

# Backing **the stars** of Europe

Public investors and the  
space economy

EIF-NPI Equity Platform  
28 June 2023, Luxembourg



# Backing the stars of Europe

## The Luxembourg Space Ecosystem

Ahmed Aly,  
Luxembourg Space Agency (LSA)







# Luxembourg has been active in space for about 40 years



## FACILITATES

Commercialisation of SATCOM and Becomes Home to Leading Satellite Operators

SES established (1985) and launches first satellite (1988)



## ENABLES

Market for SpaceResource Utilisation and Other Emerging Space Capabilities



1985

## ESTABLISHES

International Partnerships and Joins ESA, Becoming a Major Contributor to Several European Programs



2005



Becomes 17<sup>th</sup> ESA member (2005)



## IMPLEMENTS

First space policy for Luxembourg in 2008



2016

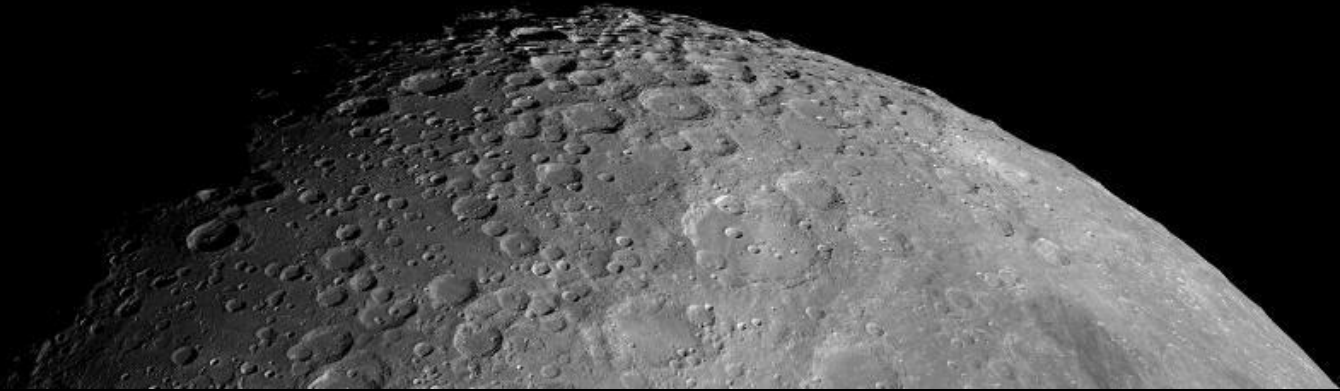
## LAUNCHES

Luxembourg Space Agency (LSA)





Luxembourg aims to contribute to the peaceful exploration and sustainable utilization of space resources for the benefit of humankind.



## Current space sector:

- capabilities across the value chain
- 4x increase in no of actors in LU since 2016
- 2x increase in no of employees in the space sector since 2016

Consult our space  
directory online



# Space Strategy

## 4 priorities







→ **Why should the government provide public financial resources to the private sector?**

- Increase the deal flow
- Increase the knowledge base
- Select and support high potentials

## Increasing the deal flow

### Fit4Start Program

→ Acceleration program dedicated to high potential startups - space vertical



### ESRIC Startup Support Program

→ Early-stage ventures and start-ups designing novel technologies for space resources applications



### Uni.lu incubator/accelerator program

→ Accelerator program in partnership with the University of North Carolina and Tel Aviv University



## Increasing the knowledge base

### ESA programs

- Continued participation to implement space strategy while supporting local ecosystem

### LuxImpulse program

- Dedicated to R&D activities to help companies established in Luxembourg to bring innovative ideas to market.
- Managed by LSA and implemented by ESA.

### National R&D programs

- Payment of grants based on real cost associated to the RDI activity e.g. 25%-100% for data applications

→ **Support at all TRL levels**



## High potentials – business plan financing

### Providing support in all stages of a company's development

- Grants for seed financing
- Development loans
- Direct investment through participation in VC investment firms
- Providing and promoting access to the EU funding
  - EU Initiatives
  - EIB/EIF financing



## Case study: Orbital Ventures S.C.A.

### A dedicated space investment fund

- Set up in 2018 by a PPP composed of nine entities:
  - Ministry of the Economy
  - SNCI (national development bank)
  - European Investment Fund
  - Six private companies
- Managed by Promus Ventures
- Size: EUR 118,4 million
- 13 investments for roughly EUR 40 mio
- Investment strategy targets foreign and LU companies in all space verticals



## Case study: Luxembourg Future Fund

### A SNCI and EIF partnership

- LFF aims to support the sustainable development and diversification of the Luxembourg economy by fostering innovative activity in Luxembourg
- EUR 200 million
- Investment strategy: all strategic sectors of LU economy, space included
- Of the 10 first investments: 3 into space companies
- Intended for companies and funds
- Equity and mezzanine financing



LUXEMBOURG  
FUTURE  
FUND





## Luxembourg space strategy

- **Clear vision and strategy built on sustainability**
- **Long-term commitment to space by the government**
- **Commercial space at the core of the strategy**
- **Aim is to diversify the economy**



LUXEMBOURG  
SPACE AGENCY

**Thank you  
for your attention**



# Backing **the stars** of Europe

CASSINI Space  
Entrepreneurship Initiative

*Supporting European New Space*

Irene Sánchez Cebrian,  
DG DEFIS, EC



# Fostering Investment in the EU Space Sector – *Why?*

Space is a central enabler for some of the European Union's key priorities:

