PRACTICAL GUIDE TO PUBLIC FUNDING FOR THE EUROPEAN SPACE ECOSYSTEM

2nd edition

PRESENTATION

The 2nd edition of the Practical Guide to Public Funding for the Space Ecosystem (this Guide) has been drafted by Alexandre Mencik.

Alexandre is an entrepreneur, co-founder of startups, director, board member, mentor and investor, with a passion for helping the space ecosystem.

Alexandre is the founder and manager of the **Space Platform**, which aims to accelerate innovation in the space ecosystem.

Alexandre serves as mentor for **Astropreneur**, **Copernicus Accelerator**, **EBAN Space**, **Seraphim Capital** and the **Space Hubs Network.**

Alexandre also serves as Officer of the **ACCESS.SPACE alliance**, Director and Board member of the **Luxembourg Space Tech Angels** and Board member of the **French Astronomy Association**.

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** (working for Boeing) 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.

Contact: Alexandre Mencik at admin@spacepp.com.

TABLE OF CONTENTS

EXECUTIVE SUMMARY

Public support remains vital for the space sector. The 2nd edition of the Practical Guide to Public Funding for the Space Ecosystem (the Guide) gives a **comprehensive overview of the funding opportunities** for the space ecosystem and other deep tech sectors during the **2021-2027 period.** The Guide covers funding programs of a total value of **€1.382 trillion**, from which **€21 billion** may be available for the space ecosystem during the next 3 to 7 years.

A broad range of actions can be funded, ranging from a specific project to a vision for a breakthrough technology.

Also, there are **encouraging new actions** and **approaches for the space ecosystem** such as:

- the **EU Space Programme**
- the **CASSINI initiative**, including a €1 billion space fund-of-funds
- the **ESA 2025 Agenda**
- acceptance of "**dual use**" **technologies** and
- the possibility to **combine** different funding sources, exploit **synergies** and hopefully find "**niche" opportunities**, often beyond the scope of the "traditional" funding programs.

Despite the above:

- the **demand** for public support has **increased** and the **success rates** for funding programs have **dropped**, sometimes below the 10% bar
- the focus is on **short term actions** for rapid market growth, especially those aligned with the EU green and digital priorities
- there is **no "one-stop-shop**" and it remains **difficult to navigate** through all funding opportunities, especially for startups and SMEs; **guidance**, including the one provided by the Guide, is **often needed**
- **certain sectors are excluded** from funding and
- **non-EU controlled entities may not be able to participate** to certain strategic funding programs.

In view of the above, **only truly excellent proposals have a chance to get funding**. Entrepreneurs should **carefully balance** the often time-consuming task of seeking public funding with the need to develop business, find new customers and generate commercial revenues.

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

INTRODUCTION

Leaving the Earth and reaching the stars have long-term survival value. Indeed, Homo Sapiens and all forms of life will not be able to live on Earth forever. But **taking actions aligned with the United Nation's Sustainable Development Goals** (the UNSDGs), with a sense of urgency, may **also have survival value**.

The **space ecosystem is uniquely situated** in this respect since it **can contribute to both these long and short potentially vital goals**, including **any and all of the 17 UNSDGs**.

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

The 2nd edition of the Guide comes in a **timely manner**, at an **unprecedented time**:

- the **space ecosystem is a source** of economic growth, jobs, exports and of inspiration for innovations and public engagement
- the human, social, economic and cultural **costs** of the coronavirus **pandemic** and related governmental measures are **severe**
- the pandemic highlighted **how much we rely on technologies** and how important it is for Europe not to be dependent on third countries' solutions
- as a result, the **demand for public support has increased** and public funding may be necessary to avoid irreparable damages
- the **largest ever financial package** has been agreed upon as a response and the **largest ever bond issuance from a European public sector was made**
- a **new landscape of programs** has been set for the budgetary period 2021-2027 and programs portfolios have been distributed among new or revamped executive agencies.

The Guide has a **broad scope and covers**:

- **41 European public funding programs** and **116 subprograms and components** (total value of €1.382 trillion)
- **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 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) and
- **situation at national level** (Section V).

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

Whilst the Guide includes **the space ecosystem and other "deep tech" sectors** within its scope, it does **not cover all opportunities**. Certain funding programs are not yet finalized. 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 the Guide useful and that it will contribute to your own success.

For additional information, to find public funds, search for tenders or technologies, receive guidance or provide feedback, do not hesitate to visit the Space Platform or to contact the author of the Guide and manager of the Platform, 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 €750 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.

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 €100 billion in investments over the period 2021-2027 to 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), with the European Investment Bank (EIB) (see Section V).

The legislative proposals relating to the JTM, including the PSLF, have been agreed upon and will soon be adopted.

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

JUST TRANSITION FUND (JTF)

WHAT CAN BE FUNDED?

The aim of the **Just Transition Fund** (**JTF**), set to have a total budget of €27.5 billion for the MFF 2021-2027 (€17.5 billion from the core EU budget and of €10 billion 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.

WHO CAN BENEFIT?

The JFT is under shared management between the EC and the EU Member States. The Member States will 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 will be approved by the EC.

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.*

WHICH FUNDING FORMS?

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.

WHERE, WHEN AND HOW TO APPLY?

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

The final agreement on the JTF was reached in May 2021 and it will likely soon enter into operation.

The platform will be a single access point and will provide technical and advisory support to authorities and beneficiaries.

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. The **InvestEU Program** aims, with an agreed upon EU guarantee set at **€26.2 billion**, 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 its SME policy window.

The **space ecosystem may 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 will be 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** will deploy the InvestEU Fund. Such partners will in turn select the eligible **final recipients**, which can be natural or legal persons established in an EU Member State 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 will be 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, will be 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 (see Section V).

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 and related documents is available on the eProcurement platform **Tenders Electronic Daily (TED)** and the **Space Platform**.

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

RECOVERY PLAN FOR EUROPE

IN GENERAL

As part of the December 2020 political agreement (see above), it was decided to set up **NextGenerationEU** as a **€750 billion** temporary recovery instrument to help repair the immediate economic and social damage due to the coronavirus pandemic and related governmental measures. The **Recovery and Resilience Facility** (the Facility) is the centerpiece of NextGenerationEU and the main **way to finance recovery and reforms**, with an agreed upon budget until end of 2023. The **Recovery and Resilience Task Force** (RECOVER) was established within the European Commission's Secretariat-General and is notably in charge of steering the implementation of the Facility.

WHAT CAN BE FUNDED?

The **specific measures** that could be funded by the Facility will largely be **defined at national levels** in each national recovery and resilience plan.

The EC 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.

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

WHO CAN BENEFIT?

The Facility 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 draft 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** to upskill 5% of the workforce each year and a total of 700 000 people. The Facility will in principle fund the Pact.

WHICH FUNDING FORMS?

The Facility's funding sources may mainly come from the EU, in particular, the **€360 billion in loans** that the European Commission (EC) may borrow on capital markets at more favorable rates than many Member States and then redistribute the amounts. The Facility may also provide up to **€312.5 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 Facility.

WHERE, WHEN AND HOW TO APPLY?

The implementing regulations allowing the NextGenerationEU recovery fund to be used were adopted and have been ratified at national levels. The European Commission (EC) issued its first bounds (€20 billion, <0.1 % interest) under the NextGeneration EU instrument to help funding in projects covered by the national recovery and resilience plans (this is the largest ever issuance from a European public sector institution– national or European). The bond was over 7 times oversubscribed, with the order-book running to over €142 billion. The EC envisages to raise €80 billion in bonds by the end of 2021. Upon Member State request, **13% of the loan** of the Member State concerned could be **prefinanced** by the Facility by December 31, 2021 within 2 months to kick start the recovery.

