

Space Funding Gateway

Practical guide to public funding of space-related businesses in Europe

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PRESENTATION

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Currently **Alexandre** serves as Director and as Board member of the Space Tech Angels Association in Luxembourg and as Board member of the French Astronomy Association. He also serves as Mentor and invests in startups both personally as an angel investor and through ventures.

Alexandre is a former Executive Director of a Fortune 200 company, with responsibility for policy and legal aspects in 30 countries. He was on the Regional Board and represented his company before several global and regional trade associations. He led successful advocacy efforts for the adoption of science-based policies.

Previously, **Alexandre** represented clients involved in the aerospace sector and regulated industries. He orchestrated the establishment of industry-led consortium arrangements including Sea Launch and Digital Video Broadcasting, managed a trade association at EU level and produced a guide for startup companies.

Alexandre served in the **European Commission**, where he drafted and successfully negotiated 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, received his Juris Doctorate from the University of Louvain in Belgium and holds a Master's degree in Air and Space Law from McGill University in Canada, with a secondment in business at Yale in the US.

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EXECUTIVE SUMMARY

This Guide gives an **overview of the public funding and financial opportunities that are available in Europe for space-related business**. We are indeed at a **turning point** in terms of public finance in Europe and it is **not easy to navigate** through the numerous available options, especially for startups and small companies.

The **key trends** identified in this Guide are as follows:

- given the scarcity of private support in terms of angel investors and ventures, **public support remains vital for the European space sector**
- there is a wide degree of **diversity** and **complexity** in terms of the policies, programs, rules, competent authorities and bodies (no “one-stop-shop”)
- despite recent announcements and draft programs, **most public support is still only available** in the form of **grants, tenders or prizes** and not of loans or equity
- only **carefully prepared** and **truly excellent proposals** have a chance to get funding
- there are **low-hanging fruits** under the budgetary period 2014-2020, both in terms of “traditional” programs but also in other industrial sectors
- certain non-space specific programs available during the pilot/transition period 2018-2020 are **interesting** (largely underexploited) **opportunities**
- **concrete and ambitious steps** are currently being taken **to support space innovation** via the 2021 programs, given the strategic (and often dual use) nature of the sector and the need to decrease European dependence on critical technologies
- **future public support will focus** on projects contributing to **building a sustainable ecosystem**.

Clearly, **space-related businesses are well placed to foster sustainable development on Earth**. They can support the achievement of all 17 **Sustainable Development Goals (SDGs)** that have been adopted in September 2015 by the **United Nations** and that all countries have agreed to achieve by 2030 (the **UNSDGs**).

INTRODUCTION

Public funding and financial support are available in Europe for all types of space-related organizations of any size for their projects, activities and organizations (hereinafter “space-related businesses”).

We are examining in this Guide the public programs and agencies that are involved at European level in providing (i) funding in the form of grants, tenders, or prizes and (ii) financial support in the form of loans, equity and debt for space-related businesses, including:

- the key European programs for the space sector (**Section I**)
- the key European agencies for the space sector (**Section II**)
- the key European programs that will be available as from 2020 or 2021 (**Section III**)
- the key public financing programs (**Section IV**) and
- the other relevant EU policies, programs, European agencies and bodies (**Section V**).

Whilst examining the situation in the space sector, and focusing on startups and SMEs, this Guide may also be helpful for other innovative and high-tech sectors and larger companies.

Clearly, the Guide does not cover all available public funding and financing opportunities. No guidance is provided hereunder for funding managed by national, regional and local authorities, ministries, and their agencies, including by the national space agencies. The information provided in the Guide is of general application and thus may not be relevant to a specific situation.

We will update the information contained in the November 2019 Guide regularly. We hope that you will find the Guide useful and that it will contribute to the success of the European space sector. For additional information or to provide feedback, feel free contacting the author of this Guide, Mr. Alexandre Mencik at amencik@skynet.be.

I. KEY EUROPEAN PROGRAMS AND POLICIES

Public funding may be currently available for space-related businesses under the following key European programs and policies:

1. HORIZON 2020

WHAT CAN BE FUNDED?

The part of the **Horizon 2020** funding program, which will end in 2020, that may still be relevant for space-related businesses is the section entitled **Leadership in Space**, which focuses on:

- supporting the market uptake and evolution of the operational Earth observation program **Copernicus** and European GNSS programs **Galileo** and **EGNOS**
- architectural concepts of possible European space weather services, by using precursor space weather services already available through the **Space Situational Awareness (SSA)** program
- selected actions underpinning space business, entrepreneurship, space technologies and science and
- support security aspects and access to space.

*Only a limited number of opportunities remain available under **Horizon 2020***

HOW IT CAN BE FUNDED?

To benefit from funding under the **Horizon 2020** program, which is managed by the **European Commission**, space-related businesses should:

- ensure that the content of the project corresponds to the above section and
- identify the relevant forms of financing
- verify that the admissibility and eligibility criteria are met.

Funding under **Horizon 2020** is generally available via calls for tenders or grants or prizes. The admissibility and eligibility criteria for the program are determined by various documents that should be checked carefully. The issue of whether the proposal can be submitted by a single entity or must be submitted by several entities will vary depending on the type of actions and may vary depending upon the specific calls.

Apart for **Coordination & Support Actions (CSA)** and **Framework Partnership Agreement (FPA)**, proposals under **Horizon 2020** must generally be submitted by at least 3 independent legal entities, each established in a different EU Member State or Associated Country.

The [Single Electronic Data Intercange Area \(SEDIA\)](#) is the entry point for participants in funding programs and tenders managed by the **European Commission** and other EU bodies.

The [TED eTendering](#) is an EU institutions' eProcurement platform allowing free electronic access to call for tenders' documents.

Horizon 2020 evaluators cannot recommend improvements to proposals or adjustments to the budget

For more information, please refer to **Annex I** and to the **Tables**.

2. ENHANCED EUROPEAN INNOVATION COUNCIL PILOT

The **Enhanced European Innovation Council (EIC) Pilot** 2018-2020, with a total indicative budget of around €3 billion for the period 2018-2020, which will pave the way to a fully-fledged EIC in 2021, serves as the umbrella for the following EU instruments which may be relevant for space-related businesses (thus providing a “one stop shop” for funding of breakthrough, market-creating innovation across the EU):

- **EIC Pathfinder Pilot**
- **EIC Accelerator Pilot**
- **Other Activities**

*As from 2021, it will be easier to move from **EIC Pathfinder** to **EIC Accelerator** in the full fledged EIC and entities having benefited from the former will be subject to a simplified evaluation process to benefit from the later*

The **EIC Pathfinder Pilot**, with a total indicative budget of around €660 million for 2019-2020, comprises **FET-Open** (novel ideas for radically new technologies – deadline cut-off May 13, 2020) and **FET-Proactive** (boosting emerging technologies - deadline cut-off April 2020). It can offer to a consortium (following Horizon 2020 rules) grants only of up to €4 million to promote collaborative, inter-disciplinary research and innovation in these areas

Whilst space is not identified as such as a target technology under such Pilot, certain forward-looking space-related proposals in areas such as ICT, robotics, interfaces, AI, energy, environment or climate change may be relevant.

These grants are for consortia of at least 3 entities from 3 different EU Members States and Associated Countries, based on “targeted calls”, following topics or challenges identified in the work program along, with open bottom-up **call for proposals**.

The EIC Accelerator Pilot, with a total indicative budget of around €1.3 billion for 2019-2020, aims at creating and promoting co-investment by initiating support where market response is absent or insufficient.

The **EIC Accelerator Pilot** can currently offer to SME space-related business, having marketable innovation solutions and with ambitions to scale up, taking in principle 1 to 2 years to complete, the following:

- business innovation grants for innovation development & demonstration purposes: an amount in the indicative range of € 500K and €2,5 million (covering up to 70% of eligible cost of the project as a rule)
- equity of up to €15 million per company (€100 million total budget for equity in 2019-2020 pilot phase) (always in combination with the above grant)
- free-of-charge coaching (optional) provided by experienced business coaches, selected through the **Enterprise Europe Network** in order to support and enhance the firm's innovation capacity and help align the project to strategic business needs or
- access to a wide range of other business acceleration services (including corporate days and investor days) and facilitated access to risk finance, to facilitate the commercial exploitation of the innovation.

There is a continuous open call until the end of 2020 for bottom-up proposals with various cut-offs ranging until October 7, 2020 under the **EIC Accelerator Pilot**. Applications must be submitted through the [Funding & Tenders Portal](#). Since June 2019, individual for-profit SME-type space-related businesses, including young companies and startups, established in an EU Members State or an Associated country are eligible to apply. Other partners, such as research providers or larger companies, cannot be direct beneficiaries but can be involved as third parties or subcontractors and do not necessarily need to be established in the EU or Associated countries. Proposal with a negative impact on climate and the environment will not be supported.

As part of the **EIC Accelerator**, the **EIC Accelerator Fund (EIC Fund)** is a breakthrough initiative of the **European Commission** with the support of the **European Investment Bank (EIB) Group**. Currently, the **EIC Fund** may provide to SME-type space-related businesses additional support via the **SME Instrument** in the form of equity or quasi-equity of €500K to €15 million per company, with ownership stakes from 10% to 25% for high-risk, high-potential businesses projects, with TRLs level above 8. The **EIC Fund** has [investment guidelines](#) detailing the main guiding principles.

*Space-related business that have benefited in the past from an SME Instrument Phase 2 are eligible for the **EIC Accelerator** if the financing requested covers different activities and costs.*

*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 Pilot** for blended finance including equity*

Other Activities under the current pilot phase include the **Fast Track to Innovation (FTI)**, with a total indicative budget of €300 million for 2019-2020, and the **Horizon Prizes**, with a total budget of €40 million until 2020 and individual prizes amount to €5 to 10 million.

In case of proposals coming from consortia of 3 to 5 legal entities (of all types) established in at least 3 different EU Member States or Associated Countries, and with a substantial industry involvement, **FTI** can award grants of up to €3 million (with for-profit entities receiving 70% co-financing and not-for-profit entities receiving 100% co-financing).

Proposals can be submitted at any time with various cut-off dates for 2019 and 2020 until October 27, 2020 via [SEDIA](#).

*At least 60% of the budget must be allocated to industry participants under the **FTI-actions** or at least 2 out of 3 or 4 or 3 out of 5 participants must be from industry*

The **EIC Horizon Prizes** are awarded to whoever can most effectively meet a defined challenge, without prescribing how that challenge should be solved. The contest is open to all legal entities (i.e. natural or legal persons, including international organizations) or groups of legal entities established in an EU Member State or in an Associated Country.

*Given the constantly high number of proposal submissions, only truly excellent proposals have a chance to get funding
The same costs can never be financed twice by the Union budget*

For more information, please refer to the [FAQ document](#), to **Annex I** and to the **Tables**.

3. EUREKA AND THE EUROSTARS PROGRAMS

EUREKA, a publicly-funded, open platform for international cooperation to support market-oriented R&D and innovation projects across all technological sectors, may be relevant for space-related businesses (thus 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.