**Economic Growth,  
Competitiveness  
and Strategic  
Autonomy**

**Digital and Green  
Transitions**

**Security and  
Defence**

# Fostering Investment in the EU Space Sector – *How?*

**CASSINI is the European Commission's entrepreneurship initiative to:**

**Spur companies to commercialise new products and services**

**Encourage companies to try new business models**

**Stimulate new financing schemes**

**Modernise the approach to procurement, make it business-friendly**

**Coordinate entrepreneurship support Commission, ESA, EUSPA, EIF, EIB, EIC**

# CASSINI Objectives

## **New products and services:**

- **Novel space technology, miniaturization, better resolution, new functionality**
- **Lower development cost, reduced CAPEX and OPEX**
- **Novel digital services based on space data and information**

## **New business models:**

- **Commercialisation of space assets and data**
- **Customer-centric relationships, shaking up the incumbents**

## **New financing schemes:**

- **Venture Capital funds will increasingly finance space ventures**
- **Better access to debt funding - requires customers & revenue**
- **Debt offered by EIB, NPBs, and commercial banks**

## **New procurement approach:**

- **Anchor customer contracts**
- **Business friendly terms and tender specifications**

# CASSINI Actions

## THE ROAD TO NEW SPACE

- Clear vision for European space businesses and markets
- New industry setup
- New entrants
- New private investment
- New markets
- New solutions

### PROMOTION

CASSINI Hackathons  
& Mentoring

Started 2021

### INNOVATION COMPETITIONS

CASSINI Prizes  
CASSINI Challenges

Started 2022

### INVESTMENT

CASSINI Seed and Growth Funding  
Facility (InvestEU)  
€1 billion capacity or more  
6 VC funds signed + 1 co-investment

Started 2022

### MATCHMAKING

CASSINI Matchmaking  
6 physical events in 5 countries  
100+ companies participating

Started 2022

### BUSINESS GROWTH

CASSINI Business Accelerator  
First batch: 20 startups begin on 1 May

Started Q1 2023

### IOD/IOV

In-Orbit Demonstration and  
Validation

Started 2022

### Initial Public Offering

Helios Space Stock Market Index

Started 2023

### Capacity building

Networks and knowledge  
VC funds and other investors

Started 2022

### Dynamic Purchasing System

Anchor customer contracts  
Long-term perspective

Started 2022

## €1+ billion boost to space investments EIF open call since April 2022

### *Investment agreements signed to date:*

- Co-investment Isar Aerospace (in total €155M investment round)
- Alpine Space Ventures [May 2023]
- OTB Ventures
- Vsquared Ventures
- Primo Space
- Orbital Ventures/Promus Ventures
- UnternehmerTUM VC/UVC Partners

Fund managers can contact EIF:

[https://www.eif.org/InvestEU/equity\\_products\\_calls/index.htm](https://www.eif.org/InvestEU/equity_products_calls/index.htm)

Startups can check the list of VC funds:

[https://ec.europa.eu/defence-industry-space/cassini-access-finance\\_en](https://ec.europa.eu/defence-industry-space/cassini-access-finance_en)

