

Space Downstream Innovation Days, 8-9 November 2021



EU SPACE

New opportunities for Space downstream in Horizon Europe

Prague, 8 November 2021

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DG DEFIS,B.2 – Innovation, Start-Ups and Economics



NEW OPPORTUNITIES FOR SPACE DOWNSTREAM IN HORIZON EUROPE

- 1. Horizon Europe (objectives, structure, budget)**
- 2. Space in Horizon Europe**
- 3. Space downstream R&D in Horizon Europe – Planned Calls in 2021 and 2022**
- 4. Other important R&D opportunities for space downstream**
 - EGNSS/ Copernicus in other HE Clusters**
 - CASSINI Start-up and Entrepreneurship initiative**
 - European Innovation Council instruments**
- 5. R&D opportunities beyond HE: InvestEU**

1. HORIZON EUROPE: OBJECTIVES, STRUCTURE, BUDGET

Budget : € 95,5 billion for seven years (2021-2027)



* The European Institute of Innovation & Technology (EIT) is not part of the Specific Programme
Areas of intervention

- | | |
|---|------------------------------------|
| 1. Manufacturing Technologies | 6. Next Generation Internet |
| 2. Key Digital Technologies | 7. Advanced Computing and Big Data |
| 3. Advanced Materials | 8. Circular Industries |
| 4. Emerging Enabling Technologies | 9. Low-carbon and Clean Industries |
| 5. Artificial Intelligence and Robotics | 10. Space |

Budget Cluster 4: Digital, Industry and Space : € 15,348 bio
Budget Space: € 1,75 bio