The **EUROSTARS** program, which is backed by a total budget of €1.14 billion for the current MFF, co-funded from the national budgets by EUROSTARTS Participating States (and Partners Countries) and **Horizon 2020** (for €287 million), is a European joint program for the R&D performing SMEs, including space-related businesses, which must be the main project partner. **EUROSTARS** issues call for proposals for (< 3 years) projects in all technology areas and market fields, having a civilian purpose. The consortium must include at least two independent partners established in at least two different EUROSTARS Participating States. Organizations from any other country may participate (as a third country). **EUROSTARS** funding follows a detailed

application and evaluation process at national levels, which is momentarily closed, but will in principle re-open as from February 2020, via [the Eurostars National Project Coordinator](#).

*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*

For more information, please refer to **Annex I** and to the **Tables**.

4. [COSME](#)

With a planned budget €2.3 billion for the current MFF, the **Competitiveness of Enterprises and Small and Medium-Sized Enterprises (COSME)** program funds Financial Instruments that facilitate access to loans and equity finance for businesses. It uses two main financial instruments to provide access to finance via Financial Intermediaries:

- the **Loan Guarantee Facility (LGF)** provides guarantees to financial intermediaries so they may provide more loans and lease finance to SMEs
- the **Equity Facility for Growth (EFG)** provides risk capital to equity funds investing in SMEs.

The **Executive Agency for Small and Medium-sized Enterprises (EASME)** manages **COSME** on behalf of the **European Commission**.

*Expressions of interest related to **COSME** can be found on the [EASME website](#). Applications to open calls are made through the [Participant Portal](#).*

For more information, please refer to **Annex I** and to the **Tables**.

II. [KEY EUROPEAN AGENCIES](#)

The following key European agencies are involved in supporting space-related businesses, often in synergies with the above-mentioned key European programs and policies:

1. [EUROPEAN SPACE AGENCY](#)

WHAT CAN BE FUNDED?

The **European Space Agency (ESA)** programs and initiatives are as follows:

- **Advanced Research in Telecommunications Systems (ARTES)** program to develop innovative products, services, systems and partnerships

- **Technology Research Programme (TRP)** to research basic principles observed from actual system completion to experimental proof of concept
- **General Support Technology Programme (GSTP)** to develop new technologies and projects
- **Future Launchers Preparatory Programme (FLPP)** to fund activities related to the development of technologies for future European launch vehicles and improvements to existing launch vehicles
- **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 Business Applications** to apply for funding for ideas and partnering with others
- **ESA BICs** enabling entrepreneurs to turn space-related business ideas into commercial startups companies and
- **Other ESA technology and innovation R&D.**

*ESA funding rules differ from those applicable to EU bodies and may follow the principle of fair return or “juste retour”
ESA funding will likely remain available for UK-based entities even following a Brexit without agreement*

DOING BUSINESS WITH THE ESA?

To interact with the **ESA**, space-related businesses could notably:

- register as tenderer by using **ESA-STAR** (registration is mandatory for entities wishing to do business with ESA)
- submit project proposals by using **ESA-STAR** for the above-mentioned **ESA** programs, including **ARTES**, **TRP** and **GSTP**
- check the progress and status of procurement actions on **ESA EMITS**
- consult the IITs and express interest on **ESA EMITS**
- seek to benefit from funding via **ESA Kick-start Activity**
- apply to gain financial and practical support via **InCubed**
- apply at any time for funding from **ESA Business Applications**
- submit at any time an application via open calls for proposals to join an **ESA BIC** and
- 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

HOW IT CAN BE FUNDED?

ARTES

ESA ARTES supports projects at any point of the technology development process (TRLs 2 to 8). Space-related businesses 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**.

TRP

The **Technology Research Programme (TRP)** is the backbone of ESA's innovation effort, supporting all of ESA's fields of activity across the entire spectrum of technical disciplines, providing the technological nucleus for most future developments covering up to proof-of-concept TRL 3. **TRP** supports projects based on the "Innovation Triangle" concept, requiring the collaboration of 3 different entities: an inventor, a developer and a customer. Procurements plans are made annually, with 100% contracts offered to industry and universities on an open competitive basis. About €50m are granted in industrial contracts per year. IITTS are issued continuously throughout the year on **ESA's EMITS**, 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's EMITS**. Around €45-60 million are granted for industrial contracts per year for around 60 to 80 activities.

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. Space-related businesses 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 BUSINESS APPLICATIONS

Business Applications 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.

Businesses from any sector, including space-related business, 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 space-related business, 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 EMITS** (under "Open Invitations to Tender" reference AO9305).

ESA Business Applications program is open to any public or commercial space-related business 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.

ESA BICS

At the **ESA BICs** centers, space-related business are 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**.

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

2. EUROPEAN DEFENCE AGENCY

WHAT CAN BE FUNDED?

The **European Defence Agency (EDA)**'s programs and initiatives that may be of interest for space-related businesses include:

- autonomous access to space and permanent earth observation
- governmental satellite communication, with the objective of preparing the next generation in the 2025 timeframe
- cyber defence, with a focus on technology, training and protection of EU assets.

The **EDA** is also involved in supporting research and innovation in Europe including by SME through prioritization (list of European critical defence technologies), investment in critical technologies and greater synergies with EU instruments. Project proposals

will be evaluated with the help of independent experts selected based on a call for applications.

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

DOING BUSINESS WITH THE EDA?

The **EDA** may support space-related businesses 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 prizes to stimulate innovative ideas in defence with potential impact either on future defence capabilities or filling existing capability gaps.

Space-related businesses interested in participating to **call for proposals** launched by the **EDA** can find necessary information on **EDA Grants**.

Information about **EDA's** calls for tenders is available on **EDA Procurement webpage**. The **EDA** uses an **eTendering platform**.

*The **EDA** has developed a tool to perform an initial diagnostic on the potential eligibility of defence-related projects called **Start IdentiFunding***

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

3. EUROPEAN GLOBAL NAVIGATION SATELLITE SYSTEMS

The **European Global Navigation Satellite Systems (GNSS) Agency**, which is the only EU agency currently working in space, may support space-related businesses by:

- awarding directly grants funded under GNSS and **Horizon 2020** programs
- concluding directly procurement contracts
- issuing calls for proposals in the field of GNSS
- being involved in joint procurement activities with the EU Member States.

Fundamental Elements, which is an EU R&D mechanism supporting the development of GNSS technologies under the GNSS Agency leadership, with a total budget for projects of €111.5 million for 2015-2020 can provide to space-related consortium made of established and/or registered EU companies grants for 60-70% of the total value of the grant agreement and can issues tenders, funded at 100%.

*The **GNSS Agency** has developed a **GNSS Opportunities database**. Each year it publishes an **annual work program** and its 2019-2021 program with information on grants that are going to be awarded*

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

4. EUMETSAT

The **European Organization for the Exploitation of Meteorological Satellites (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 space-related businesses. Applications should be filed via EUMITS

***EUMETSAT** future procurement process will prefer European industrial solutions, with the **ESA** as the procurement agency of choice for space-related aspects*

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

III. **FUTURE KEY EUROPEAN PROGRAMS, POLICIES AND AGENCIES**

Space-related businesses may benefit in the future from the following key European programs, policies and agencies:

1. HORIZON EUROPE

With a proposed budget of €100 billion for the years 2021-2027, **Horizon Europe** will likely be the largest research and innovation funding program in Europe. Based on the provisional agreement reached at EU level, space-related businesses may benefit from the following aspects of the program as from 2021:

Areas of Intervention: Space

- Pillar 2 - Cluster **Digital and Industry: Space**, including the European space programs **Galileo** and **EGNOS**, **Copernicus**, the **Space Situational Awareness (SSA)** and **GOVSATCOM**.
- Other relevant areas of intervention such as **Smart Mobility** and the Cluster **Food And Natural Resources**.

The strategic plan that will put forward the priorities for the first four years of **Horizon Europe** is currently under discussion as well as the practicalities for the implementation.

***Horizon Europe** via a fully-fledged **EIC** will in principle provide for the possibility to apply for an equity-only support for pure scale-up operations (TRL9)
Projects contributing to building a sustainable ecosystem will likely be treated in priority under **Horizon Europe***

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

2. INVESTEU PROGRAM

Space-related businesses may be eligible for financing and investment operations under the **InvestEU Program** 2021-2027, which aims to trigger €650 billion in total additional investments, in line with the following objectives:

- to maximize the benefits for the Union society and economy
- to foster the competitiveness of space systems and technologies, addressing vulnerability of supply chains
- to underpin space entrepreneurship or
- to foster Union's autonomy for safe and secure access to space, including dual use aspects.

InvestEU general eligibility criteria, which are likely to be more specific, currently are as follows:

- address market failures or investment gaps and be economically viable
- need EU backing in order to get off the ground
- achieve a multiplier effect and where possible crowd-in private investment and
- help meet EU policy objectives.

In case of market failures or sub-optimal investment situations, space-related businesses may be able, as from 2021 to benefit from support from the EU guarantee under the **InvestEU Fund** for the added-value project and/or to benefit from project development-related technical assistance under the **InvestEU Advisory Hub**.

*The **InvestEU** program could serve as the foundation for setting up a space-dedicated fund at European level. However, **InvestEU** will need to be confirmed by the new European Parliament and consider the global agreement on the MFF 2021-2027*

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

3. EUROPEAN DEFENCE FUND

In 2018, the **European Commission** proposed to set up the **European Defence Fund (EDR)**, with a proposed budget of €13 billion under the 2021-2027 MFF, as an instrument to foster the competitiveness and innovativeness of the European defence technological and industrial base, thereby contributing to the EU's strategic autonomy.

As a first step, the **EDR** may support collaborative defence R&D projects, focusing on the defence needs (but with a potential for dual-use technologies) involving at least 3 eligible entities from at least 3 EU Member States or Associated Countries via 2 pilot programs:

- **Preparatory Action on Defence Research (PADR)**, with a budget of €90 million for 2017-2019, may provide grants for collaborative research in innovative defence technologies and products, fully and directly funded from the EU budget, following **calls for proposals**.
- The **European Defence Industrial Development Programme (EDIDP)**, with a budget of €500 million for 2019-2020, may offer co-financing (of up to 20%) for development projects funded from the EU Member States budget at around 80%, following **calls for proposals**. There will likely be 12 calls for proposals in 2020.

*Despite the partial political agreement reached on the **EDR** in February 2019, there are ongoing (difficult) discussions with respect to the **Fund***

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

4. PAN-EUROPEAN VC FUNDS-OF-FUNDS PROGRAM

The **Pan-European VC Funds-of-Funds Program (VentureEU)** is a large EU venture capital fund, which started in April 2018. Backed in principle by up to €410 million of EU investment, **VentureEU** aims at raising up to €2.1 billion of public and private investments and, in turn, to trigger an estimated €6.5 billion of new investment in innovative startups and funds-of-funds to complement other actions to boost venture capital in Europe.

Space-related businesses looking for equity investments under **VentureEU** can contact the managers of the selected funds that have signed a contractual agreement with the **European Investment Fund (EIF)** to understand the selection process and verify whether there are opportunities.