National measures started as from February 1, 2021 will in principle be (retroactively) eligible for funding under the Facility in 2021.

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

Information on the national recovery plans is available on the **Facility's website**.

The Own Resources Decision has been ratified by all Member States (according to their constitutional requirements) and the first bonds were issued in June 2021.

A number of national plans have already been approved and could be launched.

.

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, 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 new **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 indicative budget of €14.8 billion:

- 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) and
- the **European Innovation Ecosystem** (EIE) (see below).

Finally, Horizon Europe can support **European partnerships** such as the proposed **European Partnership for Globally Competitive Space System**. The space ecosystem may also contribute to **other launched European partnerships** such as on Open science cloud, AI, data and robotics, Photonics, Made in Europe, Processes4Planet, Built4People, Connected, Cooperative and Automated Mobility as well as to other **selected candidate partnerships**.

For more information about Horizon Europe, please refer to **Reference documents**, **European partnerships** and **Annex I**.

A large number of proposals (788) has been received for the last and largest green deal December 2020 call under the Horizon 2020 program.

Certain Horizon Europe program's implementation for the space ecosystem will be shared between HaDEA, EUSPA, ESA and/or other contracted entities.

The first downstream calls under Horizon Europe will likely relate to EGNSS and Copernicus applications fostering the European Green deal, for safety and crisis management and the digital age.

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 will 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).

No third countries are yet associated to Horizon Europe. Most countries associated to Horizon 2020 are expected to be associated to Horizon Europe and others may become so.

There are ongoing discussions regarding the participation of third countries to certain Horizon Europe programs, including to space-related actions.

UK entities are in principle eligible to funding under Horizon Europe.

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.

The underlying costs of all funded actions will be in principle (retroactively) considered eligible as of January 1, 2021 and will be funded at various maximum **funding rates**.

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 will 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 officially launched on February 2, 2021. The establishing regulation was adopted on April 28, 2021 and apply with retroactive effect from January 1, 2021. The first Horizon Europe's calls opened in June 2021.

Information about calls and related documents is available on the eProcurement platform **Tenders Electronic Daily (TED)**, the **Single Electronic Data Interchange Area** (SEDIA) and the **Space Platform**. Information about the calls under Horizon Europe managed by HaDEA is available on its **website**.

For more information about Horizon Europe, 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 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. **EISMEA** implements the EIC.

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 **space ecosystem is not identified as such** as a target technology under the EIC work program for 2021. The EIC may nevertheless 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.

EIC Transition it is restricted for 2021 to applications based on results generated by the EIC Pathfinder (pilot) projects and **FET Flagships calls**.

Certain space-based proposals in areas such as ICT, robotics, AI, high performance computing, quantum technologies, cybersecurity, cloud infrastructure and IoT may benefit from EIC funding.

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.

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.

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

Like for Horizon Europe, there are currently no "associated countries" to the EIC but those associate to Horizon 2020 are likely to become so in the near future.

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 may 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.

The EIC Fund, established in June 2020, is preparing new investment guidelines for the new Horizon Europe compartment.

WHEN, WHERE AND HOW TO APPLY?

The EIC was officially launched on March 18, 2021, EIC's establishing regulation was adopted in April 2021 and the calls for proposals are open. The cut-off date for filing applications under EIC Transition is September 22, 2021.

Information about calls and related documents is available on the eProcurement platform **Tenders Electronic Daily (TED)** and the **Space Platform**.

Information about funding opportunities 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 2021.**

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

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

The EIC Accelerator is highly selective and only the absolute best proposals can be funded; in 2020, 14000 applications from SMEs and startups were received for a success rate of 3%.

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.

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 new EU body to reinforce the innovation capacity by promoting and integrating **higher education** and **research and innovation** of the highest standards, with an agreed upon budget of **€2.6 billion** in constant 2018 prices for the MFF 2021-2027 (as part of Horizon, Europe budget). 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 above Horizon Europe program.

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 may continue to do so during the MFF 2021-2027.

The EIT will 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 KIC** such as in the areas of culture, the maritime sector and possibly other areas.

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

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 first new KIC should relate to **Cultural and Creative Sectors and Industries** (CCSI), to be launched as soon as possible in 2022 or 2023 and the second should relate to the water, marine and maritime ecosystems in 2026.

Information about funding opportunities and calls for proposals and tenders are available on the eProcurement platform **Tenders Electronic Daily (TED)** and the **Space Platform** as well as on the web sites of the respective KICs, such as **EIT Climate-KIC**.

A political agreement has been reached on the legal acts establishing the EIT and the strategic innovation agenda.

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.

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

EUROPEAN INNOVATION ECOSYSTEMS (EIE)

The **European Innovation Ecosystems** (**EIE**) is part of Horizon Europe and of the EIC budget 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 will support the **European Partnership for Innovative SMEs**, the continuation of the **Eurostars** programs (Eurostars-3). The EIE will act 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 program will in principle provide co-financing grants. The consortium will likely need to 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 open calls will in principle be available on **Eureka's website**.

The work program of the EIE is expected to be available in Spring 2021.

*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.

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. Applicants can be private or public legal entities or international organizations, but not natural persons or EU bodies.

Projects will be **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?

The first call for large-scale projects closed in 2020. A series of large-scale projects for breakthrough technologies have been selected. Applications for the €100 million EU funding for small clean tech projects in the same areas were received and the grants will be awarded in the end of 2021, following evaluation. More calls will take place at a later stage.

Information about the regular calls for proposals under the lifetime of the Innovation Fund are available on the eProcurement platform **Tenders Electronic Daily (TED)**, the **Single Electronic Data Interchange Area** and the **Space Platform**.

II. EU SPACE POLICY

EUROPEAN SPACE PROGRAMS

WHAT CAN BE FUNDED?

The EU must adopt a **space policy** to promote scientific and technical progress, industrial competitiveness and implement the EU policies (Article 189(1) TFEU). The measures to contribute attaining these objectives must be set out in the **European space program**, to be adopted by the European Parliament and the Council (the space program) (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 will be 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:

- 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.

*In January 2021, contracts were awarded 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** 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.

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 new **European space program**, the intention is to develop 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)**. 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.

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:

- 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?

The EU flagships programs Galileo, EGNOS and Copernicus are managed by the **European Union Agency for the Space Programme** (**EUSPA**), which is operational.

The previous Agency had developed a **GNSS Opportunities database** for all related procurement, grants and prizes, which remains available.

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** and the **Space Platform**.

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.*

EU SPACE RESPONSE TO THE CORONAVIRUS

EU satellites have been monitoring traffic congestions at border crossings between Member States and mapping medical facilities, hospitals and other critical infrastructure since a number of years.

In light of the coronavirus crisis, the EU digital strategy and the EU space program, notably its Earth Observation components, in June 2020, the European Commission **launched** the **Rapid Action Coronavirus Earth observation** in collaboration with the **European Space Agency** (**ESA**). That tool relies on satellite data to measure the impact of the coronavirus lockdown and monitor post-lockdown recovery at local, regional and global levels. The data is then analyzed using new digital tools, such as artificial intelligence.

