projects** and **screen** various **projects** before deciding on which ones to invest in. The projects received for publication on the InvestEU Portal transmitted to other partners such as the EIB group and other financial institutions such as national promotional banks and international financial institutions.

NEXTGENERATIONEU

As part of the recovery plan for Europe, **NextGenerationEU** was set up as the temporary **recovery instrument** to help repair the damage brought about by the pandemic crisis. The **Recovery and Resilience Facility** (the Facility) is the centerpiece of NextGenerationEU to providing **funding** for Member States in terms of grants and loans. NextGenerationEU is more than a recovery plan and also an opportunity to create **European flagship areas for investments** with tangible benefits for the economy and citizens across the EU.

The **specific measures** that are funded by the Facility are **defined at national levels in each national recovery and resilience plan**, as approved by the EU institutions. All such plans **must be in line with the following six pillars**:

- **green transition**
- **digital transformation**
- **smart, sustainable and inclusive growth**, including economic cohesion, jobs, productivity, competitiveness, research, development and innovation and a well-functioning internal market, with strong SMEs
- **social and territorial cohesion**
- health, and economic, social and institutional **resilience**, with the aim of, inter alia, increasing crisis preparedness and crisis response capacity and
- policies for the **next generation, children and the youth**, such as education and skills.

The **national recovery plans must also reflect** a substantive reform and investment effort on productivity, competitiveness, job creation and macroeconomic stability. The intention is to favor measures that, if taken now, would bring about a **structural change** and have a **lasting impact** on economic and social resilience, sustainability and long-term competitiveness (green and digital transitions), and employment.

For more information about the national recovery plans, refer web sites spacepp.com and findfund.space.

HORIZON EUROPE

Horizon Europe, with budget of **€95.5 billion**, a 30% increase versus the previous program for research and innovation (R&I) Horizon 2020, is the **most ambitious funding R&I program ever**. It is also one of the key instruments of the EU to steer and accelerate Europe's recovery, preparedness and resilience.

The Horizon Europe program consist of the following **pillars** and **clusters**.

- **Pillar I - Excellent Science**, with the following components:
    - the **European Research Council** (ERC)
    - **Marie Skłodowska-Curie Actions** (MSCA) and
    - **research infrastructures**

- **Pillar II - Global Challenges and European Industrial Competitiveness**, with the following **6 Clusters**:
    - Health
    - Culture, creativity and inclusive society
    - Civil security for society
    - Digital, industry and space
    - Climate, energy and mobility and
    - Food, bioeconomy, natural resources, agriculture and environment.

- **Pillar III -Innovative Europe**, with the following components:

- **European Innovation Council** (EIC)
- **European Innovation Ecosystems**, including the following **areas of intervention:**
  - builds interconnected, inclusive innovation ecosystems across Europe
  - reinforces network connectivity within and between innovation ecosystems
  - supports the European Partnership for Innovative SMEs (Eurostars 3) and
  - complements the European Regional Development Fund support for innovation ecosystems and interregional partnerships.

Destinations under the Horizon Europe program mean the specific directions and ultimate points of arrival Horizon Europe aims to achieve.

Horizon Europe has the following relevant **key strategic orientations**:

- promoting an open **strategic autonomy** by leading the development of key digital, enabling and emerging technologies, sectors and value chains to accelerate and steer the digital and green transitions through human-centered technologies and innovations
- restoring **Europe's ecosystems and biodiversity**, and managing sustainably natural resources to ensure food security and a clean and healthy environment
- making Europe the first **digitally enabled circular, climate-neutral and sustainable economy** through the transformation of its mobility, energy, construction and production systems
- creating a more **resilient, inclusive and democratic** European society, prepared and responsive to threats and disasters, addressing inequalities and providing high-quality health care, and empowering all citizens to act in the green and digital transitions.

Under Horizon Europe Work Programme 2023-2024 (the WP), **Destination 5**, entitled *open strategic autonomy in developing, deploying and using global space-based infrastructures, services, applications and data* will support any and all of the above strategic orientations.

Destination 5 is structured along the WP under following headings:

- foster competitiveness of space systems
- reinforce EU capacity to access to space
- evolution of Copernicus
- development of applications for Galileo, EGNOS, Copernicus and PRS and Govsatcom user activities
- innovative space capabilities: quantum
- targeted and strategic actions supporting the EU space sector
- other Actions such as management of the **European Space Partnership**, evolution of infrastructures for Galileo/EGNOS, SSA-SST and GOVSATCOM capabilities and actions for the Secure Connectivity initiative
- specific activities related to space entrepreneurship ecosystems, including New Space and startups under the CASSINI Space Entrepreneurship Initiative
- in-orbit demonstration and in-orbit validation.

The above areas of intervention are funded by Horizon Europe at the following **maximum funding rates**:

- research and innovation action: 100%
- innovation action: 70% (except for non-profit legal entities, where a rate of up to 100% applies)
- coordination and support action: 100%
- programme co-fund action: between 30% and 70%
- innovation and market deployment: 70% (except for non-profit legal entities, where a rate of up to 100% applies)
- training and mobility action: 100%
- pre-commercial procurement action: 100% and
- public procurement of innovative solutions action: 50%

Horizon Europe must be implemented in **synergy with other EU programs and related technologies**. For cluster 4, there are potential synergies between Horizon Europe and at least the following relevant programs:

- InvestEU
- The European Innovation Council (EIC)
- the Just Transition Mechanism
- the Recovery and Resilience Facility and
- EU4Health.

The EU supports via Horizon Europe **synergies between space and key enabling technologies** such as:

- advanced manufacturing
- Internet of Things
- big data
- photonics
- quantum technologies
- robotics and
- artificial intelligence.

EUROPEAN INNOVATION COUNCIL (EIC)

The **European Innovation Council (EIC)** has been launched in March 2021 to stimulate all forms of innovation, ranging from incremental to breakthrough and disruptive innovation, via **3 complementary instruments**:

EIC Pathfinder open and challenges for funding from early technology to proof of concept (TRL 1-4)
EIC Transition for proof of concept to pre-commercial (TRL 4 to 5/6) and
EIC Accelerator from pre-commercial to market and scale-up (TRL 5/6 to 8).

The **EIC budget** for 2021-2027 of €10 billion is broken down as follows:

- Pathfinder: €132 million
- Transition open: €60 million
- Transition challenge: €40 million

- Accelerator open: €593 million and
- Accelerator challenges: €495 million.

The EIC Accelerator can provide blended finance consisting of a specific combination of a grant or reimbursable advance and investment in equity or any other repayable form of support, via the **EIC Fund**.

The **EIC Fund**, established in June 2020, is a venture capital fund, with the European Commission as shareholder and arguably the **largest deep-tech venture in Europe** with its €3 billion budget.

It is building a portfolio of 159 early-stage technology companies (€680 million investment, €4.3 million average).

Under the EIC work program for 2023, **certain space-related technologies can be supported** such as:

- EIC Pathfinder Challenge: in-space solar power harvesting and novel propulsion approaches such as solar energy harvesting antennas, power transmission of energy between in-space harvesting devices and novel technologies for propulsion in space.
- EIC Accelerator Challenge: innovative space technologies and services, including technologies such as means to inspect spacecraft in orbit, to augment satellite capabilities and resilience, to develop autonomous and in-space collision avoidance capabilities, for self-assembly of spacecraft in orbit, to collect and recycle space debris, refurbish upper stage of launchers, to design and construct a R&I low Earth orbit unmanned modular platform, to develop innovative technologies for Earth observation, navigation, satellite communications, space science, SSA and in-space logistics.

The EIC also supports the following prizes:

- **The European Capital of Innovation Awards**: an annual recognition prize awarded to the European cities that best promote innovation in their communities.
- **EU Prize for Women Innovators** to celebrate the women entrepreneurs behind Europe's game-changing innovations.
- **EIC Horizon Prizes** to reward the most innovative solutions to societal challenges.
- **The European Social Innovation Competition** to acts as a beacon for social innovators across Europe, incentivizing & rewarding early-stage ideas, shaping our society for the better.
- **The European Innovation Procurement Awards**, to recognize the efforts done by public and private buyers to promote and implement innovation procurement across Europe.

EUROPEAN INSTITUTE OF INNOVATION AND TECHNOLOGY (EIT)

The **European Institute of Innovation and Technology** (**EIT**) is an independent EU body to contribute to the development of the Europe's innovation capacity. The EIT currently supports by grants EIT's Knowledge and Innovation Communities (KICs), including EIT Climate-KIC initiative, which is EU's largest public private partnership addressing climate change through innovation across four priority themes:

- urban areas
- land use
- production systems and climate metrics and
- finance.

Climate-KIC's programs have supported more than 2000 SMEs for climate-relevant innovation, in major cities via its **Entrepreneurship Programs**. For instance, together with the **Copernicus** program, Climate-KIC established a collaborative program to accelerate the use of Copernicus satellite data and information for climate action by entrepreneurs, universities, cities, regions and other stakeholders.

The EIT aims to deliver on the new EU strategic priorities and contribute to the realization of EU objectives and policies, including the European Green Deal, the European Recovery Plan, a European strategy for data, an SME Strategy for a sustainable and digital Europe and a New Industrial Strategy for Europe and achieving EU's strategic autonomy while preserving an open economy. Furthermore, the new EIT should contribute to tackling global challenges, including the United Nations Sustainable Development Goals (SDGs).

For the period 2023-2025, in order to achieve such objectives, the EIT intends to:

- strengthen sustainable innovation ecosystems across Europe
- foster innovation and entrepreneurship through better education
- bring new solutions to global challenges to the market.

Further, the specific objectives of the EIT for the period of 2021-2027 are to:

- increase the impact of the EIT KICs and knowledge triangle integration
- increase the innovation capacity of the higher education sector by promoting institutional change in Higher Education Institutions (HEIs)
- increase the regional and local outreach of the EIT and its KICs
- launch a new KIC in the field of water, marine and maritime sectors. .

EUROPEAN RESEARCH COUNCIL (ERC)

The **European Research Council** (ERC) is the main body, part of Horizon Europe, to award frontier research grants in any particular field, without predetermined priorities. The ERC encourages research on the frontiers of science, scholarship, and engineering, of a multi/interdisciplinary nature, across boundaries, addressing new and emerging fields and/or following unconventional/innovative approaches and scientific inventions. Ideally, there should be the potential to create breakthrough results and facilitate commercial innovation.