*How **VentureEU** will evolve and interact with other initiatives such as the **EIC** and the recently proposed private–public fund specializing in IPOs for SMEs remains unclear*

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

5. EUROPEAN UNION AGENCY FOR THE SPACE PROGRAMME

The future **European Union Agency for the Space Programme (the Agency)**, which will replace and succeed the **European GNSS Agency**, whilst remaining in Prague, will have certain tasks which may be relevant for space-related businesses.

*No budget has yet been allocated for specific support actions by the **Agency** for space-related businesses*

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

IV. EUROPEAN INVESTMENT BANK GROUP

Space-related businesses can also benefit from a wide range of products, Financial Instruments and services from the **European Investment Bank (EIB) Group**, which consists of the **European Investment Bank (EIB)** itself and the **European Investment Fund (EIF)**.

1. EUROPEAN INVESTMENT BANK

The **EIB**, the world's biggest multilateral financial institution, can offer to space-related businesses of all sizes, either directly or in cooperation with Financial Intermediaries, loans, guarantees, equity investments and advisory services. In general:

- loans aim at supporting growth and job creation in the private sector
- equity aims stimulating private capital through investment in equity and funds
- guarantees cover the risks of projects and
- advisory services aim at helping to develop investment projects via technical and financial expertise.

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

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

*The **EIB web site** contains all public projects submitted for financing purposes. The **EIB** has launched a "Space Finance Forum" which provides a platform for discussion focusing on debt financing*

For more information, please refer to **Annex IV** and to the **Tables**.

2. EUROPEAN INVESTMENT FUND

The **European Investment Fund (EIF)**, which is the cornerstone investor in Europe, and whose mission is to support entrepreneurship and innovation by helping to access finance, can assist space-related business by working with a wide range of Financial Intermediaries, as follows:

- venture capital and private equity interventions to improve the availability of risk capital to develop high-growth and innovative SMEs, including by way of:
 - implementation of the **European Fund for Strategic Investments (EFSI)**, which has at its disposal around €500 million until end 2020, for actions predominantly in the EU.
 - Technology Transfer

- co-investing with selected business angels and other non-institutional investors into innovative projects in all sectors and at any phases (seed, early or expansion stage) via the **European Angels Fund (EAF)** in certain EU countries
- ventures including a **Pan-European Venture Capital Fund(s)-of-Funds programme (VC FoF programme)**, various funds-of-funds approaches and investments in hybrid debt/equity funds (**Mezzanine Facility For Growth**) and partnering with VC funds and managing their funds.
- debt products, including:
 - credit enhancement operations
 - the **ENSI - EIF** and **National Promotional Institutions (NPIs) Securitisation Initiative**, a cooperation and risk sharing platform
 - the **SME Initiative**, providing partial risk cover for SME loan portfolios of originating financial institutions in certain EU Member States
 - enabling students to take a Master's Degree in another **Erasmus+ Program Country**
 - guarantees and credit enhancement through securitization to improve the lending capacity of financial intermediaries
 - **EREM Asset-Backed Securities (ABS) Credit Enhancement**, a debt financial product.
- 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.

Space-related businesses can ask financial intermediaries to explore the above opportunities to cooperate with the **EIF** or to submit investment proposals. Intermediaries can **apply** until September 2020 to become a financial intermediary under **EFSI Equity**.

For more information, please refer to **Annex IV** and to the **Tables**.

3. 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 €7.5m), between 35% and 50% of the project or investment cost, following due diligence
- corporate financing (loans and equity-type financing starting at €7.5m and/or guarantees and counter-guarantees on debt financing of up to €50m)
- science (debt or equity-type financing from €25m)
- thematic financing (loans, loan guarantees or equity-type financing typically between €7.5m and €75m).

*Financial institutions and potential beneficiaries interested about of **InnovFin** could contract either the EIB or the EIF. Certain capital-intensive, long-term space-related projects such as in the area of Space Resources may be eligible under **InnovFin** due to the lack of available financing on acceptable terms from other sources*

For information, please refer to below and to **Annex IV**.

4. INNOVFIN EQUITY

InnovFin Equity is an initiative launched by the **European Commission** and the **EIB Group** in the framework of **Horizon 2020**, with a planned budget of around €2.7 billion until end of 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**, including space. Interested financial institutions could contract the EIF directly and potential beneficiaries could interact via their financial intermediaries.

In that context, the **InnovFin Space Equity Pilot (ISEP) instrument** has been set up in the **Horizon 2020** work program 2018-2020 to invest around €50 million, 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.

*Despite an **announcement** made in January 2019 that a space fund will soon be launched, the EIF is not yet able to implement the **ISEP instrument** and invest in venture funds focused on supporting space-related business*

For more information, please refer to **Annex IV** and to the **Tables**.

V. OTHER EU POLICIES, PROGRAMS, EUROPEAN AGENCIES & BODIES

Space-related businesses and solutions, often when integrated into wider (non-space specific) projects, can play a role in, and may be funded by, many other (more general) EU policies and programs, that are often implemented in practices by specific agencies and bodies, including the following:

1. CLIMATE CHANGE

Combating climate change is a statutory objective of Union policy on the environment. The **EU Space Program** in general and the **Copernicus** program in particular share the same objective. Space-related businesses remain at the forefront to meet the climate change political priorities. Financing opportunities for space-related activities and solutions for combating climate change include the following:

- The **LIFE program**: EU's funding instrument for the environment and climate action, with a budget of €3.4 billion for the current MMF. The **LIFE** 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. Anyone registered in the EU (private entities, public bodies and NGOs can participate to the **LIFE** program (calls for proposals will open as from April 2020). A few programs using data collected through satellite images have already been funded by **LIFE**.
- **EIT Climate-KIC**: EU's largest public private partnership addressing climate change through innovation, funded by grants from the **European Institute of Innovation and Technology (EIT)**.

Due to the importance of tackling climate changes, an overall target of 20%-35% of the EU budget expenditures supporting climate objectives is currently under discussion

For more information, please refer to **Annex V** and to the **Tables**.

2. ENVIRONMENT

In addition to the Union policy on the environment, environmental protection requirements must be integrated into the definition and implementation of other Union's policies and activities such as the **EU Space Program**, with a view to promoting sustainable development. Also, the **Copernicus** program should ensure an autonomous access to environmental knowledge and key technologies for Earth observation and geo-information services.

Space-related business may benefit from certain funding opportunities for environmentally related projects such as:

- The **European Environment Agency (EEA)** can offer **contract opportunities and grants** for relevant projects via calls for tender, negotiated procedures, calls for proposals and calls for expression of interest.
- **DG ENV** can issue **calls for tenders** for Pilot Projects and Preparatory Actions (PPPA) that are based on the use of satellite technologies.

Space-related businesses and solutions can play an important role in terms of environmental protection and related projects can benefit from several funding opportunities

For more information, please refer to **Annex V** and to the **Tables**.

3. AGRICULTURE, FISHERIES, MARITIME AFFAIRS & RURAL DEVELOPMENT

There are various funding opportunities under the EU Common Agricultural and Fisheries policies, the EU Maritime Policy as well as the EU Rural Development Policy. What may be relevant for space-related business is the following:

- The **Agricultural European Innovation Partnership (EIP-AGRI)** in the so-called area of “agricultural innovation” that brings together innovation actors to form together an EU-wide EIP network and then pools funding streams. Such groups or networks can be funded under the **Rural Development Programmes (RDPs)** and are project based. The EU Member States or regions decide on the precise conditions to support projects.

The [EIP-AGRI website](#) includes information about funding opportunities for innovation projects and to look for partners. Users can share innovative ideas, practice and project results

- The **European Maritime and Fisheries Fund (EMFF)**, which is one of the five **European Structural and Investment (ESI)** funds, seeks to promote a growth and job-based recovery in Europe. It can finance projects that create new jobs and improve quality of life along European coasts and supports sustainable aquaculture developments for 2014-2020. It can be used to co-finance projects, along with national funding. The **EMFF** can issue **calls for proposals**. Project eligibility is managed at national levels.
- The **European Maritime Safety Agency (EMSA)**, which aims to promote a safe, clean and economically viable maritime sector in the EU, can issue **calls for tenders** and **calls for consultations** in priority areas.
- **Mercator Ocean** organization, 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**, with €144 million to fund the operation until 2021, can issue **calls for tenders**.

For more information, please refer to **Annex V** and to the **Tables**.

4. MOBILITY & TRANSPORT AND UBIQUITOUS TECHNOLOGY

Satellites navigation systems such as **Galileo** are widely used in aviation, maritime, road and rail transportation. The number of **Galileo**-enabled smartphones in use has reached one billion in 2019. The GNSS has become a Ubiquitous Technology and will serve as the backbone of a digitally connected world, for everything from the IoT to Augmented Reality and autonomous vehicles.

Apart from **Horizon 2020**, there are various funding opportunities under the EU policies relating to mobility and transport and space-related business active in this area may notably benefit from the following funding opportunities:

- The **Connecting Europe Facility (CEF)**. As part of the **European Commission's** Information System to coordinate and support the **Trans-European Transport Network Policy (TEN-T)**, funding may be available for the seamless inclusion of **Geographical Information Systems (GIS)** such as interactive maps and satellite overlays (e.g. **OpenStreetMap**). The **Connecting Europe Facility** has funded certain projects involving the use of satellite-based technologies.

- **ESA Satellite 5G initiative (S45G)**, 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)*

For more information, please refer to **Annex V** and to the **Tables**.

5. MIGRATION AND HOME AFFAIRS

The Union is in charge of framing common policies on asylum, immigration and external border control (Migration) as well as taking actions designed to prevent and combat terrorism and related activities (Home Affairs).

The financing of such activities is provided via funds such as:

- the **Asylum, Migration and Integration Fund (AMIF)**, with an overall budget of € 3.1 billion for the years 2014-2020. Concrete actions can be funded via the **AMIF**, including a range of initiatives to which space-related businesses (including private entities) may be able contributing. For instance, satellite data, information and services are one of the tools that can help to address the issue of the migration flows.

*Whilst calls for proposals specifically related to the **AMIF** are listed on the [AMIF web site](#), the details are mentioned on the [Single Electronic Data Interchange Area](#).*

- The Union also cooperates in the areas of Migration with a number of agencies including the **European Agency for the Management of Operational Cooperation at the External Borders of the Member States of the European Union (FRONTEX)**. Funding via **FRONTEX** is provided via grants or tenders.

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

For more information, please refer to **Annex V** and to the **Tables**.

6. ENERGY & MINING

The Union policy on energy promotes security of energy supply, energy efficiency and saving and the development of new and renewable forms of energy. Space-related businesses are well placed in order to foster sustainable energy approaches.

Also, the energy and mining industries are increasingly interested about the issue of Space Resources. Certain space-related businesses are 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).

*There does not seem to be any currently available specific public funding and financing opportunities in this area. This may change since the **ESA** is preparing a lunar surface mission to demonstrate technologies needed for Space Resources*

For more information, please refer to **Annex V** and to the **Tables**.