*ESA dashboards monitoring Covid-19 impact, economic and human activities and key environmental parameters are available on the agency **web site**.*

EUROPEAN COMMISSION CASSINI INITIATIVE

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

That space fund will cover seed and growth and aim to facilitate access to finance, increase the number of startups in the EU and boost space innovation. The space fund will build on the experience acquired with the **InnovFin Space Equity Pilot**, which has so far invested €300 million into the EU space sector (for information about InnovFin Space Equity Pilot, please refer to **Annex IV**). The space fund will be likely be funded by various means including InvestEU, Horizon Europe and the European Investment Fund (EIF). The management of the space fund will be delegated to the European Investment Fund (EIF).

The CASSINI initiative will also support a number of **uptake actions** for the space ecosystem such as **business accelerator** (indicative budget €8.5 million), **prizes (**indicative budget €3.4 million), **hackathons** and **mentoring** (indicative budget €2.4 million), **matchmaking**, **industrial partnering** and **in orbit demonstration and validation**. The uptake actions will be first managed by the European Commission (DG DEFIS) and then by EUSPA.

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

For information about the specific topics for which proposals related to the CASSINI initiative will be invited under the Horizon Europe, please refer to the **Horizon Europe Work programme 2021-2022 – Cluster 4. Digital, Industry** and the **Space Platform**.

A number of steps must take place before the space fund is operational; this may occur in Q3/2021.

Certain contracts for certain uptake actions have already been awarded and a number of calls for proposal for other uptake actions will be issued in 2021.

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**.

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), which will need to determine its budget (if any).

The Center will 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 will:

- 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.
-

COUNCIL OF THE EUROPEAN UNION

The Council of the European Union (the Council) adopted a number of **conclusions relating to space** in 2020 and 2021.

The Council asked the European Commission to **propose an innovation strategy** for New Space, encompassing the whole value chain and access to finance to realize all opportunities of New Space.

The Council also **welcomes the CASSINI initiative** (see above), the importance of risk capital investment for the whole New Space ecosystem and supports increasing the number of private investors and developing tools to de-risk investments.

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

III. 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. **ESA**, which has been allocated a budget of **€6.49** billion for 2021, has the following relevant programs and initiatives for the space ecosystem:

- **Advanced Research in Telecommunications Systems** (**ARTES**) program to develop innovative products, services, systems and partnerships
- **Technology Development Element** (**TDE**)**,** formerly the **Technology Research Programme (TRP)** to research basic principles observed from actual system completion to experimental proof of concept
- The **Core Technology Programme (CTP)** to ensure early and effective preparation of ESA's future science missions
- **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
- **ESA Space Solutions** to support entrepreneurs in Europe in the development of business using satellite applications and space technology
- **Kick-Start** for any SMEs and startups looking for opportunities to develop their ideas and business applications
- **InCubed** to gain financial and practical support for industry projects

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** and the **Space Platform**.

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, TDE/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**.

TDE

The **Technology Development Programme** (**TDE**), formerly 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. **TDE/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.

ESA SPACE SOLUTIONS

ESA Space Solutions is the entry point for several initiatives such as:

- ESA Business Incubation Centres (ESA BICs)
- ESA Technology Transfer Broker Network
- ESA Business Application Ambassadors and the
- ESA Business Applications programme.

At **ESA BICs** centers, the space ecosystem is provided 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 programme, 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.

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 Space Solutions 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. The programs could provide zero-equity funding from €60k to €2 million per activity, depending upon the projects, as well as other support such as a personalized ESA consultant, technical & commercial guidance, access to ESA network of partners and credibility of the ESA brand.

KICK-START ACTIVITY

Innovative applications ideas could be funded at 75% of their total cost, with ESA providing up to €60K per contract (grant).

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.

ESA LUNAR 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.

Finally, 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.

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 facilitate 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.

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

EU AGENCY FOR THE SPACE PROGRAMME (EUSPA)

The EU Space Programme Regulation (the Regulation) establishes the **European Union Agency for the Space Programme** (**EUSPA**) and lays down its rules of operation. EUSPA, which replaces and expands the **European GNSS Agency** (whilst remaining in Prague), is in charge of the management of the above flagship programs, including communication, market development, promotion activities and uptake actions.

EUSPA has entered into operation following adoption of the Regulation and will likely have a **€72 million** operational budget for 2021.

The Council adopted its first reading position on the Regulation on April 13, 2021 and the European Parliament voted on second reading on April 26, 2021 (69 votes in favor, 5 against and 1 abstention).

The EU Space Programme Regulation was adopted on April 28, 2021 and applies with retroactive effect as from January 1, 2021.

EUSPA, which will have a central role in market and user uptake activities for all space program components, will need to conclude contribution agreements with other agencies such as ESA and determine the specific activities, if any, which it could support financially with its own budget, beyond the scope of the above-mentioned components of the EU space program.

Whilst the European Commission has the contracting authority for the implementation of the EU space-related budget, ESA has authority for Copernicus.

Whist EUSPA is in charge of EGNOS and Galileo, ESA will remain responsible for design and system development.

EUSPA is responsible for the security accreditation tasks for all the EU actions in the space sector via its Security Accreditation Board.

***EUSPA website** contains an application about future space-related events.*

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

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 **€37.5 million** for 2021, EDA's **programs and initiatives** that may be of interest for the space ecosystem include:

- **autonomous access to space**
- space-based **information and communication services**, including:
  - permanent Earth observation
  - positioning, navigation and timing
  - Intelligence, Surveillance and Reconnaissance (ISR)
  - Space situational awareness (SSA) and
- **governmental satellite communication** (GOVSATCOM), including with the objective of preparing the next generation in the 2025 timeframe.

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 security
- awarding 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).

The space ecosystem can find relevant **procurement** information on **EDA Procurement webpage**. Information about EDA's calls is available on **Tenders Electronic Daily (TED)** and the **Space Platform**.

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

The EDA has agreements with some non-EU countries such as Norway, Serbia, Switzerland and the Ukraine.

For more information about the EDA, 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 operational budget of around **€22 million** (for 2020). 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 (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's calls is also available on **Tenders Electronic Daily (TED)** and the **Space Platform**.

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. Its operational budget was around €720 million (in 2018).

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.

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

IV. OTHER FUNDING STREAMS

A number of other funding streams may be relevant for the space ecosystem:

DIGITAL EUROPE PROGRAMME

WHAT CAN BE FUNDED?

The **Digital Europe Programme** (**DIGITAL**), adopted in April 2021, 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, DIGITAL provides 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**) will manage 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. The same rules seem to apply regarding eligibility for funding.

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 on April 26-29, 2021, which was adopted on April 29, 2021. DIGITAL retroactively starts as from January 1, 2021.

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

The procurement platform **Tenders Electronic Daily (TED)** and the **Space Platform** include calls for expression of interest and tenders that are managed by **HaDEA**.

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

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

EUROPEAN DEFENCE FUND (EDF)

WHAT CAN BE FUNDED?

The **European Defence Fund** (the **EDF**), established in April 2021, 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, 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.

The EDF does not support basic research.

The EDF 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?

The EDF is open to the EU Member States and the EFTA/EEA members. Actions eligible for funding 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 (regardless of their place of establishment) **cannot be**, during the entire action period, **controlled**, directly or indirectly, by a non-associated third country or a non-associated third-country entity.

EU or associate country-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 EDF 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 on March 16, 2021 and the European Parliament voted on April 26-29, 2021 on the regulation establishing the EDF, which was adopted on April 29, 2021. It applies with retroactive effect as January 1, 2021.

Information about specific calls for proposals and tenders will in principle be available on EDF's **website**.

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

CONNECTING EUROPE FACILITY (CEF)

WHAT CAN BE FUNDED?