Examples of research projects funded by the ERC include:

- solar geoengineering and negative emissions technologies for addressing climate change.
- imaging the event horizon of black holes
- new ways to predict Sun's dangerous activity.

EUROPEAN INNOVATION ECOSYSTEMS (EIE)

The **European Innovation Ecosystems** (**EIE**) and aims to create more connected and efficient innovation ecosystems by contributing to all key strategic orientations of **Horizon Europe strategic plan**.

Under the work program 2023-2024, the EIE can in principle support actions under the following destinations:

- CONNECT, which focus on building interconnected, inclusive innovation ecosystems across Europe
- INNOVSMES, which support the European Partnership on Innovative Small and Medium-sized Enterprises (SMEs), to help innovative SMEs to increase their research and innovation (R&I) capacity and productivity and successfully embed in global value chains and new markets.
- .

The **European Partnership for Innovative SMEs** is the continuation of the EUROSTARS program (Eurostars 3), a European joint program for the R&D performing SMEs, including the space ecosystem.

INNOVATION FUND

The **Innovation Fund** provides support for the commercial demonstration of innovative low-carbon technologies, aiming to bring to the market industrial solutions to decarbonize Europe and support its transition to climate neutrality. The Fund is financed by revenues from the auctioning of allowances under the **EU Emissions Trading System** (EU ETS), which may amount to about €10 billion for the period 2020-2030, depending on the carbon price.

The EU ETS is the world's largest **carbon pricing system** and covers emissions from more than 10,000 heavy energy-using installations (power stations & industrial plants), including possibly aerospace and engineering industries and airlines.

The Innovation Fund aims to support projects in all energy intensive industry sectors and **focuses** on:

- innovative low-carbon technologies and processes in energy-intensive industries, including products substituting carbon intensive ones
- **carbon capture** and **utilization** (CCU)
- **construction** and **operation of carbon capture and storage** (CCS)
- innovative **renewable energy generation** and
- **energy storage**.

The Fund:

- help create the right **financial incentives for projects** to invest now in the next generation of technologies needed for the EU's low carbon transition
- boost **growth and competitiveness** by empowering EU companies with a first-mover advantage to become global technology leaders and

- **support innovative low-carbon technologies** in all Member States in taking off and reaching the market.

Large-scale projects for the purposes of the Fund are those projects with a total capital expenditure (CAPEX) above EUR 7.5 million, while **small-scale projects** are those with less than EUR 7.5 million of CAPEX.

The grant support is provided in the form of **lump-sum payments**, upon reaching agreed project milestones. The Innovation Fund supports up to **60%** of the additional **capital and operational costs of large**-scale projects and up to **60% of the capital costs of small**-scale projects. The grants are disbursed in a flexible way based on project financing needs, taking into account the milestones achieved during the project lifetime.

DIGITAL EUROPE PROGRAMME

The objectives of the **Digital Europe Programme** (**DIGITAL**) are to support the digital transformation of the European economy, to bring its benefits to citizens and to improve the competitiveness of Europe, while contributing to bridging the digital divide across the EU and reinforcing its autonomy.

DIGITAL's overall budget of **€7.5 billion** is broken down as follows:

- high performance computing: €2.226 million
- artificial intelligence: €2.061 million
- cybersecurity and trust: €1.649 million
- advanced digital skills: €5.77 million and
- deployment, best use of digital capacities and interoperability: €1.072 million.

The EU is working on the following **policy areas relating to the digital transformation** to which the space ecosystem can contribute:

- **digital sovereignty** to protect and reinforce digital sovereignty and leadership in strategic international digital value chains
- **data economy** to develop the economy in a human-centric way and in line with common EU values, ensuring that there is more data sharing and data re-use across sectors and across borders
- **artificial intelligence** to contribute to a more innovative, efficient, sustainable and competitive economy, while also improving safety, education and healthcare for citizens
- **cloud computing** to ensure that data is processed efficiently and can contribute to the transitions
- **high-performance computing** (HPC) to ensure that data can be processed and analyzed faster and bring scientific advances
- **quantum technologies** to use the properties of quantum mechanics to create practical applications that can bring important improvements and
- **connectivity** to develop fast and ubiquitous **connectivity** across the EU to give all Europeans access to digital technology.

The European Commission expects that DIGITAL complements and creates **synergies** with other related MFF programs such as Horizon Europe, the ERDF and the **Connecting Europe Facility** (CEF).

ANNEX II – EU SPACE POLICY

ROLE OF THE EUROPEAN COMMISSION, EUSAP AND ESA

The **EU space program** for the MFF 2021-2027 as set out in the EU Space Regulation establishes the **European Union Agency for the Space Programme** (EUSPA) and lays down its rules of operation. It also defines the role of, the European Commission (EC), EUSPA and of the European Space Agency (ESA), which given its extensive expertise in the space domain remains an important partner in the implementation of the Program (in addition to its other prerogatives).

More specifically,

- **The EC** has overall responsibility for the implementation of the EU space program (including in the field of security), coordinating roles, is in charge of encouraging cooperation and ensuring synergies with other actions and programs and manages GOVSATCOM, near earth objects, space weather and space debris mitigation and remediation
- **EUSPA** is in charge of managing the exploitation of the EU flagship programs Galileo, EGNOS and Copernicus, including development of downstream markets and user uptake activities and the procurement and the operation of the GOVSATCOM ground infrastructure (Hubs) and the coordination of the user related aspects
- **ESA** is mainly in charge of upstream research and development activities, systems evolution, design and development of parts of the ground segment and satellites for Galileo and EGNOS as well as coordination and implementation of the Copernicus space component (often via delegation from EUSPA).

ESA and EUSPA may be entrusted with other tasks based of the needs of the EU space program if they do not duplicate efforts.

EU POLICY OBJECTIVES AND ACTIONS

The **objectives of the EU space policy** are as follows:

- for Galileo and EGNOS: to provide long-term, state-of-the-art and secure services, whilst ensuring service continuity and robustness
- for Copernicus: to deliver accurate and reliable Earth Observation data and services and support actions based on user requirements
- for SSA: to enhance SST capabilities to monitor, track and identify space objects and space debris, provide space weather services and map countries NEO capacities
- for GOVSATCOM: to ensure the long-term availability of reliable, secure and cost-effective satellite communications services for GOVSATCOM users and
- to support an autonomous, secure and cost-efficient capability to access space, taking into account the essential security interests of the Union.

Uptake actions under the EU space policy include the following:

- innovation activities for making best use of space technologies, infrastructure or services

- activities aiming to foster public demand and public sector innovation, to realize the full potential of public services for citizens and businesses
- entrepreneurship, including from early stage to scaling-up, and by using a first contract approach
- the emergence of a business-friendly space ecosystem through cooperation between undertakings in the form of a network of space hubs
- education and training activities
- access to processing and testing facilities and
- reinforcement of the European supply chains.

The European Commission, via Eurostat, should define relevant statistical measurements and indicators that would form the basis for **monitoring the impact of the EU space activities** in a systematic and authoritative way.

GALILEO

Galileo, Europe's Global Navigation Satellite System (GNSS), is one of the European large infrastructure projects, entirely financed by the EU budget. Galileo is widely used in aviation, maritime, road and rail transportation. The number of Galileo-enabled smartphones in use has reached one billion in 2019.

The **objective** of the 2021-2027 MFF **Galileo program** is to provide long-term, state-of-the-art and secure positioning, navigation and timing services. Such **services** include:

- Galileo open service (GOS) to provide positioning and synchronization information free of charge for the general public
- high-accuracy service (HAS) to provide high-accuracy positioning and synchronization information for professional or commercial use
- signal authentication service (SAS) for professional or commercial use
- public regulated service (PRS), restricted to government-authorized users for sensitive applications and
- free emergency service (ES) and timing service (TS).

During the previous MFF, a total of 13000 participants received prizes under the Galileo program of a total worth of €13 million.

Based on past actions, the **space ecosystem may benefit from the Galileo program** during 2021-2027 as follows:

GALILEOMASTERS

The **Galileo Masters**, an international competition for projects with innovative ideas focuses on the exploitation of the Global Satellite Navigation Systems (GNSS). The aim is to support innovative ideas for satellite navigation applications that will also be aligned with users' requirements. The prize packages were worth up to €62K, including an exclusive bootcamp, and incubation and acceleration services.

MYGALILEOSOLUTION

The aim of **MyGalileoSolution** contest is to develop location-based solutions, such as mobile application, wearable-based solution, asset management, tracking solution, or robotics, leveraging Galileo as a source of positioning, navigation and timing. The granted prizes were in the range of €15K to €60K.

MyGalileoDrone

The aim the **MyGalileoDrone** contest is to design, develop, test and prepare for commercial launch a drone-based application and/or service able to provide a position and/or time fix by using Galileo-enabled receiver. Prizes, in the range of €30K to 100K each, can be granted for applications targeting one of the following areas:

- urban air mobility
- parcel delivery & ecommerce
- infrastructure, inspection
- leisure
- maritime surveillance
- agriculture
- surveying
- emergency management
- scientific applications
- traffic management
- u-space services and
- other applications.

With its innovative, unique features – authentication and high precision - Galileo can develop during the MFF 2021-2027 new applications such as connected and automated transport, smart mobility, traffic management, precision farming and food tracking, timing and synchronization of critical infrastructures, improved emergency and disaster service and tracking pandemics.

For more information about Galileo program for the period 2022-2024, please refer to **EUSPA Single Programming Document Program**.

THE EUROPEAN GEOSTATIONARY NAVIGATION OVERLAY SERVICE (EGNOS)

The **European Geostationary Navigation Overlay Service (EGNOS**), which aims to improve the quality of open signals from existing global navigation satellite systems such as Galileo and the US Global Positioning System (GPS) across Europe, is instrumental to many EU policies, such as transport, climate change, environment, agriculture or industry.