CASSINI & EIF capital to VC funds

ALPINE SPACE VENTURES

OTB VENTURES

ORBITAL VENTURES/PROMUS VENTURES

VSQUARED VENTURES

UNTERNEHMERTUM VC/UVC PARTNERS

PRIMO SPACE

EIC – grants and equity

D-ORBIT (2017) FOR DECOMMISSIONING DEVICE

SHARE MY SPACE (2021) FOR COLLISION AVOIDANCE

GOMSPACE (2022) €18M FOR NANO-SATELLITES & PLATFORMS

SPIRE GLOBAL (2020) €20M FOR NANOSATELLITE DEVELOPMENT

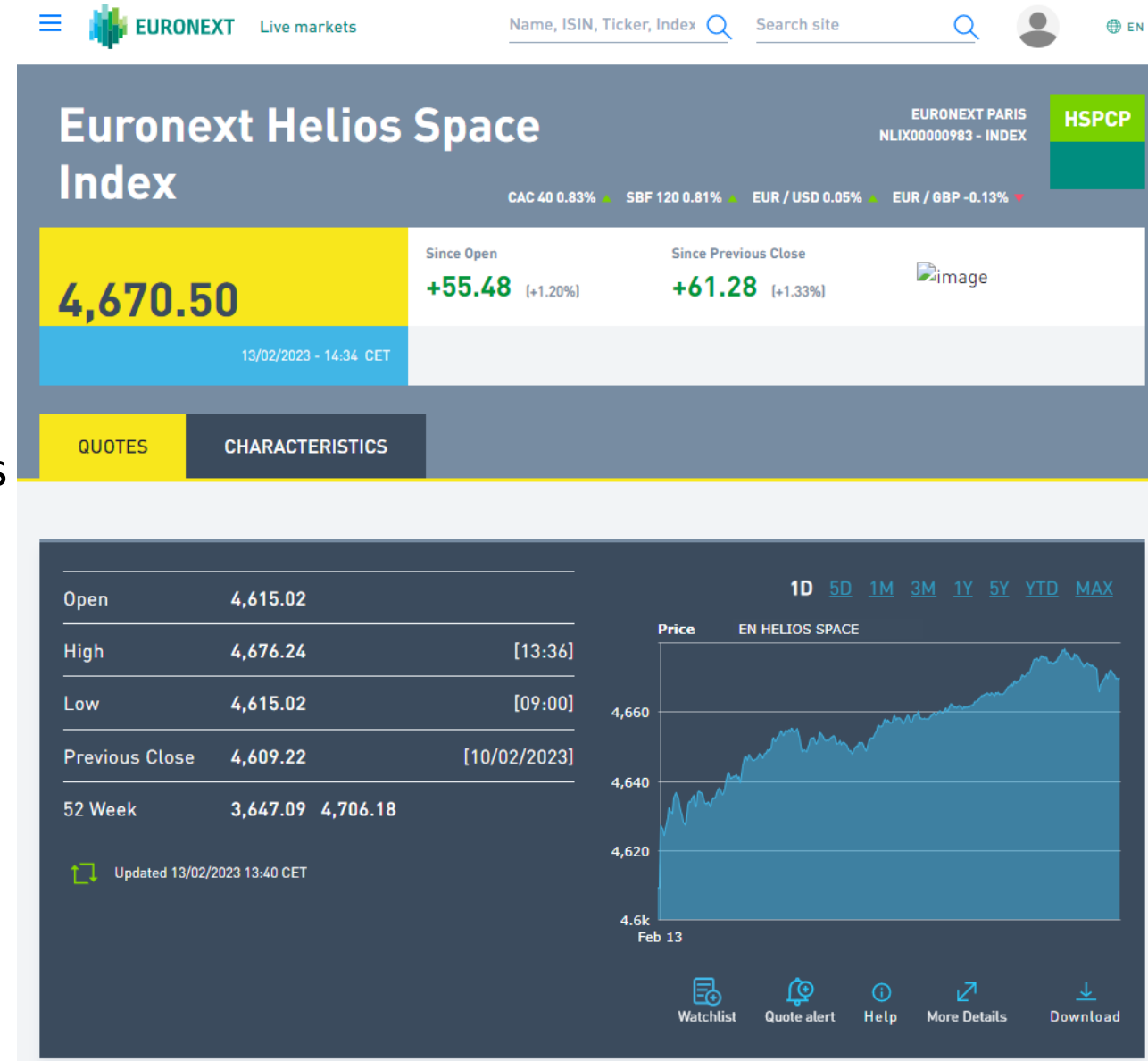
ENDUROSAT (2021) €10M FOR SOFTWARE NANOSATELLITE DEV.

D-ORBIT (2020) €15M FOR DECOMMISSIONING DEVICE

EIB Venture Debt

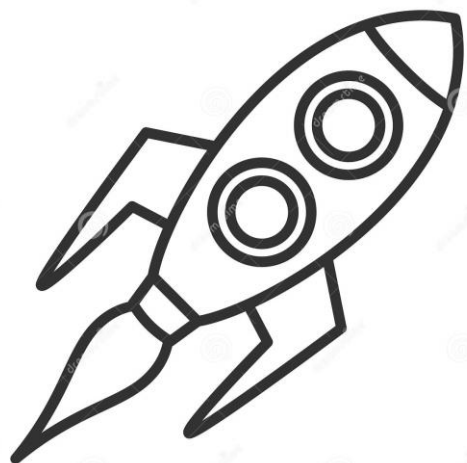
# HELIOS Space Stock Index

- The HELIOS Space Stock Index will track the performance of European space companies
- A communication tool to bridge the gap between private investment capital and publicly traded companies on stock exchanges
- Euronext runs the index on its trading platform
- ESA, Promus Ventures and the Commission provide expertise and advice





FOR FUND MANAGERS



## Capacity building workshops for investors

**Jointly organized by Commission, EIF, EIB, ESA and EUSPA**

Target group: fund managers with an interest in space investments

Contents: expertise, methodology and sources for assessing the value and growth rate of space markets, understanding customer and supplier relationships, business models and funding needs in the space sector



## InvestEU mandate to NPB

(EIF and EIB have already signed several broad mandates under InvestEU)



## National mandate

(Member State wanting to encourage investments in certain sectors)



## Own capital

(Using the capital of the NPB; can be combined with private capital)



## InvestEU mandate to NPB

*(Broad InvestEU mandates with the NPB selecting intermediaries or final recipients; usually either equity or debt)*

1. Equity investment to company (direct)
2. Capital to VC fund setting up a new vehicle (space & other sectors) (indirect)
3. Debt funding to company (direct)
4. Debt funding/guarantees to intermediary e.g. bank (indirect)



## National mandate

*(Member State mandate for investments in certain sectors)*

1. Equity investment to company (direct) – e.g. co-investment with a VC fund signed with EIF
2. Capital to VC fund setting up a new vehicle (indirect) – e.g. a generalist VC fund raising capital for a thematic vehicle for space, defence, AI, deep tech, etc
3. Setting up a new VC fund/vehicle to address an indentified gap
4. Debt funding to company (direct/indirect) – e.g. direct lending, guarantees to a commercial bank, or a combination of direct lending and guarantees
5. Debt funding to intermediary e.g. bank (indirect) – e.g. case-by-case guarantee or broader mandate