7. HUMANITARIAN AID & CIVIL PROTECTION

The **EU Civil Protection and Humanitarian Aid Operations Department (ECHO)**, which helps people in need, with an annual humanitarian budget of around € 1billion, often relies upon satellite maps of affected areas. It can issue **calls for proposals** concerning a range of relief and civil protection efforts.

8. INTERNATIONAL COOPERATION & DEVELOPMENT

DG DEVCO is responsible for designing European International Cooperation and Development policy and delivering aid throughout the world. **DG DEVCO** could fund or support space-related business that can provide relevant technologies and solutions in this area.

For more information, please refer to **Annex V** and to the **Tables**.

CONCLUSION

This Guide assumes that an **increase in knowledge** about the public funding and financial opportunities that are available **is an essential step towards success** of space-related business.

Despite the power of entrepreneurship and a vibrant New Space entrepreneurial spirit, **access to private finance remains a challenge** in Europe, in contrast with other regions of the globe. As a result, **public support for the space sector remains essential**.

We are confident that **space entrepreneurs will be able finding among the 40 programs** identified in this Guide **the most appropriate options for their business**.

Money, whilst often key to business success, **is however by far not all what is needed** to ensure that Europe becomes a well-funded spacefaring region.

Advocacy efforts should continue to ensure that (i) future public funding and financing programs support space-related technologies, (ii) are adapted to the New Space needs and characteristics and (iii) to foster a new ecosystem of space ventures.

Clear narratives focusing on the fact that space-related technologies and solutions are well placed to foster a better, safer and more sustainable world on Earth would also be helpful.

Finally, if you believe that the choice between “not going” or “going to space” is a choice between stasis and rationing and dynamism and growth, then **it is time to get busy**.

ANNEXES

ANNEX I – EU PROGRAMS AND POLICIES

- HORIZON 2020

The **HORIZON 2020** program, for the years 2019 and 2020, Section entitled *Leadership in space*, is to foster a competitive and innovative space industry and research community to develop and exploit space infrastructure to meet future Union policy and societal needs.

The lines of activities are:

- enabling European competitiveness, non-dependence and innovation of the European space sector
- enabling advances in space technologies
- enabling exploitation of space data and
- enabling European research in support of international space partnerships.

- COPERNICUS

The **European Earth Observation Programme Copernicus** gathers and structures multiple sources of information, such as satellite and *in-situ* data, in order to provide users, authorities, the private sector and the scientific community with continuous, independent and reliable access to Earth observation data and services information. The objective is to manage better the environment and the climate, and to contribute to enhanced safety and security.

EU funding maybe available to:

- build an autonomous Union's Earth observation capacity by supporting the space infrastructure and favoring the European industry, namely in the construction and launch of satellites
- contribute to the availability of the observation capacity necessary to enable the **Copernicus** services, in particular through the operations of the ground segment of the space infrastructure
- create opportunities for increased private sector usage of information sources, thereby facilitating innovation by value-adding service providers and
- support the development and construction of satellites, as well as their operation.

EU funding may also be available for the acquisition of data from third parties and the access to contributing mission from EU Member States, as well as the dedicated dissemination platform (core ground segment).

- GALILEO

Galileo is **Europe's Global Navigation Satellite System (GNSS)**, providing improved positioning and timing information. It is one of the European large

infrastructure projects and it is entirely financed by the EU budget. Since 2016 Galileo has been providing positioning, navigation and timing services to more than 500 million users all around the world.

EU funding is available for the exploitation phase of the **Galileo** program, consisting of the management and protection of the space and ground infrastructure, the development of future generations of the system and services, certification and standardization operations, marketing and all other necessary activities.

- **EGNOS**

- The **European Geostationary Navigation Overlay Service (EGNOS)** improves the accuracy and reliability of the US Global Positioning System (GPS) and of the **EGNOS** across Europe. **EGNOS** is instrumental to many EU policies, such as transport, climate change, environment, agriculture or industry. **EGNOS' Safety of Life** service provides the integrity needed for more precise landings, fewer delays and diversions and more efficient routes. More than 315 airports in 23 European countries used **EGNOS** landing procedures in 2018. EU funding for the program is granted with a view to financing activities relating to the exploitation of the **EGNOS** system, including all elements justifying the reliability of the system and its exploitation.

- **SSA & STM**

The **Space Situational Awareness (SSA)** and the **Space Traffic Management (STM)** are essential for sustainable near-Earth orbit operations. **SSA** has historically been a military activity, leading to an incomplete public catalogue of the activities and objects in orbit. The **SSA** program could be a basis for **STM**.

The objectives of **STM** are:

- guaranteeing the prosperity and advancement of future generations by keeping spaceflight safe and space exploration and use sustainable
- dealing with the problems and promises of spaceflight by addressing all phases of traffic entering, operating in and returning from outer space
- tackling the ongoing decline in safety and sustainability by tying together existing technologies, infrastructures and legal instruments.

The **STM** could comprise the following actions:

- interdisciplinary research
- opinion building;
- advancing technical prerequisites and international cooperation
- preparation in UNCOPUOS, ITU, ICAO and inter-governmental forums and
- raising public awareness.

Under the new **EU Space Program**, the intention is to enhance the performance and autonomy of **SSA** by further developing space surveillance and tracking of space objects. In the meantime, France and Italy have initiated the **European**

Military Space Surveillance Awareness Network (Eu-SSA-N) project to develop an autonomous, sovereign EU military SSA capability response to natural and manmade threats, which includes a space component.

- **ENHANCED EUROPEAN INNOVATION COUNCIL**

The **Enhanced European Innovation Council (EIC) Pilot** supports researchers and innovators developing high-risk, breakthrough innovations with the potential to create new markets and boost jobs, growth and prosperity in Europe, via the following 3 new schemes:

1. The **EIC Pathfinder pilot** (grant only), comprising **FET-Open** and **FET-Proactive**. **FET-Open**, uses interdisciplinary collaboration to tap into Europe's excellent science base for exploring radically new technologies, which may become the game-changers of the future.

FET-Proactive aims to identify the future and emerging technological paradigms with highest potential for Europe's economy and society in targeted technology such as:

- micro- and nanotechnologies
- AI and advanced robotics
- technologies for the life sciences, health and treatment
- low-carbon energy and climate change technologies
- interaction technologies (including virtual-, augmented- and mixed reality).

2. The **EIC Accelerator pilot** supports different types of innovation, including Deep-tech innovation, but also projects aiming at bringing to market ground-breaking concepts that could shape new markets or disrupt existing ones, including social innovation projects with the potential for rapid growth at European and global levels. Such market-creating innovations take shape at the intersection between different technologies, industry sectors and scientific disciplines, linked to domains such as energy, health, ICT, transport, agriculture and space.

Fundable activities could be: risk assessment, prototyping, miniaturization, scaling-up, design, performance verification, testing, demonstration, development of pilot lines, validation for market replication, market studies or intellectual property exploration; the ultimate goal is to put a new product, service or process in the market, possibly through an innovative application of existing technologies, methodologies, or business processes.

In terms of investment strategy, by contrast with typical VCs, private equity investors, the **EIC Accelerator** only supports projects whose associated risks are considered too high for a typical private investor on a stand-alone basis, thus not appealing enough to attract enough funding from private investors. The investment aims to provide patient capital having a longer holding period than typical VC investments, and on an “impact investment” basis rather than pure “return on investment”. The features of the funding

will typically be more founder friendly than those of VC funds, in terms of % stake in the company valuation and investment conditions.

3. **Other Activities** under this new Pilot phase include the **Fast Track to Innovation (FTI)** and the **Horizon Prizes**.

The **Fast Track to Innovation (FTI)** is a fully-bottom-up innovation support program promoting close-to-the-market innovation activities in any area of technology or application including space. It can help partners to co-create and test breakthrough products, services or business processes that have the potential to revolutionize existing or create entirely new markets. It aims to:

- reduce time from idea to market
- stimulate the participation of first-time applicants to EU research and innovation funding and
- increase private sector investment in research and innovation.

The **EIC Horizon Prizes** call for breakthrough solutions from innovators, aiming to demonstrate the feasibility or potential of technologies and promote uptake. They are awarded to whoever can most effectively meet a defined challenge, without prescribing how that challenge should be solved.

- **EUREKA AND THE EUROSTARS PROGRAMS**

EUREKA's aim is to enhance European competitiveness by fostering innovation-driven entrepreneurship in Europe, between small and large industry, research institutes and universities. **EUREKA** is composed of 41 Members, including the EU represented by the **European Commission** and three associated states – Canada, South Africa and South Korea.

EUREKA follows a “bottom-up” principle, namely ensuring that any project with a good business plan receives support regardless of its technological nature or the type of organizations involved. The **EUREKA** platform has been used for several projects in the areas of antenna for mobile satellite communications, satellite laser ranging system and ground segments.

The **Eurostars Program** supports international collaborative research and innovation projects that will be rapidly commercialized. The **Eurostars Program** has financed projects relating to the use of satellite communications for future airplanes and to battle the digital divide. The average cost of project under the budgetary period 2014-2018 was € 1.4 million.

- **COMPETITIVENESS OF ENTERPRISES AND SMALL AND MEDIUM-SIZED ENTERPRISES (COSME)**

The **COSME** program supports SMEs in the following areas:

- facilitating access to finance
- supporting access to markets and internationalization

- creating an environment favorable to competitiveness
- encouraging an entrepreneurial culture.

With respect to facilitating access to finance, the **Loan Guarantee Facility (LGF)** will fund guarantees and counter-guarantees for Financial Intermediaries to help them provide more loans and lease finance to SMEs. This facility includes the securitization of SME debt-finance portfolios. By sharing the risk, the **COSME** guarantees will allow financial intermediaries to expand the range of SMEs and types of financial transactions they can support. These guarantees may help many SMEs who might otherwise not be able to obtain funding due to their perceived higher risk or a lack of enough collateral.

The **Equity Facility for Growth (EFG)** is dedicated to investments in risk-capital funds that provide venture capital and mezzanine finance to support expansion and growth-stage SMEs, in particular those operating across borders.

With respect to access to markets, COSME funds the **Enterprise Europe Network (EEN)** consisting of over 600 offices in more than 50 countries helping SMEs find business and technology partners, understand EU legislation and access EU financing.

COSME also funds web tools specifically designed for enterprises development such as Your Europe Business Portal or the SME Internationalization Portal. The first provides practical online information for entrepreneurs who want to become active in another Member State. The latter puts the emphasis on support measures for companies which want to develop their business outside Europe. Within this context, COSME supports a **European Strategic Cluster Partnerships for Going International (ESCP-4is)** in the space and digital sectors (use of earth observation data and related applications), specifically for downstream users of earth observation data in the context of **Copernicus**. The objective is to promote access to international markets for European clusters and networks involved in the development and provision of earth observation products and services (e.g. geo-information services and ICT applications supporting societal goals in a broad range of areas such as management of natural resources, precision agriculture or smart cities). Internationalization strategies should enable cooperation with third country partners in view of exporting high value-added and knowledge-intensive products and services based, inter alia, on **Copernicus** data and services.