The **objective** of the 2021-2027 MFF **EGNOS program** is to provide long-term, state-of-the-art and secure following positioning, navigation and timing services:

- EGNOS open service (EOS), free positioning and synchronization information for high-volume satellite navigation applications for consumers

- EGNOS data access service (EDAS), free, improved (over EOS) added value positioning and synchronization information for satellite navigation applications for professional or commercial use
- a safety-of-life (SoL) service, free positioning and time synchronization information with a high level of continuity, availability and accuracy, for sectors where safety is essential such as air navigation services (more than 367 airports and helipads use EGNOS landing procedures in 2020).

EGNOS should cover, as a priority, Member States' territories geographically located in Europe, including for this purpose Cyprus, the Azores, the Canary Islands and Madeira, by the end of 2026. The geographical coverage of the services provided by EGNOS could be extended to other regions of the world.

During the 2021-2027 MFF, **EU funding may be granted to support the following** components of the GALILEO and EGNOS program:

- activities relating to the exploitation of Galileo and EGNOS systems, including all elements justifying the reliability of the system and its exploitation
- the management and evolution of the space-based and ground-based infrastructures, centers and stations or networks
- the development of future generations of the systems and the evolution of the services provided by Galileo and EGNOS
- cooperation with other regional or global satellite navigation systems, including to facilitate compatibility and interoperability
- elements to monitor the reliability of the systems and their exploitation and
- activities related to the provision of services and to the coordination of the extension of their coverage.

For more information about EGNOS for the period 2022-2024, please refer to **EUSPA Single Programming Document Program**.

COPERNICUS

The **objective** of the 2021-2027 MFF **Copernicus Programme** is to deliver accurate and reliable Earth Observation (EO) data, information and services integrating other data sources to support the policies and actions based on user requirements. The EO program gathers and structures multiple sources of information, such as sentinel satellites and in-situ data such as ground stations, airborne and sea-borne sensors.

Copernicus should ensure an **autonomous access** to environmental knowledge and key technologies for EO and geo-information services. The data and information produced in the framework of Copernicus should be made available on a **full, open and free-of-charge** basis subject to appropriate conditions and limitations.

The six Copernicus **thematic services** are:

- the Atmosphere Monitoring Service
- Marine Environment Monitoring Service
- Land Monitoring Service,

- Climate Change Service,
- Emergency Management Service and
- Security Service.

For more information about Copernicus the period 2022-2024, please refer to **EUSPA Single Programming Document Program**.

SPACE SITUATIONAL AWARENESS (SSA)

In the EU, the **framework** for **space surveillance and tracking (SST)** of the main space hazards (space objects and space debris), called **EUSST**, was established in 2014 and is made of the SST Consortium Member States.

Space Situational Awareness or SSA has historically been a military activity, leading to a catalogue of the activities and objects in orbit. In particular, 4 countries are participating to the **European Military Space Surveillance Awareness Network (Eu-SSA-N)**.

The intention of the EU space policy for 2021-2027 is to develop a **more holistic approach** for space surveillance and tracking or SST. In addition to the SST system established in 2014 and consisting in a network of ground-based and space-based sensors capable of surveying and tracking space objects, together with processing capabilities, the EU Space Regulation has added the following components:

- observational parameters related to space weather events and
- the risk monitoring of near-earth objects (NEO) approaching the Earth.

For more information about SSA, please refer to the **Communication** and to **EUSPA Single Programming Document Program**.

GOVERNMENTAL SATELLITE COMMUNICATION (GOVSATCOM)

Satellite communications (SatCom) are critical elements for defence security, humanitarian aid, emergency response or diplomatic communications.

Governmental Satellite Communications (**GOVSATCOM)** has been identified as a key capability development programs by the European Council in December 2013. The mandate was given to prepare the next generation of satellite communication (2025 timeframe), including by demonstrating on a pilot basis the benefits of a European dual-use approach for the development of such capability. The **ultimate objective** is to ensure reliable, secure and cost-effective civil and military satellite communication services for public authorities in EU and in Member States managing critical security missions and operations. The goal is also to enhance European autonomy and overcome fragmentation of demand by affordable and innovative solutions in synergy with industrial players.

Since 2013, the **European Defence Agency (EDA)**, in cooperation with other stakeholders such as the **European Space Agency (ESA)**, has deployed a **sequential approach** and has already implemented certain so-called **precursor public–private partnerships and demonstration projects** in the 2017–2020 timeframe, which are supported by the space industry, to respond to the growing need in Europe for secure communications in applications such as crisis management and maritime safety.

EU-funded preparatory activities for the **GOVSATCOM program**, to start to the operational program from 2021 onwards, are:

- **studies** of industrial systems for the GOVSATCOM **Hub**, the new ground infrastructure for seamlessly connecting users and providers
- **developing and prototyping** of GOVSATCOM **hub and service elements**
- establishing and demonstrating various civilian **application scenarios** in crisis management, civil protection, surveillance and key infrastructure management
- other **preparatory activities**, including an analysis of GOVSATCOM supply and demand beyond the mid-2020s.

For more information about GOVSTACOM For the period 2022-2024, please refer to **EUSPA Single Programming Document Program**.

EUROPEAN COMMISSION CASSINI INITIATIVE

The European Commission (EC), Directorate on Defence Industry and Space (DEFIS), has overall responsibility for the implementation of the EU space program, including in the field of security.

In January 2021, the EC announced the **Competitive Space Startups for Innovation** or **CASSINI** initiative to support European space-based business, startups and New Space until 2027, including a **€1 billion European space fund**.

The space fund build on the experience acquired with the InnovFin Space Equity Pilot, which has been set up in the Horizon 2020 work program 2018-2020 to invest, via the European Investment Fund (EIF), in venture capital and other risk-capital funds focused on innovative SMEs and small Midcaps that aim to commercialize new products and services linked to space data and space technologies.

A handful number of venture firms have so far benefited from the above support.

Apart from the space fund, the CASSINI initiative, which is managed by EC's Directorate on Defence Industry and Space (DEFIS) and often delegated to EUSPA, **help promoting the "dual-use" aspects** of relevant space-related technologies and serve to **regroup under a single umbrella relevant support measures** for startups and SMEs in the space sector and beyond, across the entire entrepreneurial cycle.

Under the Work Program for 2023-2024, the following follow-up actions relating to the CASSINI initiative will take place under Horizon Europe:

- setting up the CASSINI **Business Accelerator**, likely to be operational in Q1/Q2/2023
- CASSINI **Hackathons & Mentoring** in 2023 and/or 2024, with the **new Hackathons focusing on** new concepts, products, or services that positively impact the **European defence and security sector**
- CASSINI **myEUspace** in 2023 to support European "New Space" entrepreneurship
- Continuation of CASSINI **Matchmaking** that started in 2022, with new themes in 2023 around smart logistics and transportation, smart cities and urban mobility enabled by

space solutions, protecting earth's resources from space and next-gen spacecraft systems manufacturing and operations.

SPACE AND DEFENSE

The following policy initiatives and proposed actions relating to the interlink between space and defense have taken place in 2022 and 2023 at European levels:

- The March 2022 Strategic for security and defense (so-called **Strategic Compass**) expresses a commitment to:
  - reinforce space-based capabilities
  - act promptly in the outer space domain
  - continue to invest in space situational awareness and critical space technology.

- The February 2022 Communication re European Commission details related actions:

  - reinforce surveillance of space assets through enhanced services in space SST and the development of technologies such as automatic collision avoidance or AI
  - support SSA-related projects to contribute to advanced SC2 capabilities, enhanced SSA sensors and early warning system against ballistic missile and novel hypersonic threats
  - reinforce security at existing and future ground infrastructures such as spaceports
  - develop European standardised military navigation receivers that are compatible with the Galileo PRS
  - €22 million to be invested to enhance sensors and C2 for an EU military space surveillance awareness and develop a space-based early warning capability
  - €50 million dedicated to space and ground-based navigation warfare (NAVWAR) surveillance and European technologies for resilient satellite communications against jamming.

- The **November 2022 joint communication** sets out the need to:

  - improve the robustness and cyber resilience of space infrastructures and related services
  - deter and respond to any threats on sensitive space systems.

- The December 2022 **Security and Defence Package, which focus** on two new initiatives, namely military mobility and an EU cyber defence policy, identifies space-based services as of increasing relevance for defence; hence the need to protect them as key strategic assets and to enhance the resilience and robustness of space infrastructures.

SYNERGIES BETWEEN CIVIL, DEFENCE AND SPACE INDUSTRIES

The European Commission (EC) February 2021 **action plan on synergies** (the Plan) considers that **fostering synergies** between funding instruments and facilitating civilian and defence cross-fertilization **can enhance** European economic growth, further develop the Single Market and improve security for European citizens.

Apart from funding, the Plan proposes the following key **concrete policy actions**, including:

- **enhancing synergies** (between the space, defence and security sectors) by:
  - improving coordination of EU programs and facilitating access to finance before end of 2021
  - targeted actions for startups and SMEs as from Q2/2021 such as interactive tools that facilitate access to EU funding programs similar to the Space Platform Project Funding Module
- **fostering capability-driven approaches**, especially for the security sector, before end of 2021
- **promoting** EU R&D funding for defence and space that has dividends for EU citizens
- **facilitating** the use of civil achievements in European defence cooperation projects and
- technology **roadmaps** to boost innovation, following assessments by a new (internal) Observatory for Critical Technologies.

Additional proposed actions include to:

- launch a **dual use innovation incubator**
- set up a **cybersecurity competence center**
- to **follow-up on the EC CASSINI initiative**
- **support disruptive technologies** such as artificial intelligence, including by innovative forms of funding
- **launch the following flagship projects** that may become game-changers:
  - **drone technologies**
  - **space-based global secure communications system** and
  - **Space Traffic Management** (STM) standards and rules and
- promote **hybrid civil/defence standards**.

In 2022, the EC reported on the implementation of the Action Plan. It indicated that the Observatory of Critical Technologies could issue its first (classified) report in 2023, that coordinated calls in existing EU instruments and European Investment Bank loans to support critical technologies and capacity will be issued and that a number of measures to support startups have been adopted, including in the future business coaching. A number of constraints that impede synergies have however been identified as well as possible (yet to be implemented) solutions and work around plans.