## Own capital

1. Equity investment to company (direct) – e.g. co-investment with a VC fund signed with EIF
2. Capital to VC fund setting up a new vehicle (indirect) – e.g. a generalist VC fund raising capital for a thematic vehicle for space, AI, deep tech, etc
3. Debt funding to company (direct/indirect) – e.g. direct lending, guarantees to a commercial bank, or a combination of direct lending and guarantees
4. Debt funding to intermediary e.g. bank (indirect) – e.g. a mandate with guarantees



CASSINI Overview <https://www.cassini.eu/cassini-initiative>

CASSINI Business Accelerator <https://www.cassini.eu/accelerator>

CASSINI Matchmaking <https://www.cassini.eu/matchmaking/>

CASSINI Hackathons <https://www.cassini.eu/hackathons/>

VC funds with CASSINI backing

[https://defence-industry-space.ec.europa.eu/cassini-space-entrepreneurship-initiative-access-finance\\_en](https://defence-industry-space.ec.europa.eu/cassini-space-entrepreneurship-initiative-access-finance_en)

EIF contact point for VC funds [https://www.eif.org/InvestEU/equity\\_products\\_calls/index.htm](https://www.eif.org/InvestEU/equity_products_calls/index.htm)

HELIOS Space Stock Index <https://live.euronext.com/en/product/indices/NLIX00000983-XPAR>

EIC Accelerator funding [https://eic.ec.europa.eu/eic-funding-opportunities/eic-accelerator\\_en](https://eic.ec.europa.eu/eic-funding-opportunities/eic-accelerator_en)

EUSPA support and funding <https://www.euspa.europa.eu/>

ESA Commercialisation Gateway <https://commercialisation.esa.int>

# Thank you!

If you need more information about setting up an equity financing product, contact us at the European Commission



Irene Sanchez Cebrian  
E-mail: [irene.sanchez-cebrian@ec.europa.eu](mailto:irene.sanchez-cebrian@ec.europa.eu)  
European Commission  
DG Defence Industry and Space  
Unit B2 - Innovation, Start-ups and Economics



# Backing the stars of Europe

Trends in the space sector 2023 &  
ESA ScaleUp Programme

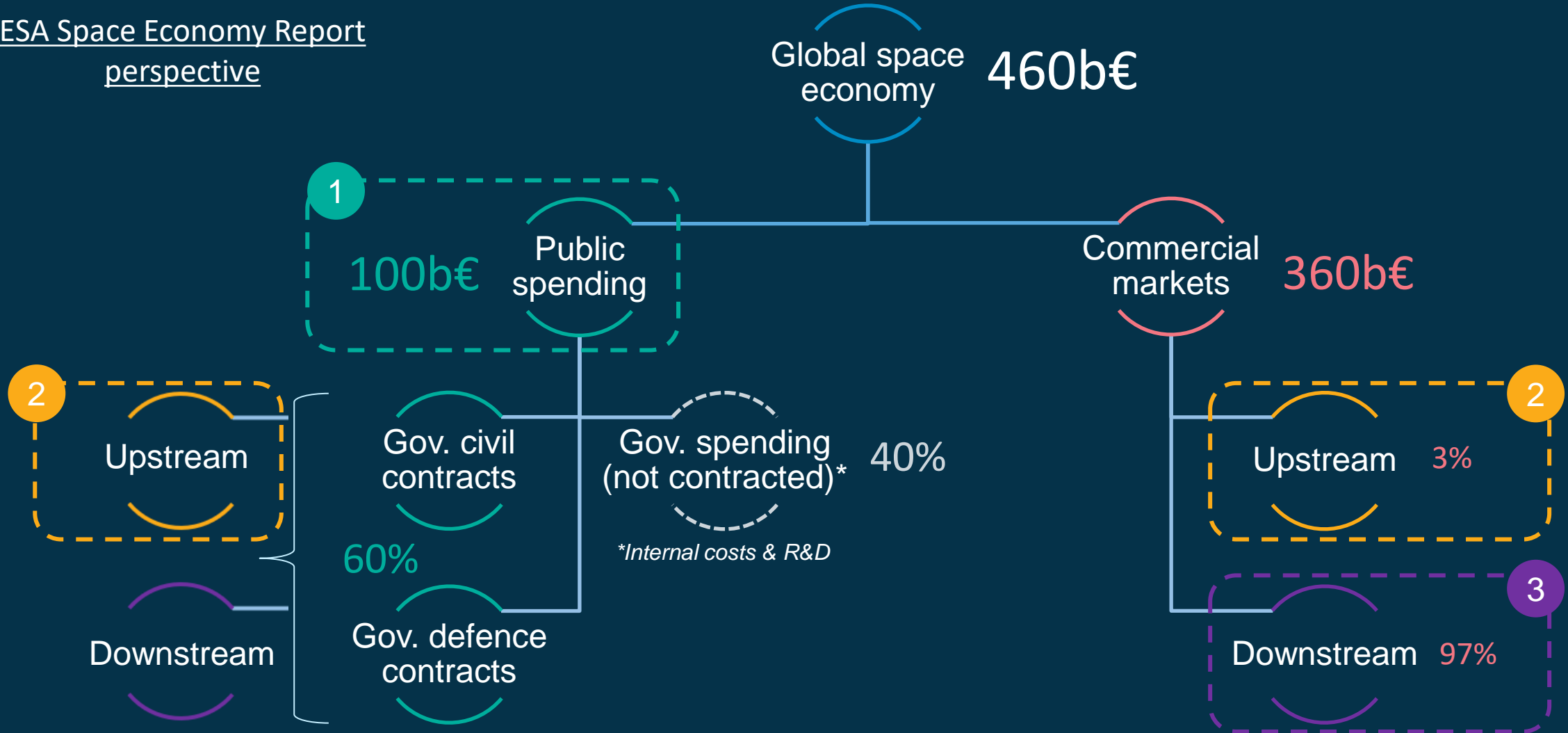
Gonzalo Martin de Mercado,  
European Space Agency (ESA)