COSME also finances the ASEAN, China and **MERCOSUR Intellectual Property Rights (IPR) SME Helpdesks** that offer advice and support to European SMEs facing difficulties in IPR issues, standards or public procurement rules in those geographical areas. With respect to creating an environment favorable to competitiveness, **COSME** helps SMEs to take-up new business models and integrate into new value chains and promotes the development of world class clusters in the EU, fostering cluster excellence and internationalization with an emphasis on cross-sectoral cooperation, notably in support of emerging industries. The program also aims at accelerating the

digitalization of the business community and promoting e-skills and e-leadership.

With respect to encouraging an entrepreneurial culture, **COSME** backs the implementation of the **Entrepreneurship 2020 Action Plan** through a wide range of activities. These include mobility exchanges, research, best practices diffusion and pilot projects in areas such as entrepreneurship education, mentoring or the development of guidance and support services for new and potential entrepreneurs, including young, women and senior entrepreneurs. **Erasmus for Young Entrepreneurs** is for instance a cross-border exchange scheme which aims to help new and aspiring entrepreneurs acquire relevant skills to run and grow a business by working with an experienced entrepreneur in another country for one to six months. It increases their know-how and fosters cross-border transfer of knowledge and experience between entrepreneurs. **COSME** especially focuses on digital entrepreneurship to help European businesses drive their digital transformation and fully benefit from the new opportunities created in the digital era, which are crucial for their competitiveness and growth.

ANNEX II – FUTURE EU PROGRAMS POLICIES AND AGENCIES

- HORIZON EUROPE

Horizon Europe will likely be EU's most ambitious flagship research and innovation program. With respect to the space sector, under current draft rules, it is envisaged that the EU will:

- support synergies between space and key enabling technologies (big data, advanced manufacturing, robotics and AI)
- foster a thriving and entrepreneurial and competitive space sector
- help secure non-dependence in accessing and using space in a safe and secure manner.

Activities will be roadmap-based, taking account of the **ESA** harmonization process and relevant EU Member States initiatives, and will be implemented with **ESA**, as appropriate.

Broad envisaged areas of intervention are under **Horizon Europe**:

- **Galileo** and **EGNOS**: innovative applications, global uptake including international partners, solutions improving robustness, authentication, integrity of services, development of fundamental elements such as chipsets, receivers and antennas, sustainability of supply chains, new technologies (e.g. quantum technologies, optical links, reprogrammable payloads), towards sustained exploitation of services for impact on societal challenges. Next generation systems development for new challenges such as security or autonomous driving.
- **Copernicus**: innovative applications, global uptake and international partners, robustness and evolution of services, sustainability of supply chains, sensors, systems and mission concepts (e.g. high altitude platforms, drones, light satellites); calibration and validation; sustained exploitation of services and impact on societal challenges; Earth observation data techniques, big data, computing resources and algorithmic tools. Next generation systems development for new challenges such as climate change, and security.
- **Space Situational Awareness (SSA)**: robust EU capacity to monitor and forecast state of the space environment e.g. space weather, space debris and near-Earth objects, and new service concepts, such as STM, applications and services to secure critical infrastructure in space and on Earth.
- **Secure Satellite Communications for EU governmental actors**: solutions for the widest possible range of governmental users and associated user equipment in architectural, technological and system solutions for space infrastructure, supporting the EU's autonomy.

- **End-to-end satellite Communications for citizens and businesses:** cost-effective, advanced satellite communications to connect assets and people in underserved areas, as part of 5G-enabled ubiquitous connectivity and development of the Internet of Things (IoT) and contributing to the Next Generation Internet (NGI) infrastructure. Enhanced ground segment and user equipment, standardization and interoperability to ensure EU industrial leadership.
 - **Non-dependence and sustainability of the supply chain:** increased technology readiness levels in satellites and launchers, associated space and ground segments, and production and testing facilities. The aims are to secure EU technological leadership and autonomy, improved supply chain sustainability, reduced dependence on non-EU critical space technologies and improved knowledge of how space technologies can offer solutions to other industrial sectors.
 - **Space ecosystem:** in-orbit validation and demonstration services, including rideshare services for light satellites, space demonstrators in areas such as hybrid, smart or reconfigurable satellites, in-orbit manufacturing and assembly, launcher reusability, in-orbit servicing and micro-launchers; breakthrough innovations, and technology transfer, in areas such as recycling, green space, AI, robotics, digitization, cost-efficiency and miniaturization.
 - **Space science:** exploitation of scientific data delivered by scientific and exploration missions, combined with the development of innovative instruments in an international environment; contribution to precursor scientific missions for the evolution of the EU Space Program.
- **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**, in cooperation with other stakeholders such as the **European Space Agency**, 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.

- **INVESTEU**

- **The InvestEU Program** will bring together under one roof the multitude of EU Financial Instruments currently available to support investment in the EU. **InvestEU** aims to trigger additional investments, complementary to grant financing and other actions under policy areas such as the European Space Program.

The program includes the **InvestEU Fund**, the **InvestEU Advisory Hub** and the **InvestEU Portal**.

The **InvestEU Fund** will provide an EU guarantee and should operate under different policy windows, mirroring the key Union policy priorities, including:

- sustainable infrastructure investment in the areas of space and
- SMEs policy window: access to and availability of finance for SMEs and, in duly justified cases, for small Midcaps.

The **InvestEU Advisory Hub** will provide technical support and assistance to help with the preparation, development, structuring and implementation of projects, including capacity building.

The **InvestEU Portal** will bring together investors and project promoters by providing an easily accessible and user-friendly database.

- **THE EUROPEAN DEFENCE FUND**

The following two-step approach is proposed for the **European Defence Fund** under the 2021-2027 MFF as an instrument to foster the competitiveness and innovativeness of the European defence technological and industrial base thereby contributing to the EU's strategic autonomy, with a proposed budget of €13 billion.

, involving:

- an initial test period under the 2014-2020 multi-annual financial framework during which a **Preparatory Action on Defence Research (PADR)** supports collaborative defence research, while the proposed **European**

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

- a dedicated fund under the 2021-2027 multi-annual financial framework scaling up the funding for collaborative research in innovative defence products and technologies and for subsequent stages of the development cycle, including the development of prototypes.

As a first step, to support collaborative defence research and development through two pilot programs are currently available:

- The **Preparatory Action on Defence Research (PADR)** provides grants for collaborative defence research, including for space-related projects.
- Under the **European Defence Industrial Development Programme (EDIDP)**, co-financing is offered for collaborative defence development projects. Certain currently open calls for proposals related to space projects in the areas of **Galileo PRS navigation receiver** capabilities compatible with GPS/PRS solution for military purposes and military satellite communications in peacetime, missions and operations.

- **VENTUREEU**

VentureEU is providing cornerstone investments in independently managed venture capital funds-of-funds. The EU investment in **VentureEU** will be managed by the **EIF** under the supervision of the **European Commission** and rolled out via six professional and experienced fund managers ensuring a fully market-driven approach. The six funds selected to support **VentureEU** will take stakes in certain, smaller investee funds and cover projects in at least four European countries. These investee funds will help finance SMEs and Midcaps from a range of sectors such as ICT, digital, life sciences, medical technologies, and resource and energy efficiency. The selected fund managers are to raise at least three times as much from other sources (the EU investment is capped at 25%).

On 10 April 2018, the **European Commission**, the **EIF** and the managers of two funds selected following the **EIF** call for expression of interest - Isomer and Axon - announced that they had come to a contractual agreement in the context of this initiative. As a result, these two funds can start investing now using EU budget resources; contractual agreements with four other funds are set to follow later in 2018. Aberdeen Standard Investments, LGT, Lombard Odier Asset Management and Schroder Adveq – later this year, when the EIF reaches legal agreement with them.

- **EUROPEAN UNION AGENCY FOR THE SPACE PROGRAMME**

The future **European Union Agency for The Space Programme** (the Agency) will replace and succeed the **European GNSS Agency**. It is planned that the Agency will be responsible for:

- the management of the exploitation of **EGNOS** and **Galileo**

- security verification tasks
- user uptake activities relating to other EU programs than **Galileo** and **EGNOS**
- downstream application development activities for all EU Programs.
- **Fundamental Elements**, the EU R&D funding mechanism under the GNSS Agency leadership, is supporting the development of EGNSS-enabled chipsets, receivers and antennae. Fundamental Elements projects are part of the overall European GNSS strategy for market uptake, led by the **GSA**. The objectives of the program are:
 - facilitate the adoption of EGNSS, building on innovative services and differentiators
 - improve the competitiveness of EU industry
 - address user needs in priority market segments and
 - maximize benefits to European citizens.

ANNEX III – KEY EUROPEAN AGENCIES

- The EUROPEAN SPACE AGENCY (ESA)

The **EUROPEAN SPACE AGENCY (ESA)**, the most important actor for financing space-related businesses in Europe, operates 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)
 - 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 ensure the necessary continuity in the development of identified technologies. GSTP has the following objectives:
 - enable missions of ESA and national programs by developing technology
 - foster innovation by creating new products
 - strengthen the competitiveness of European industry
 - improve European technological non-dependence and the availability of European sources for critical technologies and
 - facilitate spin-in from outside the space sector.

It aims to convert promising engineering concepts into a broad spectrum of mature products – everything from individual components to

subsystems up to complete satellites – right up to the brink of spaceflight or beyond. ration missions.

This program has been separated into 3 elements (Develop, Make and Fly). Its work plan is approved by representatives of ESA Participating States, prioritizing issues that fit with their own industrial strategies.

- **The Future Launchers Preparatory Programme (FLPP)**, which began in 2003, comprises 3 elements (Develop, Make and Fly). It is instrumental in the European strategy for access to space, and aims to:
 - identify and prepare the system competence and technology for development with the aim of confining launcher time-to-market within 5 years, reducing recurring cost and development risk, while keeping long-term industry competitiveness.
 - promote reusability of existing and new technologies to reduce development costs globally.
 - perform system studies to assess evolutions of operational launchers, future launcher architectures, advanced concepts, select technology and elaborate technology requirements.
 - safeguard critical European industrial capabilities for the safe exploitation of the current launchers and guaranteed access to space.
 - 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. Space-related businesses 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.

- Twenty **ESA BICs**, spread over more than 60 cities, in 17 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. More than 700 startups have been fostered throughout Europe via the ESDA BICs and thousands of new Deep-tech jobs have been created. The rate of success of the incubated startups is beyond 80%.
- **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)**.
- **EUROPEAN DEFENCE AGENCY**

THE EUROPEAN DEFENCE AGENCY (EDA), established in 2001, is an intergovernmental agency that falls under the authority of the **Council of the EU**. It supports its 27 Member States in improving their defence capabilities through European cooperation. It acts as 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. To this end, the **European Commission** signed a delegation agreement with the **EDA** on 31 May 2017.

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.

The **ESA** and the **EDA** have signed an administrative arrangement in 2011 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.