COUNCIL OF THE EUROPEAN UNION AND THE EUROPEAN PARLIAMENT

The **Council of the European Union** (the EU Council) adopted a number of documents relating to the space ecosystem, including:

- **Space for a sustainable Europe** (June 2020)
- **Orientations on the European contribution in establishing key principles for the global space economy** (November 2020)
- **New Space for People** (April 2021)
- **Conclusions on an EU approach to space traffic management** (STM) (June 2022), which **support further development capabilities** in the areas of SST (via a new partnership), space weather and near-Earth objects to achieve a higher level of strategic autonomy, including the creation of a **new forum** with industry and startups (to address

issues such as standards and guidelines). Activities such as space debris mitigation and remediation would be performed in cooperation with ESA. The Council also made recommendations to reinforce the EU's voice on the international scene.

- **Fair and Sustainable Use of Space** (draft January 2023), which invites the Member States and the European Commission (EC) to discuss how to exchange best practices on a more coherent launch licensing processes, to achieve consistent launch licensing processes.

During the Competitiveness Council in June 2022, Ministers stressed that space is key to protecting European independence and that secure and affordable access to space must be guaranteed. .
The **European Parliament** has been involved in the legislative process leading to the adoption of the EU Space Regulation in 2021 and other legislative instruments. The European Parliament voted favorably on the EU **Secure Satellite Constellation** initiative (Infrastructure for Resilience, Interconnectivity and Security by Satellite -**IRIS²**), on February 14, 2023. It was a record adoption, with 603 votes in favor, 6 against.

The EP ITRE committee commissioned an **analysis of the European space market,** which recommends to (i) develop a comprehensive **strategy** and a conceptual framework for supporting the uptake and estimating the benefits of space-related activities (including quantifying the costs/benefits and improve performance measurement), (ii) conduct an analysis of where legislation could better **promote the use of space data** such as to encourage to use of space data via regulations (iv) assess the extent of SME targeting in the EU Space Programme 2021-2027 and (iv) **improve EU-wide communication about the benefits of space services** and (v**) show case examples** of successful venture capital investments. The Council drafted conclusions in relation to such initiative.

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ANNEX III - KEY EUROPEAN AGENCIES

EUROPEAN SPACE AGENCY (ESA)

ESA'S PROGRAMS

The **European Space Agency** (**ESA**), an important actor for financing the space ecosystem in Europe, operates, in particular, via the following programs:

- **ESA's Advanced Research in Telecommunications Systems** (**ARTES**) programs aims at improving the lives of all people on Earth through space technology and cross-fertilization across disciplines. The program provides the funding, multi-disciplinary expertise, business knowledge, opportunities for SMEs, international consortia and contacts needed to turn a concept from any sector that intends to use space in the following areas:
    - Future Preparations including market opportunities, regulatory barriers, standards, future frequency spectrum needs and issues.
    - Competitiveness & Growth (C&G) - the development, qualification and demonstration of "products", i.e. including equipment, user terminal, telecom systems and applications, which has recently updated to focus on SMEs and with new funding levels
    - Advanced Technology - long-term technological development
    - European Data Relay Satellite System (EDRS)
    - Large Platform Mission (LPM)
    - Satellite Communication for Air Traffic Management
    - Small Geostationary Satellite (SGEO)
    - Next Generation Platform (NEOSAT) (3 to 6-ton geostationary satellites)
    - Integrated Applications Promotion
    - Satellite – Automatic Identification System (SAT-AIS) and
    - ARTES 33 Partner - framework to bring innovative products and systems into the marketplace through industry-generated public–private partnerships.

- **ESA's General Support Technology Programme** (**GSTP**) aims to ensures the necessary continuity in the development of identified technologies. GSTP has the following objectives:
    - enable missions of ESA and national programs by developing technology
    - foster innovation by creating new products
    - strengthen the competitiveness of European industry
    - improve European technological non-dependence and the availability of European sources for critical technologies and
    - facilitate spin-in from outside the space sector.

  It aims to convert promising engineering concepts into a broad spectrum of mature products – everything from individual components to subsystems up to complete satellites – right up to the brink of spaceflight or beyond. ration missions. This program has been separated into 3 elements (Develop, Make and Fly). Its work plan is approved by representatives of ESA Participating States, prioritizing issues that fit with their own industrial strategies.

- **The Future Launchers Preparatory Programme** (**FLPP**), which began in 2003, comprises 3 elements (Develop, Make and Fly). It is instrumental in the European strategy for access to space, and aims to:
    - identify and prepare the system competence and technology for development with the aim of confining launcher time-to-market within 5 years, reducing recurring cost and development risk, while keeping long-term industry competitiveness
    - promote reusability of existing and new technologies to reduce development costs globally
    - perform system studies to assess evolutions of operational launchers, future launcher architectures, advanced concepts, select technology and elaborate technology requirements
    - safeguard critical European industrial capabilities for the safe exploitation of the current launchers and guaranteed access to space and
    - develop environmentally friendly technologies.

As from 2023, the FLPP will prepare technology disruptors, space logistics, rapid demonstrators and building blocks to respond to future needs in space transportation.

- **Kick-Start Activity**, ESA's 2017 funding scheme for SMEs and startups looking for opportunities to develop their ideas.

- **Incubed** aims to support industry-led initiatives that will open new market opportunities, bring innovative systems and products faster to market, and compete in the global marketplace. The space ecosystem located in Incubed Participating States can apply for a chance to gain financial and practical support for industry projects.

- **ESA Business Applications** calls for proposal covers three different activities:
    - Feasibility Studies provide the preparatory framework to identify, analyze and define new potentially sustainable applications and services. They must be compliant with the following requirements: they are user driven, they benefit from the utilization of one or more space assets and the tenderer intends to pursue a Demonstration Project after successful completion of the Feasibility Study.
    - Demonstration Projects are dedicated to the implementation of pre-operational demonstration, which therefore comply with the following requirements: they are user driven (including user involvement and contribution), they benefit from the utilization of one or more space assets, with clear potential to become commercially viable in the post project phase.

- Many **ESA BICs**, spread over more than 60 cities, in the majority of European countries have been set-up with more already in the planning. Together with their national partners and ESA the centers provide all the needed technical expertise and business-development support to the more than 300 startups currently under incubation. Hundreds of startups have been fostered throughout Europe via the ESA BICs and thousands of new Deep-tech jobs have been created. The rate of success of the incubated startups is beyond 80%.

- **ESA Satellite 5G initiative (S45G)** is a consortium made of the ESA and satellite industry leaders to develop and demonstrate the added value that satellite brings in the context of 5G, enabling third parties to register their interest in ESA funding and support. As part of the S45G consortium, relevant players can include entities such as component manufacturers, system integrators, device manufacturers, end-product manufacturers and distributors (whether industry representatives, SMEs, research institutes or universities, and other type of organizations)

- Initiatives that address the sustainability of space activities on Earth and in orbit such as:
    - **EcoDesign**, designing to address environmental impacts and foster green technologies
    - **CleanSat**: designing satellites to reduce the production of space debris and
    - **e.Deorbit**: removing a large piece of space debris from orbit, can fund complementary or additional technologies and solutions in these areas.

- ESA **Other ESA technology and innovation R&D** include:
    - **Navigation Innovation and Support Programme** (**NAVISP**), the satellite navigation technology and innovation research program, managed by ESA's **Galileo** Program
    - **PROgramme de Développement d'Expériences scientifiques** (**Prodex)**, a program that offers the opportunity to work on ESA experiments
    - **European GNSS Evolution Programme** (**EGEP**)
    - **Science Core Technology Programme** (**CTP**), to ensure preparation of ESA's future science missions by advance preparation of the critical enabling technologies
    - **Earth Observation Envelope Programme** (**EOEP**)
    - **Life & Physical Sciences in Space** (**ELIPS**)
    - **European Transportation and Human Exploration Preparatory** activities (**ETHEP**) and
    - **Robotic Exploration of Mars** (**EXOMARS**).

ESA'S AGENDA 2025

ESA Agenda 2025 sets out the **Agency's strategic priorities and goals** (the Agenda).

Whilst Europe has the expertise, knowhow and competitive industrial capacity to fully benefit from space, the Agenda takes the view that **actions are needed** to unlock the full potential, ensure leadership in certain markets and create a true New Space revolution.

Apart from public funding, in view of the above, the Agenda includes the following proposed concrete policy **actions**:

- develop European leadership in the areas of space traffic management, debris mitigation and removal, space weather, planetary defence, space logistics and cyber resilience
- foster the development of commercial European constellations to complement the Copernicus Sentinels
- provide a procurement forecast for space products and services so that public demand is predictable

- increase the number of European students in STEM fields by 20%.

EU AGENCY FOR THE SPACE PROGRAMME (EUSPA)

The **European Union Agency for the Space Programme** (**EUSPA**), which replaces the **European GNSS Agency**, takes on further tasks and responsibilities. During the 2022-2024 period, EUSPA's mandate includes **core tasks** or tasks entrusted to it by the European Commission (**delegated tasks**).

As **core tasks**, EUSPA is responsible for the following operational areas:

- **security accreditation activities**, managed by the SAB, an independent body within the Agency, for all the components of the Galileo, EGNOS, Copernicus, GOVSATCOM and SSA programs
- **operational security for EGNSS**.
- **operation of the Galileo Security Monitoring Centre** such as services related to Galileo security monitoring, PRS access, and expertise from the Galileo Security Monitoring Centre (GSMC).
- **Galileo Public Regulated Service (PRS) activities**
- **communication, promotion and market development** of the services offered by
- Galileo
- EGNOS
- Copernicus, in cooperation with other entrusted entities and the European Commission.

As **delegated tasks**, EUSPA undertakes the following:

- **EGNSS exploitation management** including by leading the operations of the Galileo system and its evolutions and the development of future generations, via delegation to ESA.
- **delivery and future delivery of:**
  - Public Regulated Service (PRS)
  - Galileo High Accuracy Service (HAS)
  - Galileo Signal Authentication Service (SAS).
  - Galileo Emergency Service (ES) and the Timing Service (TS)
- Contribution to the search and rescue support service (SAR) of the COSPAS-SARSAT system
- **GOVSATCOM**, including:
  - coordination of user-related aspects (in collaboration with other entities)
  - procurement
  - pool of national and EU capacities, to offer services to all EU Member States.
- **R&D activities.**
- user uptake activities, including user uptake of data, information and services in relation to:
  - Galileo
  - EGNOS
  - Copernicus (for the aspects not already covered by the core tasks)
  - GOVSATCOM

- SSA.