The **Connecting Europe Facility** (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 may continue to support the space ecosystem and fund greener, more sustainable transport and energy networks and digitalization, with an agreed upon budget of **€33.7 billion** during the MFF 2021-2027. **HaDEA** is managing the CEF for transport and the digitalization aspects such as the new program Digital Strand (2021-2027). **CINEA** is in charge of managing the energy-related aspects of the CEF.

The **space ecosystem can 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 will be 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?

The CEF is open to:

- EU Member States, including overseas countries and territories
- EFTA/EEA members
- acceding countries, candidate countries and potential candidates and
- countries covered by the European Neighborhood Policy
- third countries associated to the program.

Beneficiaries from CEF's funding will in principle be any entity with **legal personality** with whom a grant agreement has been signed, including those created under EU law, joint ventures and international organizations. The eligible entity can be established in an EU Member State (including overseas countries and territories and joint ventures) or a third country associated to the program. Natural persons are not eligible.

WHICH FUNDING FORMS?

The CEF may provide support in the forms of **grants** and **procurement** but also **blending operations** such as project bonds and guarantees.

WHEN, WHERE AND HOW TO APPLY?

In March 2021, a provisional agreement was reached on the second edition of the CEF for the MFF and the Council adopted its position at first reading on June 1, 2021.

Whilst this still need to be determined, CEF's support will likely be either via the **procurement** of works, supplies and services for the core components or through **calls** for proposals.

Information about calls for proposals for cross-border projects in the field of renewable energy is available on CINEA's **website** and the **Space Platform**.

HaDEA's website and the **Space Platform** contain information about calls for proposals and tenders for transport and digitalization.

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

SINGLE MARKET PROGRAMME

WHAT CAN BE FUNDED?

The **Single Market Programme** (SMP), adopted in April 2021, consolidates a range of activities into one program, with an agreed upon total budget of **€4.2 billion** for the MFF 2021-2027, under direct management by the European Commission. The SMP aims to protect and empower citizens, consumers and businesses, in particular SMEs.

With respect to strengthening the competitiveness and sustainability of SMEs, the SMP aims to:

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

The SMP has been approved, the implementing Regulation was adopted on April 28, 2021 and its applies retroactively from January 1, 2021.

WHO CAN BENEFIT?

Participation to the SMP is open to entities established in:

- EU Member States, including overseas countries and territories
- EFTA/EEA members
- acceding countries, candidate countries and potential candidates
- countries covered by the European Neighborhood Policy and
- third countries associated to the program.

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

Eligibility for funding may be subject to specific rules of the programs and arrangements.

Entities established in certain third countries not associated to the program may participate to certain actions and be eligible for funding.

WHICH FUNDING FORMS?

The SMP may 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?

The SMP is operational with retroactive effect as from January 1, 2021.

Information about calls and related documents is available on the eProcurement platform **Tenders Electronic Daily (TED)**, the **Single Electronic Data Interchange Area** (SEDIA) and the **Space Platform**. Information about the calls under Horizon Europe managed by HaDEA is available on its **website**.

For more information about the SMP, please refer to **Annex III**.

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 new LIFE program, with an agreed upon budget of **€5.4 billion** for the MMF 2021-2027, 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.

The LIFE programme has been formally adopted and the first calls for proposals will be launched in Q3/2021.

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 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.

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 April 2021, an agreement was reached on LIFE. The first calls will in principle be published by CINEA in July 2021. LIFE will retroactively start as from January 1, 2021.

Information about calls and related documents is available on the eProcurement platform **Tenders Electronic Daily (TED)**, the **Single Electronic Data Interchange Area** (SEDIA) and the **Space Platform**.

For more information about LIFE, 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 **€61 million** in 2020, €12 million for Copernicus data). The Agency is open to the EEA member and cooperating countries.

The EEA has funded and can still offer funding opportunities for the space ecosystem during the MFF.

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 currently setting up a policy relevant information platform that provides

user-friendly and transparent access tools for retrieving data and information based on **Copernicus Land Monitoring Services** products.

The EEA is part of the eProcurement platform **Tenders Electronic Daily (TED)** and of the **Space Platform**.

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 a 2021 EU contribution to FRONTEX's operational budget of **€505 million** and **€37 million** from Schengen Associated Countries, FRONTEX can provide funding in terms of grants, procurement, prizes and blending operations for legal, natural persons and public-private partnership bodies established in the Schengen Associated Countries and countries with working arrangements for projects aligned with the need to manage the European borders and coasts.

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

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

Fontex has concluded working arrangements with certain non-EU countries.

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

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 (2020) operational budget of **€81.2 million**. EMSA is in charge of providing surveillance and communication services based on space-based infrastructure and in a range of 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 is part of the eProcurement platform **Tenders Electronic Daily (TED)** and of the **Space Platform**.

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

The EU Treaty includes the objective of promoting economic, social and territorial cohesion and solidarity between Member States. The EU cohesion policy is the policy behind the projects that will receive funding from the following relevant funds, with an agreed upon budget of around **€330 billion** for the MFF 2021-2027:

- **European Regional Development Fund** (**ERDF**)
- **European Social Fund** (**ESF**) and
- **Cohesion Fund (CF)**.

INFOREGIO *is a database containing information about certain projects having benefited from support under the cohesion policy.*

These three funds are under **shared management** between the EU and the Member States and subject to proposed **common set of rules** and eligibility criteria, including funding allocation methods based on GDP per capita and other - yet to be established - objective criteria for designating eligible regions and support areas.

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 will 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**)

These five funds together are known as the **European Structural and Investment** (**ESI Funds**). ESI Funds will be managed by EU Member States, by means of partnership agreements, and the European Commission has shared responsibility for sound economic governance.

ESI Fund 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, procurement, 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) and entities **established** in OCTs are eligible for funding under such 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.

In light of the COVID-19 crisis and related governmental measures, the following **additional cohesion policy actions** were decided:

- the **Recovery Assistance for Cohesion and the Territories of Europe** (**REACT-EU**) and
- the **Coronavirus Response Investment Initiative (CRII** and **CRII Plus**).

The legal acts relating to the response to the COVID-19 crisis have entered into force; those for the cohesion policy and some ESI Funds will likely enter into effect in Q2 or Q3/2021.

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

EUROPEAN STRUCTURAL AND INVESTMENT FUNDS (ESI FUNDS)

EUROPEAN REGIONAL DEVELOPMENT FUND (ERDF)

The **European Regional Development Fund** (the **ERDF**) will support the overall EU cohesion policy objectives with an agreed upon 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** will be implemented by the European Commission in direct and the EIC and the **European Innovation Council and SMEs Executive Agency** (EISMEA) will 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 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.
- **Nanostar** student challenge.

The ERDF is part of the eProcurement platform **Tenders Electronic Daily (TED)** and of the **Space Platform**.

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+**) will support the overall cohesion policy objectives and be the key financial instrument to implement the **European Pillar of Social Rights**, to support jobs, recovery and create a fair and socially inclusive society, will an agreed upon budget of **€87 billion** (in 2018 prices) for the MFF 2021-2027.

Whilst the ESF+ is a shared management fund, for actions required at EU level, the Employment and Social Innovation strand will be implemented under direct and indirect management, with a budget of **€675 million** for the MFF.

The ESF **still need** to adopt specific policy objectives and identify the specific type of activities which it can support.

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.

The final political agreement on the ESF was reached in June 2021.