- [EUROPEAN GLOBAL NAVIGATION SATELLITE SYSTEMS \(GNSS\) AGENCY](#)

The **European GNSS Agency** or the **GSA Agency** unique mission is to serve as the essential link between space technology and user needs, translating **Galileo** and **EGNOS** signals into valuable, reliable services for European citizens by:

- designing and enabling services that fully respond to user needs, while continuously improving the European GNSS services and infrastructure
- managing the provision of quality services that ensure user satisfaction in the most cost-efficient manner
- engaging market stakeholders to develop innovative and effective applications, value-added services and user technology that promote the achievement of full European GNSS adoption and
- ensuring that European GNSS services and operations are thoroughly secure, safe and accessible

GSA's responsibilities also include overseeing the operation of such key service facilities as the **Galileo Security Monitoring Centre (GSMC)** in France and the UK, the **European GNSS Service Centre (GSC)** in Spain, the **Galileo Reference Centre (GRC)** in the Netherlands, the **Galileo Control Centres (GCC)** in Fucino and Oberpfaffenhofen and the **Galileo Integrated Logistic Support Centre (GILSC)** in Belgium. Collectively, these facilities ensure **Galileo's** security and performance so that people can trust and rely on it in their daily lives and when they need it most.

- [THE EUROPEAN ORGANISATION FOR THE EXPLOITATION OF METEOROLOGICAL SATELLITES](#)

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 - THE EUROPEAN INVESTMENT BANK GROUP

• THE EUROPEAN INVESTMENT BANK (EIB)

The **European Investment Bank (EIB)** supported significant projects in the space and aerospace sectors for total amount of € 5,4 billion since 2000. A handful number of space-related businesses such as OHB, Arianeespace, Inmarsat, Onera, Sener, Terma, and Skeleton Technologies have already 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 (EFSI)**). The **EIB** has also deployed Risk-sharing Instruments 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. 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.

• THE EUROPEAN INVESTMENT FUND (EIF)

The **European Investment Fund (EIF)** offers, often via Financial Intermediaries, a number of Financial Instruments and actions, including:

- **Implementation of the European Fund for Strategic Investments (EFSI)** 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 new 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.
- 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.

- **INNOVFIN**

- **Innovfin** aims to facilitate and accelerate access to finance for innovative businesses and other entities in Europe. The following targeted approaches are noteworthy among the wide range of new financial and advisory products for research and innovation under **InnovFin Thematic financing**. In 2015, two important thematic finance products were launched to support combating infectious diseases and high-risk energy demonstration projects. A new thematic investment platform in the area of circular bioeconomy is currently under development.
- **InnovFin Technology Transfer** targets investments in Technology Transfer funds focusing on pre-seed (including proof of concept) and seed stages. It aims to accelerate technological innovations, especially in areas of key enabling technologies (including but not limited to ICT, nanotechnology, biotech, cleantech, and medtech) and other **Horizon 2020** objectives, including promotion of intellectual property (IP), licensing and spin-off activities.
- **InnovFin Business Angels** targets investments in business angel managed funds or co-investment funds which focus on ICT and other sectors covered by **Horizon 2020**, including social impact, and invest in early-stage enterprises at regional, national or cross-border levels.
- **InnovFin Venture Capital** targets investments in venture capital funds that provide funding to enterprises in their early-stage operating phase in **Horizon 2020** innovative sectors.
- **InnovFin Fund-of-Funds** targets investments in funds-of-funds which hold or aim to build a portfolio of underlying investee funds with significant geographical spread and early-stage focus. InnovFin also provides funding to the separately managed **Pan-European Venture Capital (VC) Fund(s)-of-Funds Programme**.

ANNEX V - OTHER EU POLICIES, PROGRAMS, EUROPEAN AGENCIES & BODIES

The following EU policies, programs, European agencies and bodies may be relevant for space-related businesses:

- CLIMATE CHANGE

The **LIFE** sub-program for climate change includes the following:

- climate change mitigation: projects in the areas of renewable energies, energy efficiency, farming, land use, and peatland management.
- climate change adaptation: projects in the areas of resilience to water scarcity, droughts, forest fires or floods, adaptive technologies for economic sectors, and safeguarding natural resources.
- climate governance and information: projects in the areas of awareness raising, training and capacity building, law compliance and enforcement, knowledge development and stakeholder participation.
- integrated projects: large-scale projects implementing climate action plans, strategies or roadmaps required by specific EU laws, primarily in the areas of climate change mitigation and adaptation.
- preparatory projects: specific needs for the development and implementation of EU environmental policy and law and
- technical assistance: grants and financial support to help applicants prepare integrated projects.

EIT Climate-KIC is a public-private partnership that addresses climate change across four priority themes: urban areas, land use, production systems, 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.

- ENVIRONMENT

- Activities under **Copernicus** should expand their global monitoring coverage over the polar regions and support environmental compliance assurance, statutory environmental monitoring and reporting and innovative environmental applications in agriculture, forest, water and marine resources management and cultural heritage (e.g. for crops monitoring, water management and enhanced fire monitoring).
- The **European Environment Agency (EEA)** has funded and can fund space-related projects focusing on the protection of the environment.
- **DG ENV** can issue calls for tenders for Pilot Projects and Preparatory Actions (PPPA) that are based on the use of satellite technologies such as

projects using available satellites images to better understand and tackle the threats to Natura 2000 areas stemming from habitat loss.

- The **European Space Agency**, which has adopted a number of initiatives that addresses 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.
- **AGRICULTURE, FISHERIES, MARITIME AFFAIRS & RURAL DEVELOPMENT**
 - Under the agriculture, forestry and rural development, space data, technology and services can support precision farming, soil monitoring, forest management, food traceability, climate change mitigation, and much more. Certain innovative projects already use 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.
 - The **European Maritime and Fisheries Fund (EMFF)** has issued calls for proposals for projects in the area of the Blue Economy demonstrating a link/application of enabling technologies such as imaging and physical sensors, satellite technologies, advanced materials, ICT, big data analytics, autonomous systems, biotechnology, nanotechnology, subsea engineering and/or are based on transferring technology from outside the maritime industry.
 - The **European Maritime Safety Agency (EMSA)**, which aims to promote a safe, clean and economically viable maritime sector in the EU, has identified priorities for the years 2019-2021, including in the following thematic area:
 - maritime transport and surveillance
 - visits and inspections to monitor legal and regulatory compliance
 - providing technical and scientific assistance and facilitating cooperation
 - pollution preparedness, detection and response and
 - management, quality control, resources and communication.

- Via **EMSA's SafeSeaNet Ecosystem Graphical User Interface (SEG)**, authorized users have access to key maritime applications, including the **Long-Range Identification and Tracking (LRIT)**, a vessel monitoring system with data transmitted by satellite, and **CleanSeaNet**, a satellite-based monitoring system for marine oil spill detection and surveillance in European waters.
- **EMSA** also supports the **European Fisheries Control Agency** and provides to the latter surveillance tools such as **Copernicus** satellite imagery. The **EMSA** has already issued call for tenders to procure Earth observation services based on **Search and Rescue (SAR)** satellites /constellations.
- **Mercator Ocean** describes, analyses and forecasts the state of the ocean by developing the "Mercator System" for ocean analysis and forecasting and maintaining it in an operational condition, which largely use space-related technologies. Mercator Ocean is owned by nine major players in operational oceanography worldwide: CNRS, Ifremer, IRD, Météo-France, SHOM, CMCC, MetOffice, NERSC, and Puertos del Estado.

- **MOBILITY & TRANSPORT AND UBIQUITOUS TECHNOLOGIES**

- **ESA Satellite 5G initiative (S45G)** supports development activities falling within the following two activity types:
 - Activity Type 1: Technology and Product Development & Validation Trials (these activities relate to the development of 5G integrated satellite terrestrial system and/or its components).
 - Activity Type 2: Applications Development & Vertical Pilots (these activities relate to the development and/or demonstration of applications and services based on 5G networks and space-based systems, where potential users are involved in the pilots).
- **Railway.** There are ongoing discussions between the **European GNSS Agency**, the **European Union Agency for Railways (ERA)**, and the **Shift2Rail Joint Undertaking (S2R JU)** regarding the role of satellite-based positioning technology for the future of the European railway sector and potential funding structures.
- **Air Transport and Traffic Management.** Projects in the area of satellite and terrestrial architectures for air traffic managements such as **Sapients** have been funded under **Horizon 2020**.

- **MIGRATION AND HOME AFFAIRS**

- The **Asylum, Migration and Integration Fund (AMIF)** promotes the efficient management of migration flows, the implementation of a common Union approach to asylum and immigration and provides financial resources for the **European Migration Network (EMN)**. The **AMIF** has funded in the past certain surveillance mobile equipment and may fund space-related businesses and solutions such as the provision of services based on the

integration of space and terrestrial data relating to migration flows, refugee assistance, fight against human trafficking and piracy, and law enforcement.

- The **European Agency for the Management of Operational Cooperation at the External Borders of the Member States of the European Union (Frontex)**. **Frontex** is currently acting as the **European Border and Coast Guard Agency** in order to safeguard freedom, security and justice, and combat cross-border crime and help prevent terrorist attacks. **Frontex** pilots new and innovative technologies to modernize the EU's border management. It has recently signed contracts for tests on border surveillance drones and may support space-based businesses and solutions.

- **ENERGY AND MINING**

The **ESA** is currently preparing 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. Through this approach, the **ESA** will both leverage on and further nurture existing commercial initiatives which may find widespread applications in a future lunar exploration scenario.

- **INTERNATIONAL COOPERATION AND DEVELOPMENT**

DG DEVCO oversees designing European international cooperation and development policy and delivering aid throughout the world. As part of such policy, **DEVCO** considers that the European Satellite Navigation Systems could foster the socio-economic development in regions such as the African continent. In particular, **EGNOS** applications for transportation, land management, agriculture and energy and mining industries could bring benefit for African socio-economic development. It is also considered that Earth-orbiting satellites are essential tools for communication, navigation and observation in the Arctic region.