# Global Space Economy Overview 2022

ESA Space Economy Report  
perspective



Note The overview presents rounded values.

Source Euroconsult, Space Economy Report 2022, [Press Release](#)

# 1 Public investment in space 2022

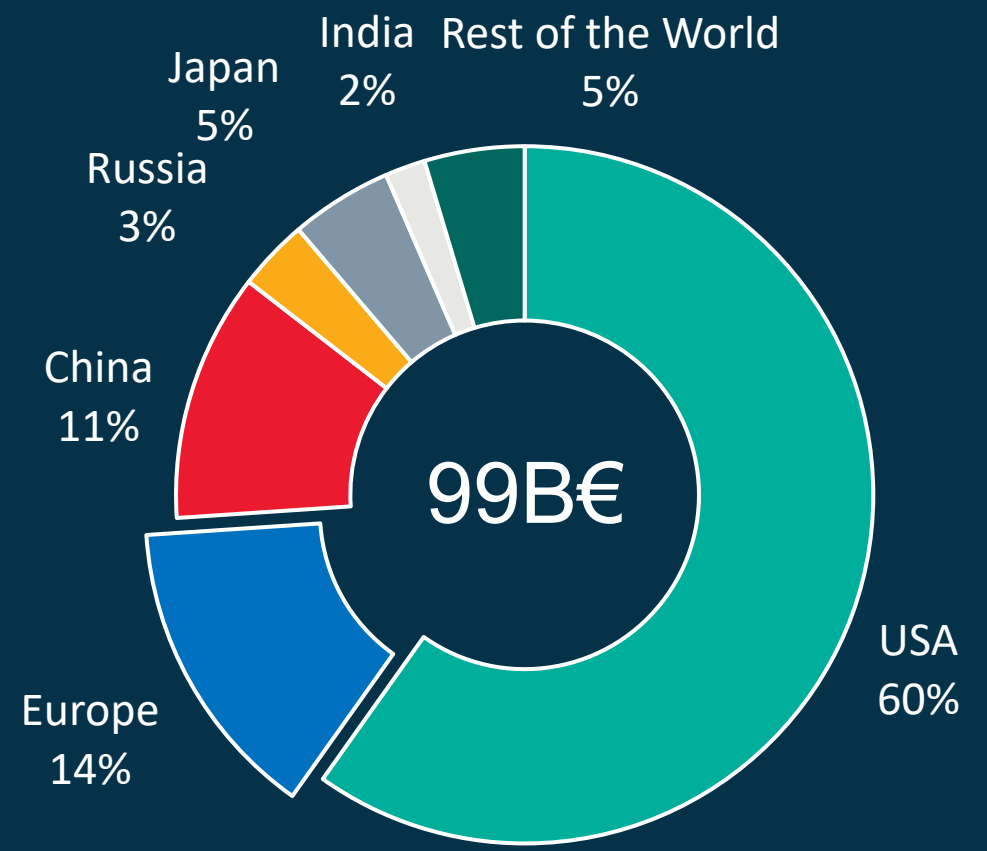
- **€99 billion (+9%)** of global public space investment in 2022 (civil and military)
- Growth largely **driven by defence** space budgets
- Continuously **underestimated Chinese and Russian space budgets** due to lack of publicly available data



**€14 billion (+3%)** of European public space investment in 2022

Public investment in space 2022 (civil & military) (%)

Source: Euroconsult



Note Year-over-year variations based on the US dollar values, to avoid misleading evolutions due to the strong variations of the Dollar-Euro exchange rate from 2021 to 2022.

Source Euroconsult, Government Space Programs 2022, [Press Release](#)