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

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

COHESION FUND

The **Cohesion Fund** (the **CF**) will support 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 invest **€43 billion** for the MFF 2021-2027.

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

The Cohesion Fund **still need** to adopt specific policy objectives and identify the specific type of activities which it can support.

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.

The CF is part of the eProcurement platform **Tenders Electronic Daily (TED)** and of the **Space Platform**.

For more information about the CF, please refer to **Annex III**.

EUROPEAN AGRICULTURAL FUND FOR RURAL DEVELOPMENT (EAFRD)

The EU is in charge of defining and implementing a **common agriculture policy** (CAP), with a total allocation of **€386 billion** for the MFF 2021-2027.

CAP's contribution to EU's rural development objectives will be supported by the **European Agricultural Fund for Rural Development** (the **EAFRD**), with an agreed upon budget of **€95 billion** for the MFF 2021-2027.

Whilst EU countries will implement the EAFRD funding via rural development programmes (RDPs), the EAFRD can also provide **direct investment support** for rural enterprises and projects through financial instruments, such as loans, guarantees, 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, possibly as from 2023:

- 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 issued by the European Commission DG Agriculture and Rural Development (DG AGRI) is available on the eProcurement platform **Tenders Electronic Daily (TED)** and the **Space Platform**.

Details about financial instruments available under the EAFRD are provided on the online advisory platform **Fi-Compass**.

Whilst transitional rules have been adopted, further work is required to agree on the new CAP and set up the EAFRD (the CAP may only start in January 2023).

*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).

The **European Maritime, Fisheries and Aquaculture Fund** (the **EMFAF**) is the new proposed fund, with a proposed budget of **€6.1 billion** for the MFF 2021-2027, to continue to support the European fisheries sector, recovery, help unleash the growth potential of a sustainable blue economy and strengthen international ocean governance for safer, cleaner, more secure and sustainably managed seas and oceans.

Whilst the EMFAF is a shared management fund, the European Commission (EC) will directly manage **€797 million** to develop synergies with other relevant funds and InvestEU blending operations. **CINEA** will assist the EC, will manage the relevant calls for proposals and tenders and can provide ad hoc grants.

The **CFP and the EMFAF could support investment** in new maritime markets, technologies and services from 2021-2027 such as ocean energy and marine biotechnology and 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 about calls and related documents managed by CINEA will in principle be available on the eProcurement platform **Tenders Electronic Daily (TED)**, the **Single Electronic Data Interchange Area** (SEDIA) and the **Space Platform**.

Information on the EMFAF's actions delegated to CINEA will also be available on EC's **website**.

A final political agreement on the EMFAF has been reached and the establishing regulation has been adopted in July 2021.

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 unprecedented impact of the COVID-19 crisis and related governmental measures by providing **€47 billion** (in 2018 prices) of additional resources and flexibilities, to be distributed in 2021 and 2022 to the Member States via the ERDF, the ESF and the European Fund for Aid to the Most Deprived (EFEAD).

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**.

CORONAVIRUS RESPONSE INVESTMENT INITIATIVE

The **Coronavirus Response Investment Initiative (CRII** and **CRII Plus**), with a dedicated amount of **€47.5 billion** for 2021-2022, mobilizes existing EU budget resources for cohesion policy to provide financial support to Member States for their immediate response to the Coronavirus crisis. The **space ecosystem may benefit from CRII and CRII+**, depending upon Member States' priorities and allocation decisions.

CRII allows 100% EU co-financing rate for cohesion policy programs for the accounting years 2020-2021.

*Information on how the funds have been used so far is available on the **Coronavirus Dashboard**.*

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** oversees designing European international cooperation and development policy and delivering aid throughout the world. As part of such policy, the space ecosystem, including European satellite navigation systems, could foster the socio-economic development in regions such as the African continent.

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 new projects share the innovative use of space applications, such as satellite imagery, to contribute to sustainable economic growth and climate action in Africa.

The space ecosystem could continue to contribute to the EU development cooperation policy during the MFF 2021-2027.

Information about calls for development issued by European Commission's DG for European Civil Protection and Humanitarian Aid (ECHO) is available on the eProcurement platform **Tenders Electronic Daily (TED)** and the **Space Platform**.

EUREKA

EUREKA is the world's largest public network for international cooperation in R&D and innovation, present in over 45 countries, with a proposed budget of € **300 million**. 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.

Under the MFF 2021-2027, the **Eureka Secretariat** will in principle contribute to the continuation of the projects and program.

Discussions about the MFF budgets for Eureka-3 and Eurostars programs are ongoing.

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).

Information about calls for development issued by European Commission's DG Energy (ENER) is available on the eProcurement platform **Tenders Electronic Daily (TED)** and the **Space Platform**.

*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.

V. 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, including sustainability and the green and digital transitions. It operates not only in the EU but in a vast number of non-EU countries, including the ACP countries and in Asia and Latin America.

Relevant recent EIB 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 and
- **Space Finance Lab**, which connects donors and space companies and thus helps the latter to access the EIB and other sources of long-term financing and acts as a voice for growing companies seeking **debt financing**.

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

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. It could support "dual-use" technologies.

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 sustainability and the green and digital transitions. The EIF also support the least developed countries in using trade as a mean to growth.

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 and elsewhere.

The EIF will rely 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 **Annex I**).

The **EIF can offer** to space-related entities that are SMEs or small mid-caps, indirectly in cooperation with Financial Intermediaries, **loans**, **guarantees**, **equity** investments and directly **advisory services**.

Relevant recent and potential **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.

Information about EIB and EIF calls is available on the eProcurement platform **Tenders Electronic Daily (TED)** and the **Space Platform**.

Due to the crisis, 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.

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

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

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**.

VI. 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 political agreement to make **€672.5 billion** in loans and grants available via the Recovery and Resilience Facility (the Facility), the **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, are being finalized.

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.

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**.

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 new 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 above support measures are in principle not restricted to entities that are owned and controlled by French nationals, but the project coordinator must be a French company and the goal is to support the French economy.

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

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, the UK will **no longer have 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, may start in September 2021), **NextGenerationEU** and **SURE**.

The UK will only have **conditional access to Horizon Europe** RD&I program and may be able to continue to participate in the **Copernicus** component of the EU space program, subject to confirmation.

UK-based entities should still be able to access EU defence R&D funding, but under much stricter terms, and will be prohibited from participating to "sensitive, high-security" projects.

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

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 space ecosystem** (approximately 10% of the EU's GDP).

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 also makes important contributions** to the UN Sustainable Development Goals (UNSDGs) and in terms of COVID-19 crisis management.

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

The Guide has identified 41 public funding programs that can help the space ecosystem during 2021-2027, comprising **116 subprograms and components**. **Most programs are currently operational.**

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

WHAT CAN BE FUNDED?

The **total public expenditures** for the European space ecosystem could be in the range of **€21 billion during the next 3 to 7 years**. Virtually all types of spaced-related projects and actions can in principle be supported, including upstream, mid-stream and downstream segments. A Certain "**niche**" **opportunities**, often beyond the scope of the "traditional" funding programs, have been identified in the Guide. The following "caveats" should be taken into account

- public support tends to **focus on short term actions for rapid market growth**, aligned with the policy priorities
- **certain programs cannot support** technologies or applications 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 other "deep tech" sectors** such as ICT, robotics, AI, advanced high-performance computing, quantum technologies, cybersecurity, cloud infrastructure technologies, IoT and synthetic biology can **benefit from the numerous 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 (3% for the EIC Accelerator); thus **only the absolute best proposals can be funded**
- the space ecosystem can often **contribute to broad/cross-sectoral actions and partnerships** and

- **"non-EU" controlled entities may not be able to 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 are available. It is often possible to **combine different funding sources** and **exploit synergies** between different funding instruments.