EUROPEAN DEFENCE AGENCY (EDA)

The European Defence Agency (**EDA**), established in 2004, is an intergovernmental agency that falls under the authority of the **Council of the EU**. It supports its 26 Participating Member States in improving their defence capabilities through European cooperation. It acts an enabler and facilitator for Ministries of Defence willing to engage in collaborative capability projects.

The EDA has become the **"hub" for European defence cooperation** with expertise and networks allowing it to cover the whole spectrum and is responsible for the implementation of the defence-related actions agreed upon at European levels in the annual work programs and the MFF.

The **ESA and the EDA have signed an administrative arrangement** to explore the added value and contribution of space assets to the development of European capabilities in the area of crisis management and the Common Security and Defence Policy. Both agencies are cooperating to explore technology and capability opportunities for the next generation of secure satellite communication (NGSSC) systems. This cooperation was extended in January 2020 to carry out new projects for exploring unknown and potentially hazardous environments.

In terms of setting policy priorities in the area of security and defense, funding actions and promoting synergies between programs, the **EDA is part of the following** Member State-driven initiatives are relevant:

- The **Permanent Structured Cooperation** (PESCO), to which the EDA is part of, together with the **European External Action Service** (EEAS)
- the Strategic Compass
- the Coordinated Annual Review on Defence (CARD)
- the Civilian CSDP Compact and
- EU-NATO cooperation.

The June 2016 Global Strategy sets Europe's political ambition with respect to security and defence. The Implementation Plan on Security and Defence of 14 November 2016, which gives the Global Strategy concrete output, further highlights the capability priority areas, including:

- cyber and maritime security
- Intelligence, Surveillance and Reconnaissance (ISR)
- Remotely Piloted Aircraft Systems (RPAS)
- satellite communications such as Governmental Satellite Communications (GOVSATCOM) and
- autonomous access to space and permanent Earth observation.

The EDA is notably is participating to the **EU secure SatCom research** €3 million budget project which aims to prepare the way to the development of **secure satellite communications** for EU governments and institutions.

As part of the 2018 **European Defence Industrial Development Programme** (**EDIDP**), it has been decided that the **European Commission** should define the details of projects to be funded

such as satellite communications, positioning, navigation and timing, autonomous access to space and permanent earth observation.

In 2020, the EDA pursued its work on the '**Governmental Satellite Communication Pooling & Sharing Demonstration' project** which supports 17 contributing Member States as well as the EU's Common Security and Defence Policy (CSDP) missions and operations by providing reliable, secure and cost-effective access to governmental satellite systems capacities and services through available pooled resources.

Furthermore, in 2020, the Agency's **REACT project**, which aims at improving geo-information and satellite imagery analysis, delivered its prototype capability which was installed in some Member States' premises (France, Italy, Poland and Spain) and at the European Union Satellite Centre (EU SatCen). Another initiative to exploit Artificial Intelligence (AI) tools in imagery intelligence was launched in cooperation with the **EU SatCen**.

SATCEN

SatCen, a **decentralized agency of the EU**, which supports the decision making and actions of the European Union in the field of Common Foreign and Security Policy (CFSP), is working under the supervision of the Political and Security Committee and the operational direction of the High Representative of the Union for Foreign Affairs and Security Policy.

The **main users** of SatCen services are the European External Action Service, EU Member States, EU missions and operations, the European Commission, other EU Agencies, such as FRONTEX, third counties and international organizations such as the UN and OSCE.

EUROPEAN ORGANISATION FOR THE EXPLOITATION OF METEOROLOGICAL SATELLITES (EUMETSAT)

The European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT) is the European operational satellite agency for monitoring weather, climate and the environment.

EUMETSAT notably:

- operates a **system of meteorological satellites** that observe the atmosphere and ocean and land surfaces
- is involved in the development of the **future relevant satellite systems** in the 2020-2040 timeframe (including Meteosat Third Generation (MTG) and EUMETSAT Polar System Second Generation (EPS-SG)
- **delivers** satellite data and products in real-time to users worldwide and
- is involved in various **monitoring activities**, often in cooperation with other bodies and agencies such as the ESA.

In partnership with the ECMWF and Mercator Ocean, EUMETSAT **distributes Copernicus data and information** via an access service platform called **WEkEO**.

ANNEX IV - OTHER FUNDING STREAMS

EUROPEAN DEFENCE FUND (EDF)

In December 2020, a political agreement was reached to set up the **European Defence Fund** (EDF)to foster the competitiveness and innovativeness of the European defence technological and industrial base with a total budget of **€7.9 billion** for 2021-2027 (between 4% and 8% for disruptive technologies), broken down as follows:

- €2.651 million for research actions and
- €5.302 million for development actions.

The specific **objectives** of the EDF are:

- to support **collaborative research** and **cross-border cooperation** that could significantly boost the performance of future capabilities throughout the Union, including disruptive technologies for defence and
- to support the **collaborative development of defence products and technologies**, thus increasing efficiency of defence spending, achieving economies of scale and fostering market uptake.

The EDF can support the entire industrial development lifecycle of defence products from research (up to 100%) to prototype development (up to 20%) to certification (up to 80%).

Projects are defined according to defence priorities agreed by Member States under the Common Foreign and Security Policy but other priorities, such as those of NATO, can also be taken into account.

The EDF is implemented through annual work programmes structured along 17 thematic and horizontal categories of actions.

CONNECTING EUROPE FACILITY (CEF)

The **Connecting Europe Facility** (CEF) supports trans-European networks and infrastructures in the sectors of transport, telecommunications and energy since 2014. It continues to fund key projects in the areas of transport, digital and energy and run from 2021 to 2027, with an overall budget of **€33.71 billion**, broken down as follows:

- **digital**: €2.06 billion
- **transport**: €25.81 billion (including €11.29 billion for cohesion countries) and
- **energy**: €5.84 billion.

DIGITAL

The CEF Digital programme aims to support and catalyze investments in digital connectivity infrastructures of common interest during the period 2021-2027.

Actions foreseen under the programme include:

- the deployment of and access to very **high-capacity networks**, including 5G systems, capable of providing Gigabit connectivity in areas where socioeconomic drivers are located
- the provision of very high-quality local **wireless connectivity** in local communities
- uninterrupted coverage with **5G** systems of all major transport paths, including the trans-European transport networks
- deployment of new or significant upgrade of existing **backbone networks** including submarine cables
- implementing digital connectivity **infrastructures** related to cross-border projects in the areas of transport or energy and/or supporting related digital platforms.

TELECOM

For the 2021-2027 period the EC proposes to focus on **connectivity aspects** and support projects contribute to:

- improvements in the competitiveness of the European economy
- promotion of the interconnection and interoperability of national, regional and local networks and
- access to such networks, thus supporting the development of a Digital Single Market.

TRANSPORT

For the 2021-2027 period, the policy objectives foresee:

- completion by 2030 of the **core network**, structured around nine multimodal Core Network Corridors and
- completion by 2050 of the Comprehensive Network in order to facilitate accessibility to all European regions.

The EC proposes to focus on:

- on cross-border projects and projects aiming at removing bottlenecks or bridging missing links in various sections of the Core Network
- the Comprehensive Network
- horizontal priorities such as traffic management systems and
- to supports innovation in the transport system in order to improve the use of infrastructure, reduce the environmental impact of transport, enhance energy efficiency and increase safety.

SINGLE MARKET PROGRAMME

The **Single Market Programme** (**SMP**) aims to improve the EU single market and foster the competitiveness, capacity building and sustainability of enterprises, especially SMEs.

It aims to accomplish the above objectives by supporting the following actions:

- improve the functioning of the internal market, notably to protect and empower the public, consumers and businesses, especially SMEs, by

- enforcing EU law, facilitating market access and setting standards
- promoting human, animal and plant health and animal welfare
- respecting sustainable development and ensuring a high level of consumer protection
- enhancing cooperation between national authorities, the European Commission and decentralized EU agencies;

The SME pillar of the SMP ensures the continuity of the implementation of the most impactful actions of the **COSME program**, in particular supporting a better access to markets, a more favorable business environment and promoting entrepreneurship.

EISMEA manages the SMP and implements the SME strategy in cooperation with the national competent authorities.
EISMA implemented various **initiatives potentially relevant for the space ecosystem** including:

- **Manage and communicate your project (grants)**
- **Entreprise Europe network** to advice SMEs on how to innovate and grow internationally
- **Joint cluster initiatives:** actions involving industrial clusters
- **European cluster collaboration platform**
- **Practical guide to doing business in Europe** and
- **Intellectual Property Helpdesk**.
- **Enterprise Europe Network** provides an integrated package of
- **Erasmus for Young Entrepreneurs**.

LIFE PROGRAMME

The **Programme for the Environment and Climate Action** (**LIFE**) is EU's funding instrument for the environment and climate action since 1992. It has co-financed more than 5400 projects.

The **LIFE program** for the MFF period 2021-2027 covers the following components, for which the space ecosystem can often contribute:

- **nature and biodiversity** aim at the protection and restoration of Europe's nature and halting and reversing biodiversity loss
- **circular economy and quality of life** aims at facilitating the transition toward a sustainable, circular, toxic-free, energy-efficient and climate-resilient economy and at protecting, restoring and improving the quality of the environment and resource recovery
- **climate change mitigation and adaptation** contribute to the shift towards a sustainable, energy-efficient, renewable energy-based, climate-neutral and resilient economy, thereby contributing to sustainable development, it can support pilot, demonstration and best practice **projects in the following areas**:
  - farming, land use, peatland management, renewable energies and energy efficiency
  - the reduction of greenhouse gas emissions
  - implementation and development of EU policy and legislation including at national or regional level

    - urban adaptation and land-use planning, resilience of infrastructure, sustainable management of water in drought-prone areas, flood and coastal management, resilience of the agricultural, forestry and tourism sectors and preparedness for extreme weather events, notably in coastal areas
    - climate governance and information, including sustainable finance activities, awareness raising, training and capacity building, knowledge development and stakeholder participation and
- **clean energy transition** continues to support the delivery of EU policies in the field of sustainable energy; it can support high EU added-value actions, which are targeted at breaking market barriers in the following areas intervention:
    - building a local policy framework supporting the clean energy transition
    - accelerating technology roll-out, digitalization, new services and business models and enhancement of the skills
    - attracting private finance for sustainable energy
    - supporting the development of investment projects and
    - empowering citizens in the clean energy transition.