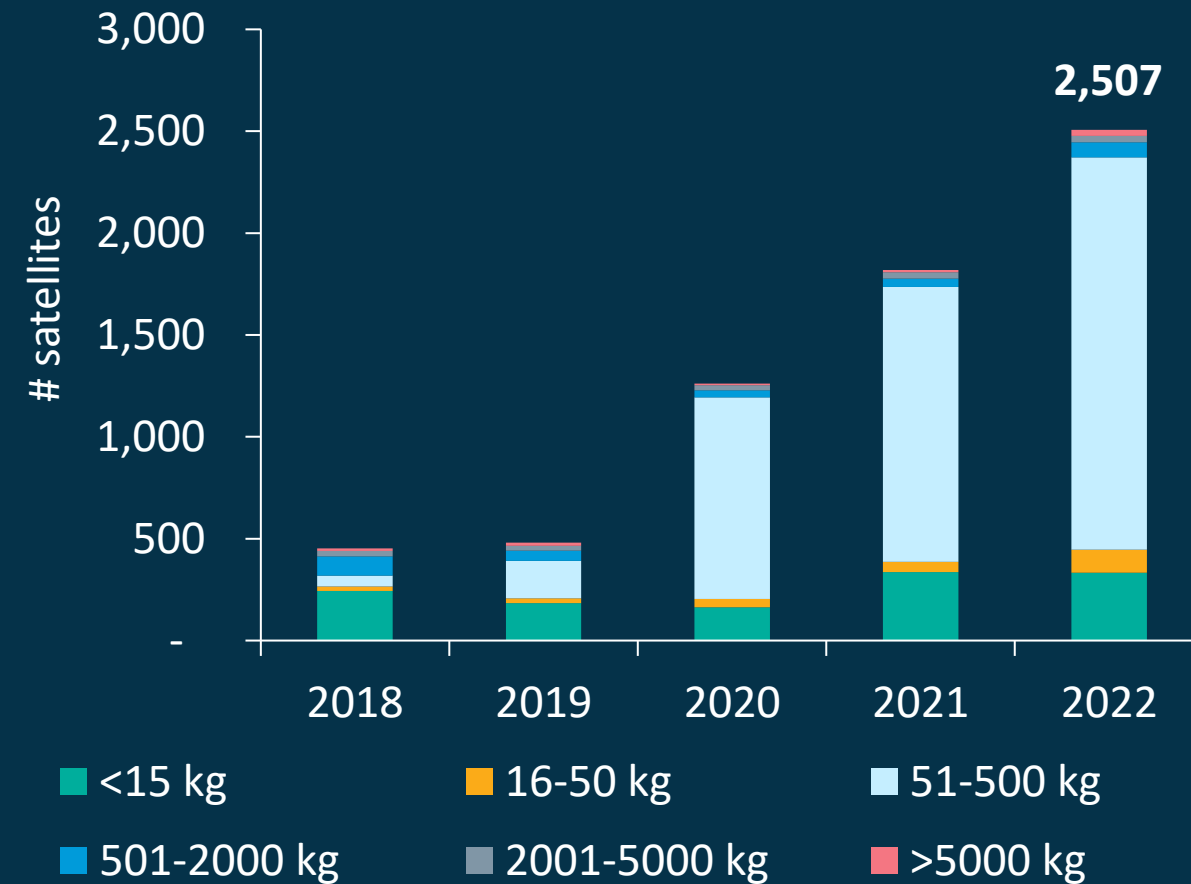


## 2 Upstream overview 2022 Manufacturing & Launch

- 186 launches (+28%) in 2022
- 2,507 satellites launched (+36%) of which 95% of smallsats (<500kg) and 87% from commercial operators

Satellites launched, by mass category

Source: Euroconsult



With 6 launches, Europe captures 3% of the launch volume and 12% of the launch value

With 114 satellites launched, European prime manufacturers capture 5% of the manuf. volume and 19% of the manuf. value

Source Euroconsult, Market Monitoring Reports 2022

- €339 billion\* (8%) of global *commercial* downstream revenues in 2022
- 4% generated by revenues from *commercial* satellite *operations*
- 96% generated from *commercial* *service* revenues, of which satellite navigation accounts for 67%; satellite communication for 32% and EO 1%



With ~€80 billion\*, Europe captures ~24% of the global commercial downstream market in 2022.

\* Excluding user terminals (broadband antennas, TVRO and satellite radio equipment)

Note Year-over-year variations based on the US dollar values, to avoid misleading evolutions due to the strong variations of the Dollar-Euro exchange rate from 2021 to 2022.

Source Euroconsult, Space Economy Report 2022, [Press Release](#)