2. Space in Horizon Europe

Upstream Space

Strategic Research and Innovation Agenda SRIA

Foster competitiveness of space systems

Reinforce our capacity to access and use space

EU Space Programme Components and emerging initiatives

EGN S

Evolution of space and ground infrastructures

Evolution of services

Development of applications

EGNS and Copernicus

Innovative Capabilities
SSA
GOVSATCOM
Quantum

Ecosystem for Entrepreneurship
- Cassini

Targeted and strategic actions

Critical Technologies for Non-Dependence

IOD / IOV

Synergies with Data Strategy AI, HPC

Space Science

Education and Skills

International Cooperation

3. Space applications calls in Horizon Europe – 2021 & 2022

Opening : 28/10/2021
Closing: 16/02/2022

2021 Space applications call
32,6 Mio EUR

European Green Deal



Digital



Safety and Crisis management



**More details :
EUSPA
presentation**

Tentative Opening : 27/10/2022
Tentative Closing: 16/02/2023

2022 Space applications call
48,1 Mio EUR

Smart Mobility



Public sector



Copernicus & data economy



Copernicus data uptake & AI, HPC



International



GOVSATCOM



2023/2024 Space applications call

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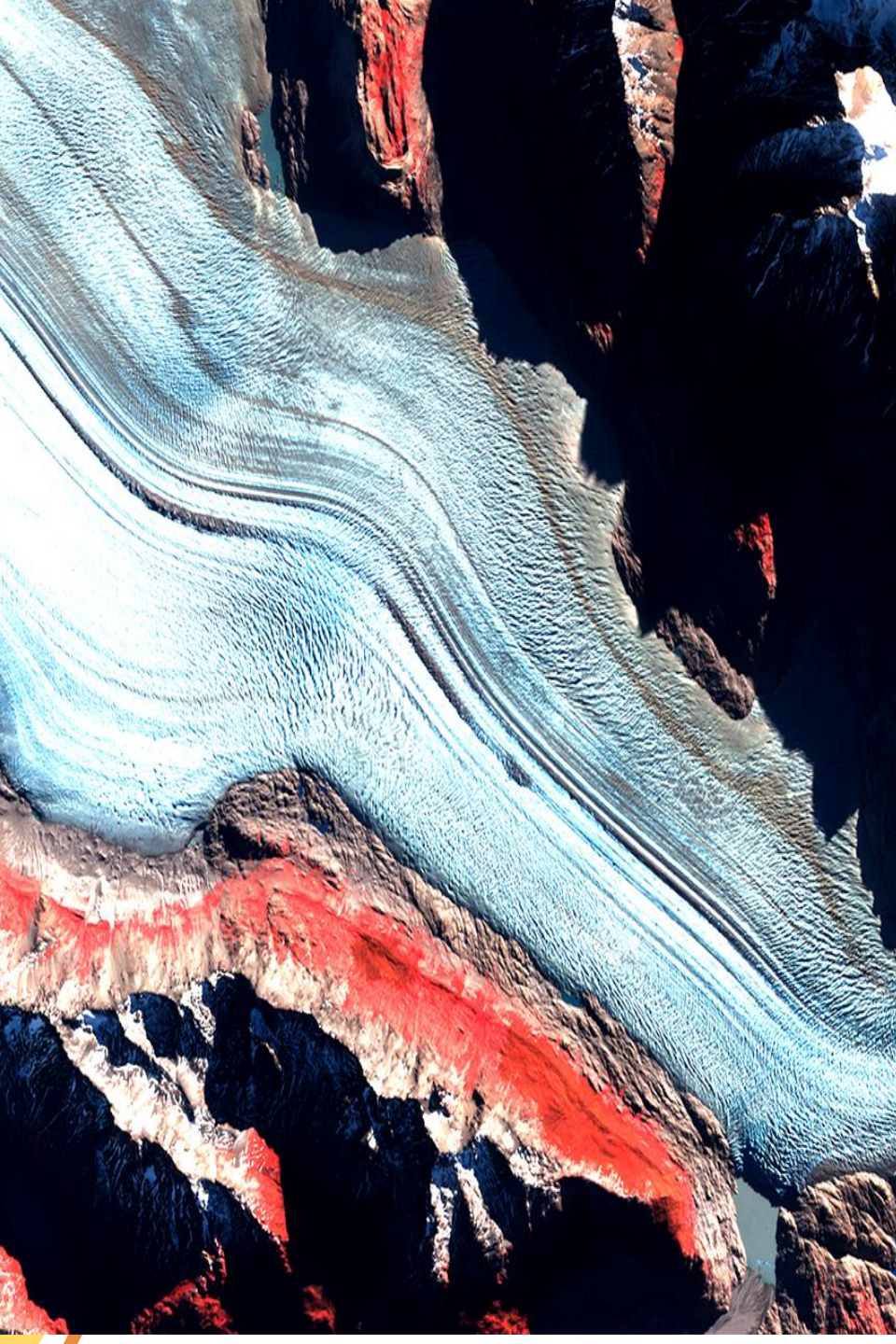
HEY!

**WE NEED YOUR
INPUT**

Information on 2022 Call

:[wp-7-digital-industry-and-space-horizon-2021-2022_en.pdf](#) (europa.eu)

Call available at
Horizon Europe
[Funding & tenders](#)
([europa.eu](#))



4. Other important R&D opportunities for space downstream - EGNSS/ Copernicus in other HE Clusters -

- For first time, **use of EGNSS and Copernicus strongly and widely anchored** in Horizon Europe
 - **at policy level** : Horizon Europe Strategic Plan 2021-2024
 - **in more than 100 calls** across all cluster in the Horizon Europe Work Programme 2021-2022
- In these calls, the **mandatory use of EGNSS and Copernicus (eligibility criterion)** is foreseen, if projects use PNT or EO :
- “If projects use satellite-based earth observation, positioning, navigation and/or related timing data and services, beneficiaries must make use of Copernicus and/or Galileo/EGNOS (other data and services may additionally be used)”.

List of calls: [A Standard GSA Document \(europa.eu\)](#)

HE Info Days for other Clusters: [Horizon Europe Info days | European Commission \(europa.eu\)](#)

Partnering opportunities: for each call on HE funding & tenders portal, there is a Partnering facility

OTHER IMPORTANT OPPORTUNITIES FOR SPACE DOWNSTREAM R&D IN HE

Example:

Cluster 5 – Climate,
Energy and Mobility

33 Topics relevant to Galileo/Copernicus based
solutions

EXAMPLES

- Development of **high-resolution Earth system models for global and regional climate change projections**
- **More efficient and effective multimodal freight transport nodes to increase flexibility, service visibility and reduce the average cost of freight transport**
- **European demonstrators for integrated shared automated mobility solutions for people and goods**
- **Urban logistics and planning**
- **Smart enforcement for resilient, sustainable and more efficient transport operations**
- **Accelerating the deployment of new and shared mobility services for the next decade**
- **New concepts and approaches for resilient freight transport and logistics networks against disruptive events (including pandemics)**

HORIZON-CL5-2021-D1-01-01: Improved understanding of greenhouse gas fluxes and radiative forcers, including carbon dioxide removal technologies

HORIZON-CL5-2021-D1-01-02: Climate change research and innovation for climate goals

HORIZON-CL5-2021-D1-01-03: Climate change impacts and adaptation

HORIZON-CL5-2021-D1-01-04: Floodplains as a strategic benefit

HORIZON-CL5-2021-D1-01-05: Pathways, trade-offs and synergies

HORIZON-CL5-2021-D1-01-06: Europe

HORIZON-CL5-2021-D1-01-07: Global and regional forcers

HORIZON-CL5-2021-D1-01-08: Global and regional through improved

HORIZON-CL5-2021-D1-01-09: Carbon sequestration

HORIZON-CL5-2021-D3-01-01: Services

HORIZON-CL5-2021-D3-01-19: Clean Energy Transition

HORIZON-CL5-2021-D3-02-04: Physics and aerodynamics of atmospheric flow of wind for power production