EUROPEAN ENVIRONMENT AGENCY (EEA)

The **European Environment Agency** (**EEA**) is the EU agency to provide information on the environment. It aims to support sustainable development by helping to achieve significant and measurable improvement in Europe's environment, through the provision of timely, targeted, relevant and reliable information to policymaking agents and the public.

FRONTEX

The **European Agency for the Management of Operational Cooperation at the External Borders of the Member States of the European Union** (**FRONTEX**) pilots new and innovative technologies to modernize the EU's border management. It has signed contracts for border surveillance with drones.

EUROPEAN MARITIME SAFETY AGENCY (EMSA)

The **European Maritime Safety Agency** (**EMSA**) is in charge of providing surveillance and communication services based on space-based infrastructure, including the EO services **CleanSeaNet** and **Copernicus Maritime Surveillance**.

EMSA has been involved in the development of interfaces such as the **SafeSeaNet Ecosystem Graphical User Interface** (**GUI**) for identification and tracking purposes, which integrate space data with data from other sources.

EMSA has also been involved with the International Maritime Association (IMO) in the development of the **Long-Range Identification and Tracking** (**LRIT**), a system for the global identification and tracking of vessels using data transmitted by satellite.

EMSA cooperates with ESA in the field of integrated space-based solutions by further leveraging the use of space-based assets and technologies for enhancing maritime safety and surveillance services.

COHESION POLICY

The **policy objectives** of the new EU cohesion policy for 2021-2027 are re as follows:

1. a more competitive and smarter Europe
2. a greener, low carbon transitioning towards a net zero carbon economy
3. a more connected Europe by enhancing mobility
4. a more social and inclusive Europe
5. Europe closer to citizens by fostering the sustainable and integrated development of all types of territories.

The EU Cohesion policy promotes economic, social and territorial cohesion, regional development and solidarity between Member States including via the following funds:

- **European Regional Development Fund** (**ERDF**)
- **European Social Fund+** (**ESF**)
- **Cohesion Fund (CF)**
- **Just Transition Fund (JTF)**
- **European Maritime, Fisheries and Aquaculture Fund** (**EMFAF**) and
- **European Agricultural Fund for Rural Development** (**EAFRD**)

The above funds' priorities are as follows:

- The ERDF support investments all 5 policy objectives, but 1 and 2 are the main priorities
- The ESF+ main priority is 4
- The CF supports policy objectives 2 and 3
- The JTF provides support under dedicated specific objectives

EUROPEAN STRUCTURAL AND INVESTMENT FUNDS (ESI FUNDS)

The European Structural and Investment Structural and Investment (**ESI Funds**) provide support, through multi-annual programs, which complements national, regional and local intervention, to deliver the related EU policy priorities and strategies.

EUROPEAN REGIONAL DEVELOPMENT FUND (ERDF) AND THE COHESION FUND (CF)

The European Regional Development Fund (**ERDF**) aims to strengthen economic and social cohesion in the EU by correcting imbalances between its regions.

ERDF's **investments focus on the following priority areas**:

- innovation and research
- digital transition
- SME support
- low-carbon economy.

ERDF's **specific objectives** are:

- a more competitive and smarter Europe by promoting innovative and smart economic transformation and regional ICT connectivity

- a greener, low-carbon transitioning towards a net zero carbon economy and resilient Europe by promoting clean and fair energy transition, green and blue investment, the circular economy, climate change mitigation and adaptation, risk prevention and management, and sustainable urban mobility (PO2)
- a more connected Europe by enhancing mobility (PO3)
- a more social and inclusive Europe by implementing the **European Pillar of Social Rights** and
- a Europe closer to citizens by fostering the sustainable and integrated development of all types of territories and local initiatives.

The **Cohesion Fund** (CF) aims to strengthen economic, social cohesion and territorial cohesion of the EU by providing financial contributions in the fields of environment and trans-European networks in the area of transport infrastructure (TEN-T).

The **Cohesion Fund shall support the following**:

- investments in the environment, including investments related to sustainable development and energy presenting environmental benefits, with a particular focus on renewable energy
- investments in TEN-T
- technical assistance
- information, communication, and studies.

The Cohesion Fund (CF) can support PO2 and certain specific objectives under PO3.

The following cannot be supported by the ERDF and the CF:

- nuclear power stations
- certain greenhouse gas emissions reduction activities
- tobacco and tobacco products
- certain undertakings in difficulty and
- certain investments in:
    - airport infrastructure
    - disposal or treatment of waste or waster recovery
    - solid fuels, coal, peat, lignite, oil-shale, heating systems
    - clean vehicles and
    - certain vehicles, aircraft and vessels.

JUST TRANSITION FUND (JTF)

The **Just Transition Fund** (the JTF) has an overall budget of **€17.5 billion** to alleviate the impact of the climate transition.

The JTF can in principle support the following:

- investments in **SMEs** leading to economic diversification, modernization and reconversion and/or in the creation of new firms, including through business incubators and consulting services

- investments in **research and innovation** activities and/or the transfer of advanced technologies
- investments in systems and infrastructures for renewable energy, smart and sustainable local mobility or in enhancing the circular economy
- investments in rehabilitation and upgrade of district heating networks
- investments in digitalization, digital innovation and digital connectivity
- investments in regeneration and decontamination of sites and land restoration and
- upskilling and reskilling of workers and jobseekers, job-search assistance to jobseekers and related activities.

In order to tap into their share of the JTF, Member States must commit to match each euro from the Fund with money from the ERDF and the ESF+ and provide additional national resources.

EUROPEAN AGRICULTURAL FUND FOR RURAL DEVELOPMENT (EAFRD)

The EU **common agricultural policy** (CAP) contributes to the sustainable development of rural areas through three long-term objectives:

- fostering the competitiveness of agriculture and forestry
- ensuring the sustainable management of natural resources and climate action and
- achieving a balanced territorial development of rural economies and communities including the creation and maintenance of employment.

Rural development is the "second pillar" of the CAP, reinforcing the "first pillar" of measures by strengthening the social, environmental and economic sustainability of rural areas.

Before 2023, CAP support for rural development was supported by the European agricultural fund for rural development (EAFRD) as defined in the EU countries rural development programmes (RDPs). Each RDP must work towards at least four of the **six priorities of the EAFRD**:

- fostering knowledge transfer and innovation in agriculture, forestry and rural areas;
- enhancing the viability and competitiveness of all types of agriculture, and promoting innovative farm technologies and sustainable forest management;
- promoting food chain organization, animal welfare and risk management in agriculture;
- promoting resource efficiency and supporting the shift toward a low-carbon and climate resilient economy in the agriculture, food and forestry sectors;
- restoring, preserving and enhancing ecosystems related to agriculture and forestry;
- promoting social inclusion, poverty reduction and economic development in rural areas.

Following the adoption of the 2018 proposed new CAP in December 2021 (new CAP), which notably aims to help farmers to improve their environmental and climate performance, in particular, through **better use of data and analysis**, rural development actions are included under the framework of national CAP strategic plans.

Also, as part of the Green Deal, the European Commission proposes, in its **Farm to Fork Strategy**, that the green transition is supported by the new CAP, in particular via technical and financial assistance from the EAFRD (and the Cohesion Fund).

As part of the **European strategy for data**, space-related data and solutions could enhance the competitive sustainability of EU agriculture through the processing and analysis of production, land use, environmental and other data, allowing precise and tailored application of production approaches at farm level and the monitoring of performance of the sector, as well as supporting the carbon farming initiative.

EUROPEAN MARITIME, FISHERIES AND AQUACULTURE FUND (EMFAF)

The **European Maritime, Fisheries and Aquaculture Fund** (**EMFAF**) supports the EU common Fisheries Policy (CFP), the Union's maritime policy and the Union's international commitments in the field of ocean governance.

The EMFAF provides such support along **4 priorities**:

- enabling the growth of a sustainable blue economy and fostering prosperous coastal communities
- fostering sustainable fisheries and the conservation of marine biological resources
- contributing to food security in the union through competitive and sustainable aquaculture and markets
- strengthening international ocean governance and enabling safe, secure, clean and sustainably managed seas and oceans.

With respect to the **blue economy**, the EMFAF could support the following:

- the promotion of a sustainable, low carbon and climate resilient blue economy
- the promotion of an integrated governance and management of the maritime policy, including through maritime spatial planning, sea basin strategies and maritime regional cooperation
- the enhancement of the transfer and uptake of research, innovation and technology in the sustainable blue economy
- the improvement of maritime skills, ocean literacy and sharing of socio-economic and environmental data on the sustainable blue economy
- the development of project pipelines and innovative financing instruments.

REACT-EU

The **Recovery Assistance for Cohesion and the Territories of Europe** (**REACT-EU**) is EU's response to the impact of the COVID-19 crisis and related governmental measures. The Member States can direct REACT-EU's resources to support ERDF or ESF's operations according to their needs or allocate some of them to actions or programs, including to **support SMEs' investments** in sectors with a high job creation potential such as the space ecosystem or to **support the transition** towards a digital and green economy, to which the space ecosystem can contribute.

ANNEX V – EUROPEAN INVESTMENT BANK GROUP

GOVERNANCE

The **European Investment Bank (EIB) group**, which consist of the **European Investment Bank** (**EIB**) and the **European Investment Fund** (**EIF**), has a specific **governance structure**, based on 3 decision-making bodies:

- a Board of Governors comprised of ministers designated by EU Member States
- a Board of Directors, composed of members appointed by the Board of Governors and
- a Management Committee, the resident executive management board of the EIB.