# Private investment in space 2022

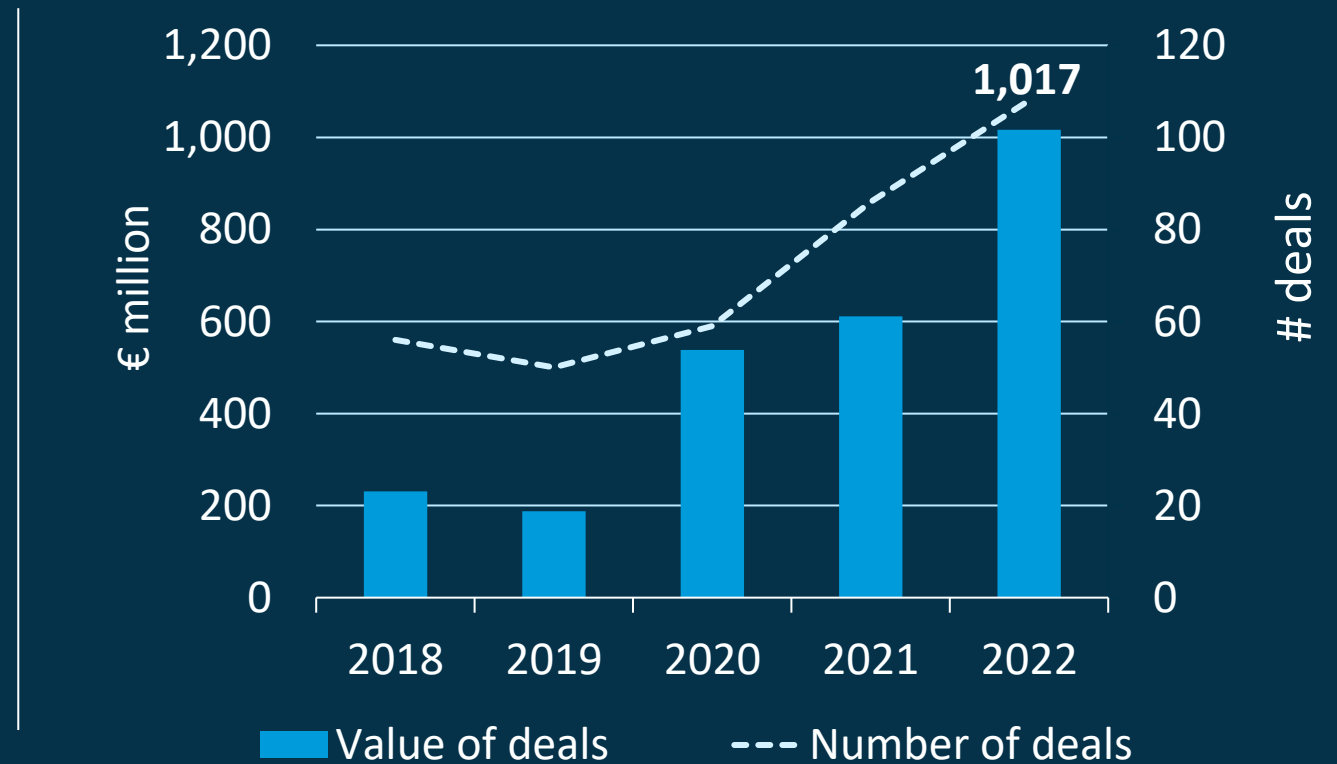
- €8-9 billion of global private space investment in 2022 (approx. -30% to 2021)
- Decrease largely driven by the US (-33% compared to 2021)



Over €1 billion of private investment in European space ventures in 2022 (+66%)

Number and value of annual deals in European space start-ups

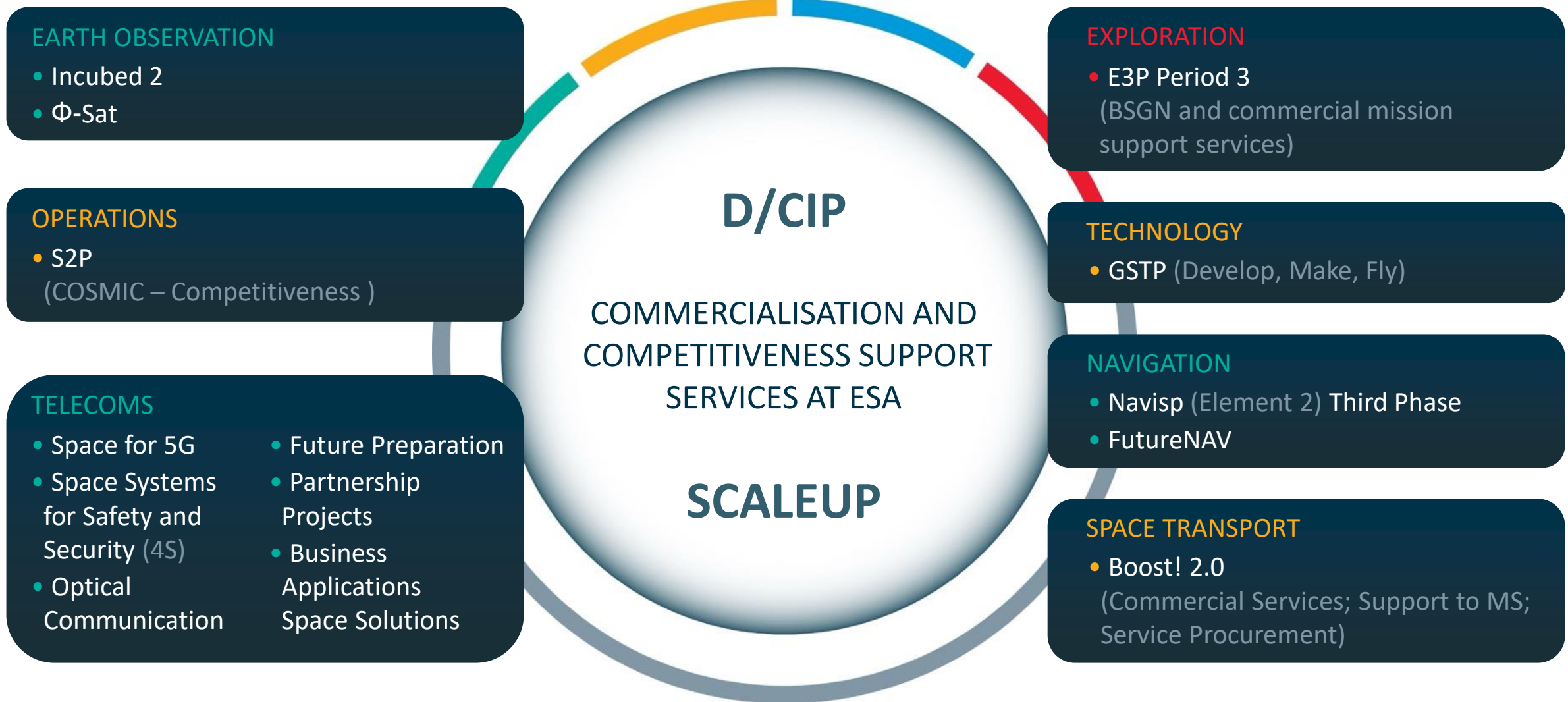
Source: ESPI



Note Preliminary estimates

Source ESPI, Space Venture Europe 2022, [link](#)