WHERE, WHEN AND HOW TO APPLY?

Unlike in the US were a single web site covers thousands of programs available at federal level, there is **no "one-stop-shop" for European public funding and support**. Despite simplification efforts and mergers between programs, it **remains difficult to navigate** through all programs and websites; **guidance**, such as the one provided by the Guide, **is often needed**.

Most programs identified in the Guide are currently operational (as of Q3/2021). **Program budgets have often already been agreed upon**. Often, the costs of funded actions will be (retroactively) considered eligible as of January 1, 2021.

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 and new approaches** for the evolution, next generation and public procurement of launchers, launch technologies, infrastructures, products, services and applications
- **stimulate demand** including 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-shop" for public funding initiatives** such as the **Space Platform**.

For additional information, to find public funds, search for tenders or technologies, receive guidance or provide feedback, do not hesitate to visit the Space Platform or to contact the author of the Guide and manager of the Platform, Alexandre Mencik at admin@spacepp.com.

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

Finally, if you believe that both reaching the stars and taking action for the UNSDGs on Earth 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

THE 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 will provide **tools for investors** by putting sustainable finance at the heart of the financial system and will 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 will propose in June 2021 the following: (i) a **financial transaction tax**; (ii) a **financial contribution linked to the corporate sector**; and (iii) a new **common corporate tax base**. Decisions in these areas will require unanimity.

THE JUST TRANSITION FUND

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.

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 will make EU funding for investment projects in Europe **simpler, more efficient and more flexible**.

The Fund support action will be 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 will be available via a **central point of entry** as from Q3/2021. 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 will be transmitted to other partners such as the EIB group and other financial institutions such as national promotional banks and international financial institutions.

RECOVERY PLAN FOR EUROPE

NEXTGENERATIONEU AND THE RECOVERY AND RESILIENCE FACILITY (RRF)

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. It is 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 will be funded by the Facility will be **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.

The European Commission will complete its **assessment of the plans** that must be submitted by April 2021 within two months of receiving them. The Council will have up to four weeks to consider the Commission's assessment and adopt an implementing decision by qualified majority.

13% of a loan could be **prefinanced** by December 31, 2021. The **release of additional funds** under the Facility is **contingent** on the satisfactory fulfilment of relevant **milestones** and **targets** by Member States set out in the recovery and resilience plans. The Facility can only finance costs that are non-recurrent in nature and fall within the time horizon of the Recovery and Resilience Plan, except in duly justified circumstances.

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.

For the space ecosystem, the ultimate objective (Destination 5) is as follows: **strategic autonomy** in developing, deploying and using global space-based infrastructures, services, applications and data.

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 and
- 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.

The following **main axes** can in principle be funded under Horizon Europe - Destination 5:

- 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
- **restoring** Europe's ecosystems, 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 and
- creating a more resilient, inclusive and democratic European **society**, responsive to threats and disasters, addressing **inequalities** and **empowering** all citizens to act.

The **actions** to support the space ecosystem under the Horizon Europe program are grouped under Cluster 4 - Digital, industry and space and **aim to support or contribute to**:

- **transform** EU industries to make them, by 2050, climate-neutral, zero polluting, energy-efficient and globally competitive
- increasing the **energy efficiency** and **decreasing the carbon footprint** and **resource consumption** of digital and industrial technologies themselves
- using these technologies to **optimize** processes of other industrial sectors

- sustainably supplying **climate neutral materials**, **products** as well as **smart and sustainable mobility systems**
- establishing relevant conditions for **empowering workers**, **consumers and citizens** to make sure they have **access to new technologies and necessary skills**
- **atmosphere monitoring** through space services and data from Copernicus and Galileo/ European Geostationary Navigation Overlay Service (EGNOS)
- **Copernicus and Galileo/EGNOS** emergency and security services and
- a more **resilient** space environment through Space Situational Awareness (SSA).

Broad envisaged **areas of intervention** under Horizon Europe for the period 2021-2022 are:

- **Competitiveness of space systems**: new competitive technologies for space and ground systems, such as very high throughput satellites, very high resolution sensors, radiation-hard electronics, on-board and ground AI, optical communication and quantum technologies, as well as contributions from robotics, modular, flexible and intelligent satellites (including distributed space systems), hybrid, smart and reconfigurable satellites, sustainable, resilient, secure, flexible, modular, highly-automated and maintainable space infrastructure, hyperspectral sensors, multi sensor systems solutions, novel generation electronic devices, more flexible payloads, active antennas, direct radiating arrays, on-board and on-ground autonomy, new technologies and systems for cost-effective, agile and high-speed data handling, processing, storage and transfer, new services including de-orbiting and active debris removal, on orbit servicing, assembly, manufacturing based on new systems concepts such as additive manufacturing, "Digital Twins", plug-and-play modularity, as well as model based system engineering, alternative manufacturing routes and disruptive technologies and concepts.

- **Reinforce EU capacity to access and use space**: new concepts for reducing the production and operation cost such as reusability (including stage recovery and landing) of launcher components, low cost, high thrust and green propulsion, modular and affordable avionics avionics, autonomous systems, micro launchers and modern and flexible test and launch facilities, next generation structural concepts, smart technologies, engineering tools, digitalization, advanced data management, material and process modelling, micro launchers, test and associated launch facilities, rideshare, kick-stages, new types of space routes and re-entry solutions and disruptive technologies, methodologies and concepts.

- **EU space program components Galileo, EGNOS and Copernicus:** evolution of space and ground infrastructures, evolution of services to better respond to new and emerging policy needs and remains at the fore front and development of applications including EGNSS downstream applications, synergies between Galileo/EGNOS and Copernicus and synergies with non-space programmes.

- **Space Situational Awareness (SSA)**: novel architectures and technical solutions for ground/space sensors, data processing, networking and operation centers (including critical technological elements for the realization of crucial future space weather applications and services) to ensure safety and sustainability of space operations in Europe as well as by implementing improved and new services (mitigation; remediation; modelling; space weather services).

- **GOVSATCOM**: reliable, secured and cost-effective satellite communications services, European satcom security related technologies.

- **Quantum technologies in EU space infrastructure and for space-based services**: satellites and space-based applications such as quantum inter-satellite communication, next generation atomic clocks, quantum sensors, EU sourced space qualified quantum components, including mission design, integration and in-orbit demonstration and validation. Quantum research should be prioritized given its crucial role in the digital transition.

- **Space entrepreneurship ecosystems, including New Space and startups**: development, incubation and upscaling of startups to make them investment-ready and able to secure VC funding, to foster business and innovation-friendly ecosystems, including strengthening space related skills, doing business using Copernicus and Galileo data, developing space technologies, education, synergies with the InvestEU programme and the CASSINI initiative, including business accelerator, hackathons, mentoring and inducement prizes.

- **Targeted and strategic actions supporting the EU space sector:** development of associated technologies and key actions to foster the competitiveness of the EU space sector and reinforce capacity to use and access space, development of critical technologies for EU non-dependence and strengthening of relevant supply chains (components, materials and processes), promote European scientific missions and planetary robotics, collect, process and disseminate the data collected from space missions, in orbit demonstration/validation of new technologies and concepts, including for SMEs which do not have ready access to space flight heritage for their innovations and excellence in space science.