ANNEX VI – REFERENCES

KEY EUROPEAN PROGRAMS AND POLICIES

1. **HORIZON 2020**
 - [In general](#)
 - [Space](#)
 - [Standard eligibility conditions](#)
 - [Evaluation](#)
2. **COPERNICUS**
 - [In general](#)
 - [Opportunities](#)
 - [Tenders for Space Component, dissemination infrastructures & Climate Change and Atmosphere Monitoring Services](#)
 - [ESA Invitations to Tender](#)
3. **GALILEO**
 - [In general](#)
 - [Procurement](#)
4. **EGNOS**
 - [In general](#)
 - [Procurement](#)
5. **SPACE SITUATIONAL AWARENESS (SSA)**
 - [In general](#)
 - [Framework Decision](#)
6. **ENHANCED EUROPEAN INNOVATION COUNCIL (EIC)**
 - [In general](#)
 - [Funding](#)
 - [Draft Work Program](#)
 - [Frequently asked questions](#)
 - [EIC Pathfinder Pilot](#)
 - [EIC Accelerator Pilot](#)
 - [Fast Track to Innovation \(FTI\)](#)
 - [Horizon Prizes](#)
7. **EUREKA AND THE EUROSTARS PROGRAMS**
 - [Eureka Network](#)
 - [Eurostarts](#)
8. **THE PROGRAMME FOR THE COMPETITIVENESS OF ENTERPRISES AND SMALL AND MEDIUM-SIZED ENTERPRISES (COSME)**
 - [In general](#)
 - [EASME website](#)
 - [Participant Portal](#)

KEY EUROPEAN AGENCIES

1. EUROPEAN SPACE AGENCY (ESA)

[Industry portal](#)

[SME](#)

[ARTES](#)

[In general](#)

[Competitiveness & Growth](#)

[To submit ideas](#)

[Useful documents for ARTES](#)

[Invitation To Tenders:](#)

[TRP and GSTP](#)

[In general](#)

[TRP in details](#)

[GSTP 3 elements \(Develop, Make and Fly\).Registration under ESA-STAR](#)

[FLPP](#)

[Kick-Start Activity](#)

[Incubed](#)

[ESA Business Applications](#)

[ESA Business Incubation Centres \(ESA BICs\)](#)

2. EUROPEAN DEFENCE AGENCY (EDA)

[In general](#)

[Grants](#)

[Procurement](#)

[eTendering platform](#)

[SME corner](#)

[Funding gateway](#)

[GovSatcom](#)

[Cyber Defence](#)

3. EUROPEAN GLOBAL NAVIGATION SATELLITE SYSTEMS (GNSS) AGENCY

[In general](#)

[Fundamental Elements](#)

4. EUROPEAN ORGANISATION FOR THE EXPLOITATION OF METEOROLOGICAL SATELLITES (EUMETSAT)

[In general](#)

[Tender system EUMITS](#)

[WEKEO](#)

FUTURE EU PROGRAMS AND POLICIES

1. HORIZON EUROPE

[In general](#)

[Design consultation](#)

2. **GOVSATCOM program**
[In general](#)

3. **INVESTEU PROGRAM**
[In general](#)
[Draft regulation](#)
[FAQ](#)

4. **EUROPEAN DEFENCE FUND**
[In general](#)
[EC proposal](#)
[Preparatory Action On Defence Research \(PADR\) work program](#)
[European Defence Industrial Development Programme \(EDID\) call for proposals](#)

5. **VENTUREEU PROGRAM**
[In general](#)
[FAQ](#)

6. **EUROPEAN UNION AGENCY FOR THE SPACE PROGRAM**
[In general](#)
[Draft Regulation](#)

THE EUROPEAN INVESTMENT BANK (EIB) GROUP

1. **THE EUROPEAN INVESTMENT BANK (EIB)**
[In general](#)

2. **THE EUROPEAN INVESTMENT FUND (EIF)**
[In general](#)
[To find financial intermediaries](#)
[To submit investment proposals](#)
[Technology transfer](#)

3. **INNOVFIN**
[In general](#)
[FAQ](#)
[Case studies](#)

OTHER RELEVANT EU POLICIES, PROGRAMS AND EUROPEAN AGENCIES & BODIES

1. **CLIMATE CHANGE**
[Programme For The Environment And Climate Action \(Life\)](#)
[In general](#)
[FAQ](#)
[LIFE for climate change](#)
[Search for LIFE Projects](#)
[National contact points](#)

EIT Climate-KIC
[In general](#)
[Entrepreneurship](#)

2. ENVIRONMENT

European Environment Agency (EEA)
Regulation on the European Earth monitoring programme (GMES)

3. AGRICULTURE, FISHERIES MARITIME AFFAIRS & RURAL DEVELOPMENT

Agriculture and Innovation
EIP-AGRI
Satellite support for future-proof farming
European Maritime and Fisheries Fund (EMFF)
European Maritime Safety Agency (EMSA)
MERCATOR
[In General](#)
[Calls for tenders](#)

4. MOBILITY AND TRANSPORT & UBIQUITOUS COMMUNICATIONS

GSA's GNSS User Technology Report
ESA Satellite 5G initiative (S45G)
Benefits of Global Satellite Navigation to Railway Customers

5. MIGRATION AND HOME AFFAIRS

In general
Call for Proposals
Frontex
[In general](#)
[Grants](#)
[Procurement](#)

6. ENERGY AND MINING

ESA PROSPECT

7. HUMANITARIAN AID AND PROTECTION

The EU Civil Protection and Humanitarian Aid Operations department (ECHO)

8. INTERNATIONAL COOPERATION AND DEVELOPMENT

EGNOS in Africa
Space and the Arctic

ANNEXE 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.
- “**Artificial Intelligence**” (AI) refers to systems that display intelligent behavior by analyzing their environment and taking actions – with some degree of autonomy – to achieve specific goals.
- “**Associated Countries**” means as of 1 January 2017, the following countries: Iceland, Norway, Albania, Bosnia and Herzegovina, North Macedonia, Montenegro, Serbia, Turkey, Israel, Moldova, Switzerland, Faroe Islands, Ukraine, Tunisia, Georgia and Armenia.
- “**Augmented Reality**” means the real-time digital overlay of information over physical elements ([more information](#)).
- “**BICs**” means Business Incubation Centres.
- “**Contract**” means a public contract or a concession contract.
- “**Coordination & Support Actions**” refers to accompanying measures such as standardization, dissemination, awareness-raising and communication, networking, coordination or support services, policy dialogues and mutual learning exercises and studies.
- “**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](#)).
- “**DG DEVCO**” means the Directorate-General for International Cooperation and Development of the **European Commission**.
- “**DG ENV**” means the Directorate-General for Environment of the **European Commission**.
- “**EGNSS**” means European GNSS.
- “**Enterprise Europe Network**” has the following [meaning](#).
- “**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 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 Space Program**” means the program proposed by the **European Commission** in 2018 with a proposed total budget allocation of €16 billion to finance space activities during the 2021-2027 period.
- “**EU Space Program**” means the space program of the Union for the period 2021–2027 as proposed by the **European Commission** in its [Proposal for a Regulation establishing the Space Programme of the Union](#).
- “**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), **European Commission** (1985).

- **“European Migration Network (EMN)”** has the following **meaning**
- **“FAQ”** means frequently asked questions
- **“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 ...
- **“GNSS”** means global navigation satellite systems.
- **“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.
- **“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.
- **“InnovFin Space Equity Pilot (ISEP)”** means an instrument mentioned in **Horizon 2020 Work Program 2018-2020** that aims at improving access to risk finance for innovative enterprises in the space domain.
- **“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.
- **“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.
- **“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 2014-2020 and will need to be determined for the period 2021-EU Budget. Under the 2021-2027 **MFF** of the European Union, the **European Commission** presented its new space program and proposes a budget of €16 billion (€9.7 billion for **Galileo** and **EGNOS**, €5.8 billion for **Copernicus**; and €500 million for SSA and **GOVSATCOM**). The European Parliament asked for an increase of the budget. The European Parliament asked in March 2019 for an increase of the budget,

i.e. for **Galileo** and **EGNOS** €9.7 billion, for **Copernicus** €6 billion and for **SSA & GOVSATCOM** €1.2 billion. It is expected that a final agreement on such budget will soon be reached. 2027 ([more information](#)).

- **“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](#)).
- **“Prize”** means a financial contribution given as a reward following a contest.
- **“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.
- **“SME”** means “Small (10-49 employees) and medium-sized enterprises (50-249 employees ([more information](#))).
- **“Space Resource”** means an abiotic resource in situ in outer space such as water, oxygen, metals and other materials.
- **“Space Situational Awareness” (SSA)** means a holistic approach, including comprehensive knowledge and understanding, of the main space hazards, encompassing collision between space objects, fragmentation and reentry of space objects into the atmosphere, space weather phenomena, and near-earth objects.
- **“Space surveillance and tracking” (SST)** system means a network of ground-based and space-based sensors capable of surveying and tracking space objects, together with processing capabilities aiming to provide data, information and services on space objects that orbit around the Earth.
- **“Technology Transfer”** means the process of transforming the results of research and development into marketable products and services.
- **“TRL”** means Technology Readiness Levels, initially introduced by NASA, see [European approach and Horizon 2020](#).
- **“Ubiquitous technology”** refers a technology that is evident, present or accessible by anybody, using any device or system, from anywhere and at any time.
- **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.

TABLES

This is a summary of the funding opportunities that are mentioned in the *Practical Guide to Public Funding of Space-related business in Europe*. Please note that these Tables and the Guide do not cover all available public funding and financing opportunities. We will update the information contained in the Guide and the Tables regularly. We hope that you will find the Guide useful and that it will contribute to the success of the European space sector. For additional information or to provide feedback, feel free contacting the author, Mr. Alexandre Mencik at amencik@skynet.be

	HORIZON 2020	HORIZON EUROPE
SCOPE	Space-related projects and activities in 2020 which focus on:	Likely broad objectives for interventions in the space sector for the years 2021-2027 are as follows:
WHAT (can be funded)	<ul style="list-style-type: none"> • supporting the market uptake and evolution of the operational Earth observation program Copernicus and European GNSS programs Galileo and EGNOS • architectural concepts of possible European space weather services, by using precursor space weather services already available through the Space Situational Awareness (SSA) program • selected actions underpinning space business, entrepreneurship, space technologies and science <u>and</u> • support security aspects and access to space. 	<ul style="list-style-type: none"> • support synergies between space and key enabling technologies (big data, advanced manufacturing, robotics and AI) • foster a thriving and entrepreneurial and competitive space sector • help secure non-dependence in accessing and using space in a safe and secure manner. Broad envisaged areas of intervention are under Horizon Europe: <ul style="list-style-type: none"> • Galileo and EGNOS. • Copernicus:. • Space Situational Awareness (SSA) • Secure Satellite Communications for EU governmental actors:. • End-to-end satellite Communications for citizens and businesses • Non-dependence and sustainability of the supply chain • Space ecosystem • Space science
WHO (can apply)	Vary depending on the type of actions and may vary depending upon the specific calls	Vary depending on the type of actions and may vary depending upon the specific calls
WHICH (funding type)	Calls for tenders or grants or prizes	Calls for tenders or grants or prizes
WHEN	Until end of 2020	As from 2021
WHERE (to apply)	European Commission	European Commission
HOW MUCH (per application)	Defined in the call text	Defined in the call text
HOW (to apply)	SEDIA	SEDIA

European Innovation Council					
FUNDING WINDOW	Pathfinder Pilot FET-Open	Pathfinder Pilot FET-Proactive	Accelerator Pilot	Accelerator Fund - SME Instrument	Fast Track to Innovation
SCOPE	Support for collaborative, interdisciplinary research	Support to identify emerging techparadigms	Support for high-risk & potential business projects	Support for high-risk & potential business projects	Support for close-to-the-market innovation activities
WHAT (can be funded)	Novel ideas for radically new game-changing technologies	Targeted technologies including climate change	Projects taking 1 to 2 years to complete, with TRLs levels 6-8	Businesses with TRL level above 8	Breakthrough products, services or business processes
WHO (can apply)	Consortia	Consortia	SME	SME	Consortia
WHICH (funding type)	Grants	Grants	Grants	Equity (always in combination with grants)	Grants
WHEN	Before May 2020	Before April 2020	Various cut-offs until October 7, 2020	2019-2020	Various cut-offs until October 27, 2020
WHERE (to apply)	European Commission	European Commission	European Commission	European Commission	European Commission
HOW MUCH (per application)	Up to €4 million	Up to €4 million	€500K- €2,5m million per company	From €500K to €15m max per company, ownership stakes from 10 to 25%	Up to €3 million
HOW (to apply)	SEDIA	SEDIA	SEDIA	SEDIA	SEDIA