HORIZON-CL5-2021-D3-02-06: Novel approaches to concentrated solar power (CSP)

HORIZON-CL5-2021-D3-02-07: Fuels of non-

HORIZON-CL5-2021-D3-02-08: Building stock

HORIZON-CL5-2021-D3-02-09: Autonomous

HORIZON-CL5-2021-D3-02-10: Perception and conditions (CCAM)

HORIZON-CL5-2021-D3-02-11: Connectivity and

HORIZON-CL5-2021-D3-02-12: M Partnership)

HORIZON-CL5-2021-D3-02-13: Global freight transport

HORIZON-CL5-2021-D3-02-14: Cost of freight

HORIZON-CL5-2021-D3-02-15: Sustainable

HORIZON-CL5-2021-D3-02-16: Shared

HORIZON-CL5-2021-D3-02-17: (ip)

HORIZON-CL5-2021-D3-02-18: Traffic management

HORIZON-CL5-2021-D3-02-19: Survivability

HORIZON-CL5-2021-D3-02-20: Partnership fires

HORIZON-CL5-2021-D3-02-21: Integrating urban freight

HORIZON-CL5-2021-D3-02-22: Efficient, sustainable and more

HORIZON-CL5-2022-D6-02-04: Accelerating the deployment of new and shared mobility services for the next decade

HORIZON-CL5-2022-D6-02-07: New concepts and approaches for resilient freight transport and logistics networks against disruptive events (including pandemics)

4. Other important R&D opportunities for space downstream - CASSINI **Start-up and Entrepreneurship** initiative -

INNOVATION

Incentivising new ideas

BUSINESS SKILLS

Supporting business acceleration

INVESTMENT READINESS

Preparing start-ups to raise VC funding and meet industrial partners

EXPANSION AND GROWTH

Increase number of VC funds with focus on space

CASSINI Hackathons
CASSINI Prizes

CASSINI Business Accelerator

CASSINI Matchmaking

CASSINI Seed and Growth Funding facility

CASSINI In-orbit demonstration and validation

[CASSINI \(europa.eu\)](http://europa.eu)

4. Other important R&D opportunities for space downstream

- European Innovation Council -

European Innovation Council – a one-stop-shop

- Aim: **identify and support breakthrough technologies and game changing innovations.**
- Target group: **high risk, high potential, deep tech SMEs/ startups**
- Support to **innovations with** scale up potential that are too risky for private investors (70% of the budget earmarked for SMEs)
- **Mostly 'bottom up', but also targeting strategic challenges**

EIC Pathfinder	EIC Transition	EIC Accelerator
<ul style="list-style-type: none"> • Consortia: at least 3 different indep. legal entities (e.g. research org., universities, SMEs, industry) established in at least 3 different eligible countries; • Single applicants and small consortia (2 partners). 	<ul style="list-style-type: none"> • Single applicants (SMEs, spin-offs, start-ups, research organisations, university); • Small consortia (two to 5 partners); • Applications must build on results from eligible Pathfinder, FET or ERC Proof of Concept projects. 	<ul style="list-style-type: none"> • Single Start-ups and SMEs; • Individuals (intending to launch a start-up/ SME); • In exceptional cases small mid-caps (fewer than 500 employees).
<ul style="list-style-type: none"> • Grants of up to EUR 3 million (open) or EUR 4 million (challenge driven) (or more if properly justified) to achieve the proof of principle and validate the scientific basis of breakthrough technology; 	<ul style="list-style-type: none"> • Grants of up to EUR 2.5 million (or more if properly justified) to validate and demonstrate technology in application relevant environment and develop market readiness 	<ul style="list-style-type: none"> • Blended finance: up to EUR 2.5 mio grant for techn. development and validation; • EUR 0.5 - 15 mio investment for scaling up. • <u>Grant only/grant first</u>: under certain conditions. Investment component only for small mid-caps or as follow up to grant only.
<p>TRL 1-4 - R&I grants (from early technology to proof of concept)</p>	<p>TRL 4 to 5/6 - R&I grants (proof of concept to pre-commercial)</p>	<p>TRL 5/6 to 8 - Grants & investment (via EIC Fund) for single SMEs & start-ups (from pre-commercial to market & scale-up)</p>

4. Other important R&D opportunities for space downstream

EIC main funding opportunities in 2021

Under discussion for 2022:
 Thematic EIC accelerator priority on „Open Strategic Autonomy“, covering innovative space applications