The European Commission (EC), representing the EU, sits at the Board of Directors, and its opinion must be sought for certain operations. Where the EC delivers an unfavorable opinion, the Board of Directors may not grant the finance concerned unless its decision is unanimous.

EUROPEAN INVESTMENT BANK (EIB)

The **European Investment Bank** (**EIB**) is the world's largest multilateral financial institution.

EIB's initiatives include:

- the **€24 billion European Guarantee Fund (EGF)**, which provides intermediated lending and direct lending for businessand support innovation and transformation.
- launch of a **€150 million financing instrument to support companies** that are active in the artificial intelligence (AI) sector and in technologies that directly complement AI, such as Blockchain, the Internet of Things and robotics.
- **InnovFin - EU Finance for Innovators** - financial instruments and advisory services launched with the European Commission to help innovative firms access finance more easily.

EUROPEAN INVESTMENT FUND (EIF)

The **European Investment Fund** (**EIF**) is a specialist provider of risk finance for SMEs and small Midcaps across Europe. The EIB is a key partner, in charge of many of the above-mentioned EU programs and priorities as follows:

- key implementing partner to the European Commission (and the Member States) with a view to addressing the COVID-19 crisis and EU priorities such as the green deal and climate targets
- providing loans for implementing the Public Sector Loan Facility (PSLF) of the Just Transition Mechanism
- implementing 75% of the EU guarantee under the EU compartment of InvestEU Fund and providing support for the Fund and
- the monetization of the Innovation Fund allowances and the management of the Innovation Fund revenues.

The European Investment Fund (**EIF**) offers, often via Financial Intermediaries, a number of Financial Instruments and actions, including:

- **implementation** of the **EFSI** programs and in the near future **InvestEU** by providing financing for the benefit of more vulnerable entities within the EU ecosystem, including micro-enterprises and SMEs in specific EU policy areas, via a set of **equity** instruments, deployed in the form of **two windows** which may be combined to pursue multi-stage investment strategies:
    - **Expansion and Growth Window**: equity investments to or alongside funds or other entities focusing directly or indirectly on later stage and multi-stage financing of SMEs and small Midcaps.
    - **Early-stage window** (**InnovFin Equity**): equity investments and co-investments to or alongside funds focusing on early-stage financing of SMEs and small Midcaps operating in innovative sectors covered by Horizon 2020/Europe and

- **equity products**: the EIF is a leading financial institution in the European private equity market and can act as follows:
    - by supporting financially sustainable Technology Transfer structures or funds, including by providing guidance and feedback
    - by co-investing with selected business angels and other non-institutional investors into innovative SMEs
    - Technology Transfer and
    - Managing or advising tailored fund-of-funds and partnering with venture funds to invest currently mainly in the life sciences, cleantech and ICT sectors.

The **EIF can continue supporting the European economy and its recovery** during the period 2021-2023, including by:

- implementing **InvestEU**, by managing 40% of EIB group's budget via 4 policy windows (for InvestEU, please refer to **Annex I**)
- **deploying EU MFF programs** such as Horizon Europe, the CEF, the Innovation Fund and DIGITAL and investing in climate and infrastructure funds
- **continue supporting its investment role** in the European private equity and venture capital markets and supporting SME and small Midcaps, including by:
    - launch of the **Asset Management Umbrella Fund** (AMUF) in 2021 investing in established player to attract new investors in private equity and venture capital
    - co-investing with selected investors into innovative projects in all sectors and at any phases (seed, early or expansion stage)
- **continue providing capped and uncapped guarantees** and **securitization** to improve the lending capacity of financial intermediaries such as **National Promotional Institutions (NPIs) Securitisation Initiative**, a cooperation and risk sharing platform and the **SME Initiative**, providing partial risk cover for SME loan portfolios of originating financial institutions in certain EU Member States and
- **inclusive finance**, including micro-loans (less than €25K) for Micro-enterprises (91% of all European businesses) and individuals who would like to become self-employed but are facing difficulties in accessing the traditional banking services and

The European Investment Bank (EIB) supported significant projects in the space and aerospace sectors. Apart from the above-mentioned initiatives, other relevant EIB initiatives include:

- several space-related entities have benefitted from **loans** from the EIB in the range of €15 million to €225 million (sometimes backed by a guarantee from the European Fund for Strategic Investments)
- **risk-Sharing Instruments** deployed across a few industrial sectors
- in 2018, the EIB and the ESA signed an **agreement** to cooperate on supporting increased investment in the European space sector and
- in September 2019, the EIB and the European GNSS Agency signed an **agreement** to cooperate on supporting investments in the European space-based service economy.

INNOVFIN

The **InnovFin – EU Finance for Innovators** program, launched by the European Commission and the EIB Group in 2014, aims to provide **finance for research and innovation activities**, which by their nature are riskier and harder, and hence that may otherwise struggle to get financing.

A wide range of **InnovFin** products are available, including:

- early-stage (as from €25K) and SME and Midcaps (loans starting at €7.5 million), between 35% and 50% of the project or investment cost, following due diligence
- corporate financing (loans and equity-type financing starting at €7.5 million and/or guarantees and counter-guarantees on debt financing of up to €50 million)
- science (debt or equity-type financing from €25 million)
- thematic financing (loans, loan guarantees or equity-type financing typically between €7.5 million and €75 million).

INNOVFIN EQUITY

InnovFin Equity is an initiative launched by the European Commission and the EIB Group in the framework of Horizon 2020. It aims at providing **equity investments and co-investments** to or alongside funds focusing on companies in their pre-seed, seed, and startup phases operating in innovative sectors covered by **Horizon Europe**, including space.

The EIF Group intends to continue its equity strategy and to structure the investments using layered structures, in a similar way to what has been successfully implemented under InnovFin Equity in the current MFF.

Interested financial institutions could contract the EIF directly and potential beneficiaries could interact via their financial intermediaries.

In 2021-2023, the European Commission dedicated €100 million exclusively for topping-up the commitments in existing venture funds supported under InnovFin Equity in order to support companies that are in the EIF's equity portfolios and are facing interruption in their access to equity resources that are required for continuing their business.

ANNEX VI - NATIONAL LEVEL

NATIONAL RECOVERY PLANS

SMEs are the backbone of Europe's economy. They represent 99% of all businesses in the EU. They employ around 100 million people, account for more than half of Europe's GDP and play a key role in adding value in every sector of the economy. SMEs bring innovative solutions to some of the key challenges for the future of our planet such as the UN Sustainable Development Goals (SDGs). Based on various estimates, **around 3000 SMEs are active in the European space sector**.

In view of the above, a **number of services**, beyond the scope of the public funding opportunities examined hereunder and provided by private organizations, **are available for the space ecosystem in general and in particular SMEs and startups** such as:

- **Space Platform**, which aims to support the space ecosystem and includes a number of modules and applications to quickly and easily find public funds, tenders, technologies and much more (refer **to the spacepp.com and findfund.space)**.
- **Astropreneurs**, which supports entrepreneurs, startups and SMEs, coming from space and non-space sectors, to create viable business cases and have faster market approaches; mentoring is offered on businesses and technical needs not only to facilitate access to private and public funding, but also to overcome the financial, administrative and networking barriers undermining success in the commercial phases
- **Go2Space-Hubs** that aims at facilitating the creation and up-scaling of European space businesses through the establishment of New Space Hubs
- **Space End**, which aim to expand the impact and adoption of space technologies by bringing together space startups, SMEs, entrepreneurs, spacetech providers and the digital ecosystem
- the **Enterprise Europe Network** (EEN), which helps SMEs through innovation partnerships on areas linked to COVID-19 and advice on accessing dedicated European and national financial support
- **access to finance for SMEs** provides useful information on how to fiancé SME and available financial instruments.
- **EU SME envoys** is the link to the network of SME
- **entrepreneurship support** provides key support, networks and information for SMEs
- **Your Europe Business Portal** is a practical guide to doing business in Europe. It provides entrepreneurs with information and interactive services that help them expand their business abroad
- **Enterprise Europe Network** helps SMEs and entrepreneurs access market information, overcome legal obstacles, and find potential business partners across Europe
- **SME Internationalisation,** which provides information on foreign markets and helps European business internationalize their activities
- the single **portal on Access to Finance** helps SMEs find finance supported by the EU
- the **European Cluster Collaboration Platform** offers dynamic mapping of over 1000 profiled cluster organizations worldwide or supports the emergence of new value chains through cross-sectorial cooperation

- **Erasmus forYoung Entrepreneurs** is a cross-border exchange programme which gives new or aspiring entrepreneurs the chance to learn from experienced entrepreneurs running small businesses in other participating countries
- **SME Assembly**, an event for SMEs in Europe, presents different approaches to promoting SME entrepreneurship.
- **European IPR Helpdesk** offers free-of-charge, first-line support on Intellectual Property matters to beneficiaries of EU-funded research projects and EU SMEs involved in transnational partnership agreements
- **Horizon IP Scan** helps SMEs manage and valorize Intellectual Property (IP) in R&I collaborations.