	EUREKA	EUROSTARS	COSME	COSME	COSME	COSME
FUNDING WINDOW	Eureka Members and H2020	Eurostars Participating States and H2020	EU budget	EU budget	EU budget	EU budget
SCOPE	Support for international cooperation	Support for R&D performing SMEs	Guarantees to SMEs	Risk capital to SMEs	Markets access support & internationalization	SME development & competitiveness
WHAT (can be funded)	Civil market-oriented R&D&I projects	Civil projects to be marketed quickly, with SME as main partner	Includes securitization of SME debt-finance portfolios	VC and mezzanine finance to expansion & growth-stage SMEs	Support activities for SMEs	SMEs activities
WHO (can apply)	SMEs, large companies, institutions & universities	SMEs, large companies, institutions & universities	Financial intermediaries	Equity funds	National SME help desks and offices	SME
WHICH (funding type)	Defined at national levels	Defined at national levels	Loans	Equity	Financial support	Non-financial support to SME such as IPR help desk, mentoring,
WHEN	As from February 2020	As from February 2020	2019-2020	2019-2020	2019-2020	2019-2020
WHERE (to apply)	National EUREKA Offices	Eurostars National Project Coordinator	Executive Agency for SMEs	Executive Agency for SMEs	Executive Agency for SMEs	Executive Agency for SMEs
HOW MUCH (per application)	Defined in the call text	Defined in the call text	Defined in the call text	Defined in the call text	Not defined	N/A
HOW (to apply)	National EUREKA Offices	Eurostars National Project Coordinator	SEDIA	SEDIA	SEDIA	SEDIA

EUROPEAN SPACE AGENCY (ESA)								
	ARTES	TRP	GSTP	FLPP	Kick-start	InCubed	Business Applications	BICs
SCOPE								
WHAT (can be funded)	Projects in specific areas, enabling ESA's missions at TRLs 2-8	Projects part of ESA mandatory activities, up to TRL 3	Projects in selected areas, TRL 2-8	Selected new technologies related to future launchers	Innovative space-related applications	New market opportunities	Feasibility studies or demonstration projects	Startup activities
WHO (can apply)	Space-related businesses in ESA MS	Collaboration of inventor + developer + customer	Voluntary participation of ESA MS; SMEs	Voluntary participation of 15 ESA MS; SMEs	Startups and SMEs	Businesses in 13 participating states	Business residing in ESA participating country	Any public or commercial business worldwide
WHICH (funding type)	Grants	Grants	Grants	Grants	Grants	Grants	Grants	Support includes office space, seed money and access to finance
WHEN	IITT are issued regularly	IITT are issued regularly	IITT are issued regularly	IITT are issued regularly	Thematic calls for proposals	Open call for proposals	At any time or when tenders are available	At any time
WHERE (to apply)	ESA	ESA	ESA	ESA	ESA	ESA	ESA	ESA BIC centers
HOW MUCH (per application)	Up to €25 million (>75% total costs)	About €50m in contracts per year	About €45m in contracts per year, for 60-80 activities	No data available	€60K per contract. funded at 75%	Co-funding up to 50%	€60k to €2 million per activity	N/A
HOW (to apply)	ESA-STAR	ESA-STAR	ESA-STAR	ESA-STAR	ESA-STAR	Incubed program	ESA EMITS ESA Business Application Ambassador	ESA BIC network

SCOPE	European Investment Bank (EIB)	European Investment Fund (EIF)	InnovFin	InnovFin Equity
WHAT (can be funded/supported)	Projects to support growth, job creation in the private sector and private capital investments in equity and funds, could include dual-use technologies	High-growth and innovative SMEs	Financial support research and innovation activities, which are riskier and harder, and hence that may otherwise struggle to get financing	Companies in their startup, pre-seed, seed, and phases operating in innovative sectors covered by Horizon 2020
WHO (can apply)	Any private or public actor	Any private or public actor	Any private or public actor	Any private or public actor
WHICH (funding type, which support and geographic coverage)	(i) loans (in the range of €15 million to €225 million, blended with grants from other bodies or unblended, could support development projects outside of the EU), (ii) risk-sharing instruments, (iii) guarantees and (iii) equity investments	Help to growth and access finance by notably (i) supporting VC and private equity, (ii) tech transfer, (iii) implementation of EFSI, (iv) co-investments with selected investors, (v) various funds-of-funds approaches (vi) debt products, (vii) the SME Initiative, (viii) guarantees and credit enhancement (ix) and micro-loans (€25K)	(i) early-stage (as from €25K), (ii) loans for SME and midcaps >€7.5m, (iii) corporate financing loans and equity-type financing >€7.5m and guarantees & counter-guarantees on debt financing of up to €50m, (iv) debt or equity-type financing for science >€25m and (v) loans, loan guarantees or equity-type financing for thematic financing €7.5m-€75m	Equity investments and co-investments to or alongside funds focusing on investments in innovative sectors covered by Horizon 2020, including space
HOW MUCH (per application)				
WHEN	At any time	At any time	Until end of 2020	ISEP not yet seem operational
WHERE (to apply)	EIB	EIF	EIF	EIF
HOW (to apply)	EIB	Via financial intermediaries	Via the EIF or EIB	For financial institutions, via EIF For beneficiaries, via financial intermediaries

OTHER EU POLICIES, PROGRAMS, EUROPEAN AGENCIES & BODIES								
SCOPE	CLIMATE CHANGE LIFE program	EIT Climate-KIC	EU Policy on the Environment	European Environment Agency (EEA)	EU Agriculture, Fisheries & Rural Development	European Maritime Fisheries Fund (EMFF)	European Maritime Safety Agency (EMSA)	Mercator Ocean
WHAT (can be funded)	(i) climate change mitigation (ii) climate change adaptation: (iii) climate governance and information (vi) large-scale projects and (vi) preparatory projects	Private partnership/community addressing climate change through innovation	Actions aligned with EU policy on the environment	Protection of the environment-related projects and activities	Actions and activities aligned with such policies	Projects that create new jobs and improve quality of life along European coasts and supports sustainable aquaculture	Projects that promote a safe, clean and economically viable maritime sector in the EU	Operational oceanography worldwide, including projects to describes, analyses and forecasts the state of the ocean
WHO (can apply)	Anyone registered in the EU (private entities, public bodies and NGOS)	Anyone	Anyone registered in the EU (private entities, public bodies and NGOS)	Anyone registered in the EU (private entities, public bodies and NGOS)	Anyone registered in the EU (private entities, public bodies and NGOS)	Anyone registered in the EU (private entities, public bodies and NGOS)	Anyone registered in the EU (private entities, public bodies and NGOS)	Anyone

OTHER EU POLICIES, PROGRAMS, EUROPEAN AGENCIES & BODIES

WHICH (funding type/support provided)	Grants and financial assistance	Grants from the EIT, procurement and connections with investors		Grants following (i) calls for expression of interest or proposals (ii) tenders (iii) direct negotiations	Grants following calls for proposals	Grants following calls for proposals	Grants following calls for proposals	Calls for tenders
WHEN	Calls for proposals will open as from April 2020	New calls for proposals in 2020	Calls are issued regularly	Calls are issued regularly	Calls are issued regularly	Calls are issued regularly	Calls are issued regularly	Calls are issued regularly
WHERE (to apply)	European Commission	Partnership	European Commission	European Environment Agency	European Commission	Project eligibility is managed at national levels	EMSA	Mercator
HOW MUCH (per application)	Can co-fund up to 50% traditional projects or up to 60% for integrated or preparatory projects	Defined in the call text	Defined in the call text	Defined in the call text	Defined in the call text	Defined in the call text	Defined in the call text	Defined in the call text
HOW (to apply)	Calls for proposals listed by sub-programme environment or climate action	Open calls for grants Procurement portal of EIT Climate-KIC Connect with investors	SEDIA	EEA	SEDIA	EMFF	EMSA	Mercator call for tenders

OTHER EU POLICIES, PROGRAMS, EUROPEAN AGENCIES & BODIES								
SCOPE	EU Common Policies on Migration	Asylum, Migration and Integration Fund (AMIF)	FRONTEX	EU Home Affairs Policies	ECHO	Energy & Mining	Mobility & Transport & Ubiquitous Technology	International Cooperation and Development
WHAT (can be funded)	Projects aligned with policies in this area	Projects aligned with the Fund policies	Projects aligned with the need to manage the European borders and coasts	Projects aligned with such policies such as to prevent and combat terrorism	Projects aligned with ECHO's needs	Projects aligned with EU policies in this area or to support Space Resources	Projects aligned with EU policies in these areas including TEN-T and GIS	Projects aligned with EU policies in these areas
WHO (can apply)	Anyone registered in the EU (private entities, public bodies and NGOS)	Anyone registered in the EU (private entities, public bodies and NGOS)	Defined in the call text	Anyone registered in the EU (private entities, public bodies and NGOS)	Defined in the call text	Defined in the call text	Defined in the call text	Defined in the call text
WHICH (funding type/support provided)	Grants and procurement	Grants and procurement	Grants and procurement	Grants and procurement	Grants and procurement	Grants and procurement	Grants and procurement	Grants and procurement
WHEN	Calls are issued regularly	Calls are issued regularly	Calls are issued regularly	Calls are issued regularly	Calls in the area of energy are issued regularly	Calls are issued regularly	Calls are issued regularly	Calls are issued regularly
WHERE (to apply)	European Commission	AMIF	FRONTEX	European Commission	ECHO	European Commission	European Commission	European Commission
HOW MUCH (per application)	Defined in the call text	Defined in the call text	Defined in the call text	Defined in the call text	Defined in the call text	Defined in the call text	Defined in the call text	Defined in the call text
HOW (to apply)	SEDIA	SEDIA	Frontext grant Frontext procurement	SEDIA	SEDIA	ECHO	SEDIA	SEDIA

GLOSSARY OF TERMS

- ARTES = Advanced Research in Telecommunications Systems
- BIC = ESA Business Incubation Centers
- Consortia = 3 independent legal entities, each established in a different EU Member State or Associated Country
- EDIDP = European Defence Industrial Development Programme
- EFSI = European Fund for Strategic Investments
- ESA Member States or MS = 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.
- Financial Intermediaries include micro-credit providers, non-bank financial institutions, established banks, guarantee organizations, leasing companies ...
- FLPP = Future Launchers Preparatory Program
- GIS = Geographical Information Systems (GIS)
- GNSS = Global Navigation Satellite System
- GSTP = General Support TechProgram
- ISEP = InnovFin Space Equity Pilot an instrument mentioned in Horizon 2020 Work Program 2018-2020 that aims at improving access to risk finance for innovative projects in space
- Risk-sharing Instrument = 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
- TEN-T = Trans-European Transport Network Policy (TEN-T)
- TRL = TechReadiness Levels
- TRP = TechResearch Program