Accelerator - Open	Apply any time (early stage screening)	~€593m (~50:50 grant/equity)
Accelerator – Challenges	Cutoffs for full applications in 9 June, 6 October	~€495m (~50:50 grant/equity)
<ul style="list-style-type: none"> Green Deal innovations for the economic recovery Strategic technologies: digital & health 		
Pathfinder - Open	19 May	~€168m
Pathfinder - Challenges	27 October	~€132m
<ul style="list-style-type: none"> Awareness inside Measure & stimulate brain Cell & gene therapies Green Hydrogen Engineered Living Materials 		
Transition – Open	22 September	~€60m
Transition – Challenges		~€40m
<ul style="list-style-type: none"> Medtech & devices Energy harvesting & storage 		

[EIC Work Programme 2021.pdf \(europa.eu\)](#)

[EIC Work Programme 2022](#)
 European Innovation Council Summit
 24-25 November 2021

Indicative information, subject to EIC Work Programme 2022 approval



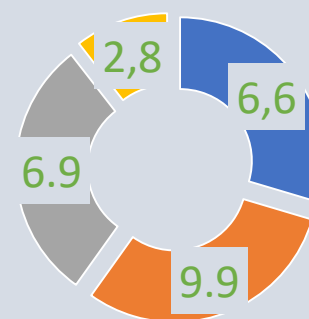
5. Other important R&D opportunities for space downstream outside HE: **InvestEU**

Single fund bringing together the many different EU-level financial instruments

- equity instruments, guarantee instruments and risk sharing instruments - in four "windows":

- Sustainable infrastructure
- Research, innovation and digitisation
- SMEs
- Social investment and skills

Invest EU's 4 investment windows: budgetary guarantees in billion €



- R&I
- Sustainable Infrastructure
- SMEs
- Social Investment and Skills



THE INVESTEU FUND

Mobilising public and private investment using guarantees from the EU budget.



THE INVESTEU ADVISORY HUB

Providing technical advice to investment projects seeking financing.



THE INVESTEU PORTAL

An easily-accessible database bringing together projects and investors.

➔ EUR 26 bn EU budgetary guarantee, expected to mobilise EUR 370 billion in additional investment across Europe (of which 30% to contribute to climate objectives)

InvestEU products available for space companies



Indirect debt products, via private banks, backed by InvestEU:

- Offered by private banks and national promotional banks
- Allow banks to offer more attractive loans, under certain conditions
- List of affiliated banks is published here:

<https://europa.eu/youreurope/business/finance-funding/getting-funding/access-finance/search/en>



Direct debt products, via EIB:

- **Research and Innovation Window**
 - Space technologies, products, applications or services, data processing and analytical tools, digital applications and services using space data
 - Development of innovative products in other market segments, using space data or technologies
- **Sustainable Infrastructure Window**
 - For making space infrastructure more sustainable, on the ground and in space
 - Supporting Union Space Programme components and related services, with the objective of sustainability
- **Joint thematic product covering more risky operations**
 - Space: Development, upgrade and greening of new and existing space and ground infrastructure
 - Development of new concepts and disruptive technologies meeting existing and emerging needs including in areas of climate change monitoring and sustainable development.

EU R&I SUPPORT : NEW OPPORTUNITIES FOR SPACE DOWNSTREAM 2021-2027 - SUMMARY

Dedicated support



Horizon Europe – Cluster 4 “Digital, Industry and Space” - applications



Fundamental elements (Space Programme)



EGNSS/Copernicus in other Horizon Europe areas



CASSINI

Key Features

Call 2021 : opened on 28 Oct 2021, closing 16 Feb 2022 - GRANTS
Call 2022 : tentative opening on 27 Oct 2022, closing 16 Feb 2023

Development of receivers, chipsets and antennas – GRANTS/ PROCUREMENTS

Mandatory use of EGNSS/Copernicus in more than 100 Horizon Europe calls in 2021/2022 – GRANTS

List of calls

Seed and growth funding facility, hackathons, prizes, business accelerator, matchmaking for space Start-ups and SMEs – VARIOUS INSTRUMENTS

CASSINI Website

Open to space



EIC Instruments – grants and equity

EIC Pathfinder, EIC Transition and EIC Accelerator - GRANTS AND EQUITY

EIC WP 2022 & space



Invest EU - loans

1-7,5mio EUR indirect debt products, via commercial banks, backed by InvestEU guarantees (companies all industry sectors); 7,5 mio EUR – upwards, direct debt products, by EIB (InvestEU R&I and sustainable infrastructure products). Space companies eligible - LOANS

**Thank you for your
attention**

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