The above areas of intervention will be 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 will support 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 Commission launched in 2018 the **European Innovation Council pilot** during the period 2018-2021 under Horizon 2020 to support the most talented European innovators. During this pilot phase, over 5000 SMEs and startups, for more than 330 research projects with a budget of €3.5 billion, where supported.

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. The EIC will capitalize on lessons learnt and achievements during the pilot phase and targets especially market-creating 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).

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.

The **EIC Pathfinder challenges** for 2021 are as follows:

- awareness and consciousness in the field of AI
- tools to measure & stimulate activity in brain tissue
- emerging technologies in cell & gene therapy
- novel routes to green hydrogen production and
- engineered living materials.

EUROPEAN INSTITUTE OF INNOVATION AND TECHNOLOGY (EIT)

The proposed new **European Institute of Innovation and Technology** (**EIT**) will be an independent EU body to contribute to sustainable EU economic growth and competitiveness and will need to address major challenges faced by society and continue current activities.

The EIT currently supports by grants the 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 new 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 2021-2027, in order to achieve such objectives, the EIT intends to:

- increase the regional impact of **Knowledge and Innovation Communities** by strengthening its networks, involving more higher education institutions, businesses and research organizations by developing regional outreach strategies
- boost the innovation capacity of higher education by continuing to support higher education institutions with funding, expertise and coaching and
- launch two new KICs, selected in fields most relevant to Horizon Europe policy.

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**.

The EIE can in principle provide the following funding opportunities:

- CONNECT, which focus on building interconnected, inclusive innovation ecosystems across Europe and
- SCALEUP, which focus on reinforcing network connectivity within and between innovation ecosystems to accelerate sustainable business growth with high societal value.

The EIC also supports the **European Partnership for Innovative SMEs**, the continuation of the EUROSTARS program (Eurostars 3).

The EUROSTARS program is a European joint program for the R&D performing SMEs, including the space ecosystem.

INNOVATION FUND

The **Innovation Fund** will provide support over 2020-2030 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 will:

- 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.

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 Programme Regulation is close to adoption. The EU 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** will have overall responsibility for the implementation of the EU space program (including in the field of security), coordinating roles, will be in charge of encouraging cooperation and ensuring synergies with other actions and programs and will manage GOVSATCOM and Space Situational Awareness (SSA)
- **EUSPA** will be in charge of the main elements of the EU flagship program Galileo, EGNOS and Copernicus, including market and uptake actions, as well as coordination of user-related aspects of GOVSATCOM in collaboration with other stakeholders,
- **ESA** will be 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.

ESA 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 has a **great potential during the MFF 2021-2027** for the development of 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.

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.

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.

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 new 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 Program 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.

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.

EUROPEAN COMMISSION CASSINI INITIATIVE

The European Commission (EC) 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 will 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.

Apart from the space fund, the CASSINI initiative, which will be managed by EC's Directorate on Defence Industry and Space (DEFIS) (and by EUSPA for the uptake actions), could **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.

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 those developed by the **Space Platform**
- **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** by Q2/2022
- set up a **cybersecurity competence center** as from June 2021 (in addition to the **European Union Agency for Cybersecurity** (**ENISA**)
- to **follow-up on the EC CASSINI initiative**
- **support disruptive technologies** such as artificial intelligence, including by innovative forms of funding by Q2/2022
- **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** before 2023.

COUNCIL OF THE EUROPEAN UNION

The **Council of the European Union** (the Council) recently adopted the following conclusions relating to the space ecosystem:

- **Space for a sustainable Europe** (June 2020)
- **Orientations on the European contribution in establishing key principles for the global space economy Council Conclusions** (November 2020)
- **draft council conclusions on New Space for People** (May 2021) (the Council's Conclusions).

The Council's Conclusions recognize the **growing strategic importance of the space sector** and ask the European Commission to propose an **innovation strategy** for New Space.

The Council's Conclusion also:

- support the need to promote the development of a **sustainable European space**
- acknowledge that the space sector is undergoing a **rapid transformation** due to the emergence of the New Space and larger private sector investment
- consider that a **new approach** is needed to encourage space entrepreneurship by promoting access to finance and various funding opportunities
- encourage to use procurement and pre-competitive **procurement of innovative solutions** as a way to facilitate commercialization and give market traction
- highlights the need to **ensure sustainable use of space** by the New Space actors, in accordance with UN COPUOS space debris guidelines and Long-Term Sustainability guidelines
- recognize the importance of more on **space-based assets for telecommunications**
- call for a **roadmap** for the **next generation of launchers**, launch technologies and **infrastructures**, in close coordination with ESA, whilst respecting the principle of an open economy and
- support **investments** in space related Science, Technology, Engineering and Mathematics (STEM) education programs.

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 (Iris)
    - 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 (up to TRL 6):
    - 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.

- **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 new 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**)
    - **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%.

The Agenda will be followed by several discussions and initiatives, including a public consultation and a dedicated space summit in spring 2022. New flagship space programs may be announced at that time.

EU AGENCY FOR THE SPACE PROGRAMME (EUSPA)

The **European Union Agency for the Space Programme** (**EUSPA**), which replaces the **European GNSS Agency**, is in charge of exploitation of EGNSS and, in doing so, will guarantee the continuity of services for EGNSS, security and the accreditation of the systems and ensure the market uptake for all components of the Space Programme.

EUSPA will need to conclude contribution agreements with other agencies such as ESA and determine the specific activities which it could support. The governance will be streamlined with clear tasks of the various actors.

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 will be 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

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 will complement and create **synergies** with other related MFF programs such as Horizon Europe, the ERDF and the **Connecting Europe Facility** (CEF).

EUROPEAN DEFENCE FUND (EDF)

In 2017, the European Commission proposed to launch the **European Defence Fund** (EDF). During the previous MFF (2014-2020), it was decided that:

- the Preparatory Action on Defence Research (PADR) could support collaborative defence research

- the European Defence Industrial Development Program (EDIDP) may co-finance collaborative development projects.

In December 2020, a political agreement was reached to set up the 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 will be 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.

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 will continue 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.

TELECOM

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 to foster the competitiveness, capacity building and sustainability of enterprises, especially SMEs. The SME pillar of the SMP, with a budget of **€1 billion** for 2021-2027, will first ensure 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 implement the SME strategy in the context of industrial ecosystems, the SME components of the Industrial Strategy and the Small Business Act. EISMEA will operate in cooperation with the national competent authorities.

EISMA will implement various **initiatives potentially relevant for the space ecosystem** including:

- **manage and communicate your project**
- **entreprise Europe network**
- **European cluster collaboration platform**
- **practical guide to doing business in Europe** and
- **Intellectual Property Helpdesk**.

The SMP will promote synergies and avoid duplication with other programs such as the SME policy window of the InvestEU Fund, with **€2 billion**
allocated, or the EU space program and the CASSINI initiative.

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 to date co-financed more than 5400 projects.

The **new 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.

COHESION POLICY

The EU Cohesion policy promotes economic, social and territorial cohesion, regional development and solidarity between Member States via the following funds:

- **European Regional Development Fund** (**ERDF**)
- **European Social Fund** (**ESF**)
- **Cohesion Fund (CF)**
- **European Maritime, Fisheries and Aquaculture Fund** (**EMFAF**) and
- **European Agricultural Fund for Rural Development** (**EAFRD**)

The new Cohesion policy for the MFF 2021-2027 has the following **investment priorities**:

- regional development investments (65% to 85% of ERDF and CF's resources)
- smarter Europe, through innovation, digitization, economic transformation and support to SMEs
- greener, carbon free Europe, implementing the Paris Agreement and investing in energy transition, renewables and the fight against climate change
- connected Europe, with strategic transport and digital networks

- social Europe, delivering on the European Pillar of Social Rights and supporting quality employment, education, skills, social inclusion and equal access to healthcare and
- a Europe closer to citizens, by supporting locally led development strategies and sustainable urban development across the EU.