ANNEX VIII – DEFINITIONS

- **5G** means the fifth generation of telecommunication systems, one of the most critical building blocks of our digital economy and society in the next decade.
- **Acceding countries** means Albania, Bosnia and Herzegovina, Kosovo, Montenegro, North Macedonia, Serbia and Turkey.
- **Artificial Intelligence** (AI) means systems that display intelligent behavior by analyzing their environment and taking actions – with some degree of autonomy – to achieve specific goals.
- **Association Agreements countries** means African, Caribbean and Pacific States, Albania, Algeria, Bosnia and Herzegovina, Chile, Egypt, Georgia, Iceland, Israel, Jordan, Kosovo, Lebanon, Liechtenstein, Moldova, Montenegro, Morocco, North Macedonia, Norway, Serbia, South Africa, Syria, Tunisia, Turkey, Ukraine and the United Kingdom.
- **Augmented Reality** means the real-time digital overlay of information over physical elements (**more information**).
- **BICs** means Business Incubation Centres.
- **Blending operations** means, in the context of EU public funding, actions supported by the EU budget, combining non-repayable forms of support and/or financial instruments and/or budgetary guarantees from the EU budget with repayable forms of support from development or other public finance institutions, as well as from commercial finance institutions and investors.
- **C4ISR** means Command, Control, Communication, Computers, Intelligence, Surveillance and Reconnaissance.
- **Candidate countries** means Albania, Moldova, Republic of North Macedonia, Montenegro, Serbia, Turkey and Ukraine (declared a candidate country in June 2022).
- **Consortium** means a collaborative grouping of applicants or recipients that is subject to an agreement and constituted for the purpose of carrying out a specific action.
- **Control** or **controlled** means, in the context of eligibility criteria, the ability to exercise a decisive influence on a legal entity directly, or indirectly through one or more intermediate legal entities.
- **Coordination & Support Actions** means accompanying measures such as standardization, dissemination, awareness-raising and communication, networking, coordination or support services, policy dialogues and mutual learning exercises and studies.
- **Countries associated to Horizon Europe** means Albania, Armenia, Bosnia and Herzegovina, Faroe Islands, Georgia, Iceland, Israel, Kosovo, Moldova, Montenegro, North Macedonia, Norway, Serbia, Tunisia, Turkey and Ukraine. Participation of the United Kingdom and of Switzerland to Horizon Europe has been agreed upon. Switzerland has extended its guarantee to provide funds for all 2023 calls of Horizon Europe.
- **Countries covered by the European Neighborhood Policy** means Algeria, Morocco, Egypt, Israel, Jordan, Lebanon, Libya, Palestine, Syria, Tunisia, Armenia, Azerbaijan, Belarus, Georgia, Moldova, Ukraine.

- **Deep-tech innovation** means the one featuring an intense R&D content with multiple interactions between a priori distinct scientific domains and requiring abundant and patient capital to face a high risk of failure offset by a very high potential for gain (**more information**)**.**
- **Direct management** means with respect to programs funded by the EU budget, that the EU funding is managed directly by the European Commission.
- **EDA Participating Member States** means all EU Member States, except Denmark.
- **EFTA/EEA members** means Iceland, Liechtenstein and Norway.
- **EGNOS** or **European Geostationary Navigation Overlay Service** means a civil regional satellite navigation system under civil control which consists of centers and stations on the ground and several transponders installed on geosynchronous satellites and which augments and corrects the open signals emitted by Galileo and other GNSSs, *inter alia* for air-traffic management, air navigation services and other transport systems
- **EGNSS** means European GNSS.
- **Equity investment** means the provision of capital to a company, invested directly or indirectly in return for total or partial ownership of that company and where the equity investor may assume some management control of the company and may share the company's profits.
- **Erasmus+ Program Country** has the following **meaning.**
- **ESA** Associate Member State means Latvia, Lithuania and Slovenia.
- **ESA Cooperating States** means Canada (which also sits on the ESA Council), Bulgaria, Croatia, Cyprus, Lithuania, Malta and Slovakia.
- **ESA Member States** means Austria, Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, The Netherlands, Norway, Poland, Portugal, Romania, Spain, Sweden, Switzerland and the United Kingdom.
- **EU Member States** has the following **meaning**.
- **EU Treaty** means the Treaty on European Union, originally signed in Maastricht in 1992
- **EUMETSAT Member States** means Austria, Belgium, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Norway, Poland, Portugal, Romania, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.
- **EUREKA Members** means Albania, Argentina, Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Canada, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Latvia, Lithuania, Luxembourg, Malta, Monaco, Montenegro, North Macedonia, Norway, Poland, Portugal, Romania, Russia, San Marino, Serbia, Singapore, Slovakia, Slovenia, South Africa, South Korea, Spain, Sweden, Switzerland, The Netherlands, Türkiye, Ukraine, United Kingdom.
- **European Neighborhood Policy** means EU's relations with 16 of the closest Eastern and Southern Neighbors: Algeria, Egypt, Israel, Jordan, Lebanon, Libya, Morocco, Palestine, Syria and Tunisia, and to the East: Armenia, Azerbaijan, Belarus, Georgia, the Republic of Moldova and Ukraine. Russia takes part in Cross-Border Cooperation activities under the ENP but is not part of the ENP as such.

- **European Partnership** means an initiative where the EU together with private and/or public partners commit to jointly supporting the development and implementation of a programme of R&I activities.
- **EUROSTARS Participating States** means Austria, Belgium, Bulgaria, Canada, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovak Republic, Slovenia, Spain, South Africa, South Korea, Sweden, Switzerland, Turkey, United Kingdom.
- **Financial Instruments** include (i) Equity investments, (ii) Guarantees, (iii) Loans, (iv) quasi-equity investment and (v) Risk-sharing Instruments.
- **Financial Intermediaries** include micro-credit providers, non-bank financial institutions, established banks, guarantee organizations, leasing companies …
- **Galileo** means an autonomous civil global navigation satellite system (GNSS) under civil control comprising a constellation of satellites, centers and a global network of stations on the ground.
- **GNSS** means global navigation satellite systems.
- **GOVSATCOM** means a satellite communications service under civil and governmental control enabling the provision of satellite communications capacities and services to EU and Member State authorities managing security critical missions and infrastructures.
- **Grant** means a financial contribution by way of donation.
- **Guarantee** means a written commitment to assume responsibility for all or part of a third party's debt or obligation or for the successful performance by that third party of its obligations if an event occurs which triggers such guarantee, such as a loan default.
- **ICT** means information and communication technologies.
- **IITTS** means Intended Invitations To Tender.
- **Implementing partner** means an eligible counterpart under EU funding programs such as a financial institution or other financial intermediary with whom the European Commission has concluded guarantee agreements.
- **Incubed Participating State** means Austria, Czech Republic, Denmark, Finland, Ireland, Italy, Luxembourg, Netherlands, Norway, Romania, Spain, Sweden and the United Kingdom) can apply for a chance to gain financial and practical support for industry projects.
- **Indirect management means** with respect to programs funded by the EU budget, that the EU funding is managed by partner organizations or other authorities inside or outside the EU.
- **Internet of Things** (**IoT**) means a next step towards the digitization of our society and economy, where objects and people are interconnected through communication networks and report about their status and/or the surrounding environment (**more information**).
- **IPO** means an initial public offering.
- **Knowledge and Innovation Community (KIC)** means a large-scale institutionalized European partnership, as referred to in Horizon Europe, of higher education institutions, research organizations, companies and other stakeholders in the form of a strategic network.

- **Legal entity** means any natural or legal person created and recognized as such under national law, Union law or international law, which has legal personality or without a legal personality.
- **Loan** means an agreement which obliges the lender to make available to the borrower an agreed amount of money for an agreed period and under which the borrower is obliged to repay that amount within the agreed period.
- **Low and middle-income countries** mean those countries determined by the World Bank (the list for Horizon Europe program is not yet finalized).
- **Mercator Ocean** means a private, non-profit company owned by nine major players in operational oceanography worldwide, which is in charge of the EU's Copernicus Marine Environment Monitoring Service, for ocean analysis and forecasting and maintaining it in an operational condition.
- **MFF** means EU Multiannual Financial Framework 2021-2027.
- **Micro-enterprises** mean from 0 to 9 employees.
- **Midcaps** means between 250 and 3000 employees.
- **Multiannual Financial Framework** (**MFF**) of the European Union means EU's long-term budget, which currently runs for the period 2021-2027.
- **NEO or near-earth objects** means natural objects in the solar system approaching the Earth.
- **New Space** means the emergence of new actors in space.
- **Next Generation Internet** (**NGI**) means an initiative having as a mission to re-imagine and re-engineer the Internet for the third millennium and beyond (**more information**).
- **Overseas countries and territories (OCTs)** mean Aruba (NL), Bonaire (NL), Curação (NL), French Polynesia (FR), French Southern and Antarctic Territories (FR), Greenland (DK), New Caledonia (FR), Saba (NL), Saint Barthélemy (FR), Sint Eustatius (NL), Sint Maarten (NL), St. Pierre and Miquelon (FR) and Wallis and Futuna Islands (FR) (as of February 2020).
- **Potential candidate countries** mean Bosnia and Herzegovina, Kosovo.
- **Prize** means a financial contribution given as a reward following a contest.
- **Public private partnerships (PPPs)** mean forms of cooperation between public bodies and the private sector.
- **Risk-sharing Instrument** means a financial instrument which allows for the sharing of a defined risk between two or more entities, where appropriate in exchange for an agreed remuneration.
- **Schengen Associated Countries** means Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and Switzerland.
- **SME** means Small (10-49 employees) and medium-sized enterprises (50-249 employees (**more information**).
- **Space Resource** means an abiotic resource in situ in outer space such as water, oxygen, metals and other materials.
- **Space Situational Awareness** (**SSA**) means a holistic approach, including comprehensive knowledge and understanding, of the main space hazards, encompassing

collision between space objects, fragmentation and reentry of space objects into the atmosphere, space weather phenomena, and near-earth objects.

- **Space surveillance and tracking** (**SST**) system means a network of ground-based and space-based sensors capable of surveying and tracking space objects, together with processing capabilities aiming to provide data, information and services on space objects that orbit around the Earth.
- **SSA** or **Space Situational Awareness** means a space surveillance and tracking system aiming to improve, operate and provide data, information and services related to the surveillance and tracking of space objects that orbit around the Earth and complemented by observational parameters related to space weather events and the risk monitoring of near-earth objects approaching the Earth
- **SST Consortium Member States** means France (CNES), Germany (DLR), Italy (ASI), Poland (POLSA), Portugal (PT MoD), Romania (ROSA), Spain (CDTI) and United Kingdom (UKSA).
- **Technology Transfer** means the process of transforming the results of research and development into marketable products and services.
- **TFEU** means the Treaty on the Functioning of the European Union, originally signed in Rome in 1957 as the Treaty establishing the European Economic Community.
- **TFEU** means Treaty on the Functioning of the European Union.
- **TRL** means Technology Readiness Levels, initially introduced by NASA, see **European approach and Horizon 2020** approach, which remains applicable for Horizon Europe programs.
- **Ubiquitous technology** means a technology that is evident, present or accessible by anybody, using any device or system, from anywhere and at any time.
- **Vouchers** means, in the context of public funding, a form of financial support from a grant beneficiary to third parties, have been among the actions with the highest success rate to new entrants and small and medium-sized enterprises.

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