Funding will still be still largely based on GDP per capita; with new criteria such as youth unemployment, low education level, climate change, and the reception and integration of migrants.

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 and
- 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) can support PO2 and certain specific objectives under PO 3.

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.

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.

The **European Agricultural Fund For Rural Development** (**EAFRD**) finances the CAP's contribution to the EU's rural development objectives. EU countries implement EAFRD funding through rural development programmes (RDPs), co-financed by national budgets and prepared on either a national or regional basis. Decisions regarding the selection of projects and the granting of payments are handled by national and regional managing authorities.

The 2018 proposed new CAP notably aims to help farmers to improve their environmental and climate performance, in particular, through **better use of data and analysis**. 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**) will support the EU common fisheries policy (CFP), the EU maritime policy and the EU agenda for international ocean governance.

The EMFAF will provide support for developing **innovative projects** ensuring that aquatic and maritime resources are used sustainably and help fulfil the objectives of the European Green Deal, the roadmap for the EU climate and environmental policies. The EMFAF will **facilitate**:

- the transition to sustainable and low-carbon fishing

- the protection of marine biodiversity and ecosystems
- the supply of quality and healthy seafood to European consumers
- the socio-economic attractiveness and the generational renewal of the fishing sector, in particular as regards small-scale coastal fisheries
- the development of a sustainable and competitive aquaculture contributing to food security
- the improvement of skills and working conditions in the fishing and aquaculture sectors
- the economic and social vitality of coastal communities
- innovation in the sustainable blue economy
- maritime security towards a safe maritime space and
- international cooperation towards healthy, safe and sustainably managed oceans.

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 new 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.

CORONAVIRUS RESPONSE INVESTMENT INITIATIVE

The **Coronavirus Response Investment Initiative** (**CRII** and **CRII Plus**) provides financial support to Member States for their immediate response to the Coronavirus crisis in terms of eligibility for operations for fostering crisis response capacities as of February 1, 2020, advancing payments, redirecting cohesion policy funds and programs and providing more flexibility.

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 initiatives's include:

- a **€25 billion European Guarantee Fund (EGF),** which provides intermediated lending and direct lending for Midcaps; projects of a value of **€28 million** have already received signature.
- launch of a **€150 million new 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.

The **EGF under the MFF 2021-2027 is not yet operational** and there are political uncertainties making it increasingly unlikely that deals can be signed in 2020.

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 **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 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 new **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 2020 and its succespr 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 will dedicate €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 – SME SUPPORT

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** are provided by private organizations **for the space ecosystem in general and in particular SMEs and startups** such as:

- The **Space Platform**, which aims to **accelerate innovation by helping the space ecosystem**. It contains a **myriad of reliable and updated information and data about the space ecosystem** and **applications to pilot businesses and fulfill unmet needs**. Version 2 of the Space Platform will be launched in September 2021 with the following functionalities:
  - **Finance**: to find **funds**, **tenders** and obtain **guidance**
  - **Jobs, Talents & Partners**: to recruit **talents**, find **jobs** and **business partners**
  - **Informed Decision-Making**: to find **technologies**, obtain **intelligence** and monitor **media coverage**
  - **Networking & Show Case**: to find **notable individuals**, **show case** and allow **business to shine**.
- **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
- **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 finance 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 for Young 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 VII – 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, 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 Albania, Bosnia and Herzegovina, Chile, Egypt, Georgia, Iceland, Israel, Jordan, Lebanon, Liechtenstein, Moldova, Montenegro, Morocco, North Macedonia, Norway, Serbia, South Africa, Syria, Tunisia, Turkey and Ukraine.
- **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, North Macedonia, Montenegro, Serbia and Turkey.
- **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** likely means those counties associated to Horizon 2020 such as Iceland, Norway, Albania, Bosnia and Herzegovina, North Macedonia, Montenegro, Serbia, Turkey, Israel, Moldova, Switzerland, Faroe Islands, Ukraine, Tunisia, Georgia and Armenia. Participation of the United Kingdom to Horizon Europe has been agreed upon.
- **Countries covered by the European Neighborhood Policy** means Algeria, Morocco, Egypt, Israel, Jordan, Lebanon, Libya, State of Palestine, Syria, Tunisia in the South and Armenia, Azerbaijan, Belarus, Georgia, Moldova, Ukraine in the East (Russia has a special status)
- **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.
- **EEA member and cooperating countries** means Albania; Austria; Belgium; Bosnia and Herzegovina; Bulgaria; Croatia; Cyprus; Czechia; Denmark; Estonia; Finland; France; Germany; Greece; Hungary; Iceland; Ireland; Italy; Latvia; Liechtenstein; Lithuania; Luxembourg; Malta; Montenegro; Netherlands; North Macedonia; Norway; Poland; Portugal; Romania; Serbia; Slovakia; Slovenia; Spain; Sweden; Switzerland and Turkey.
- **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 Austria (1985), Belgium (1985), Bulgaria (2010), Croatia (2000), Cyprus (2002), Czech Republic (1995), Denmark (1985), Estonia (2001), Finland (1985), former Yugoslav Republic of Macedonia (2008), France (1985), Germany (1985), Greece (1985), Hungary (1992), Iceland (1986), Ireland (1985), Israel (2000), Italy (1985), Latvia (2000), Lithuania (1999), Luxembourg (1985), Malta (2006), Monaco (2005), Montenegro (2012), the Netherlands (1985), Norway (1985), Poland (1995), Portugal (1985), Romania (1997), Russian Federation (1993), San Marino (2005), Serbia (2002), Slovak Republic (2001), Slovenia (1994), Spain (1985),

Sweden (1985), Switzerland(1985), Turkey (1985), Ukraine (2006), United Kingdom (1985) and European Commission (1985).

- **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** means 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 private 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).
- **Pan-African Programme** covers the following non-EU countries: Algeria; Angola; Benin; Botswana; Burkina Faso; Burundi; Cameroon; Cabo Verde; Central African Republic; Chad; Comoros; Congo; the Democratic Republic of Congo; Cote d'Ivoire; Djibouti; Equatorial Guinea; Egypt; Eritrea; Ethiopia; Gabon; Gambia; Ghana; Guinea; Guinea-Bissau. Kenya; the Kingdom of Lesotho; Liberia; Libya; Madagascar; Malawi; Mali; Mauritania; Mauritius; Morocco; Mozambique; Namibia; Niger; Nigeria; Rwanda; Saharawi Arab Democratic Republic; Sao Tome and Principe; Senegal; Seychelles; Sierra Leone; Somalia; South Africa; South Sudan; Sudan; Kingdom of Swaziland; Tanzania; Togo; Tunisia; Uganda; Zambia; Zimbabwe.r
- **Potential candidate countries** means Bosnia and Herzegovina.
- **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 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.
- **Space surveillance and tracking** (**SST**) 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.
- **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.
- **Third countries associated to the LIFE programme** means (for 2024-2021) Albania, Algeria, Bosnia, Cyprus, Egypt, Israel, Jordan, Lebanon, Morocco, Russia, Syria, Tunisia, Turkey and West Bank and Gaza.
- **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.