**121 M€**  
TOTAL  
SUBSCRIPTIONS

OVERSUBSCRIPTION  
OF  
**+20%**

INNOVATE ELEMENT  
FUNDED WITH  
**100 M€**

INVEST ELEMENT  
FUNDED WITH  
**21 M€**

**Objective:** *Aiming at **fostering the development of industrial players**, ESA does not drive the product or service development but requires technical and business insight.*

**Target:** Economic Operators (“**supported by ScaleUp**”) with **demonstrated technology/proven services & credible ambitious business growth** aiming at upscaling targeting commercial space markets



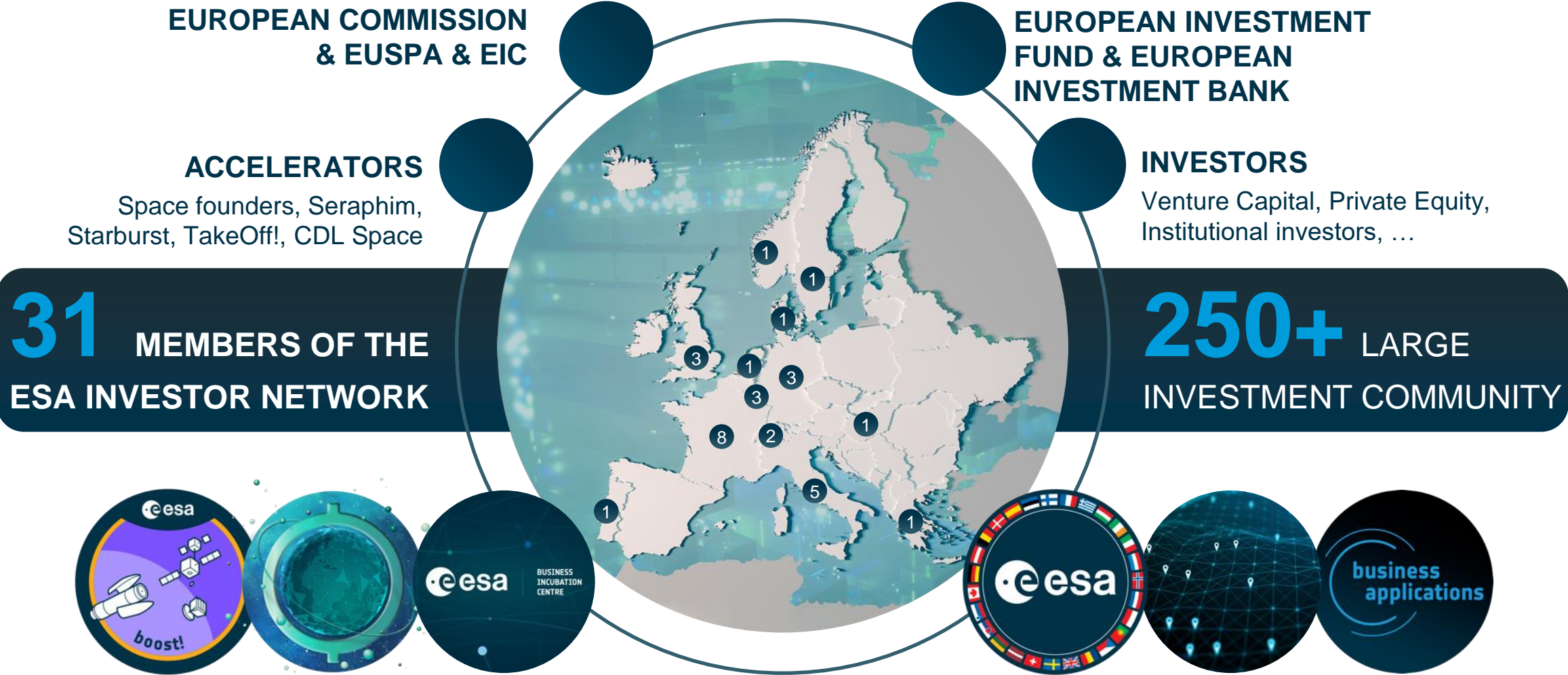
*Sustained commercial growth through **maturity of their business plan and strategy.***

*Sustained commercial growth through **a marketplace for upstream and downstream new and emerging markets.***

1st Thematic call on **IOD/IOV “turn-key” services** launched in April 2023 till Oct 2023 ([link](#))

**Focus:** Tailored to boost the NewSpace endeavours

- Fast procurement (2-step proposal, light proposal, investors...)
- Implementation (Key Performance Gates, private customers & ESA, termination clause,...)



# TOGETHER WE INVEST AND INNOVATE YOU SCALE UP!



[COMMERCIALISATION.ESA.INT](https://COMMERCIALISATION.ESA.INT)

# Backing **the stars** of Europe

EIF & Space

Real examples of VC investment in the space  
economy and overview of InvestEU Space

David Dana, EIF



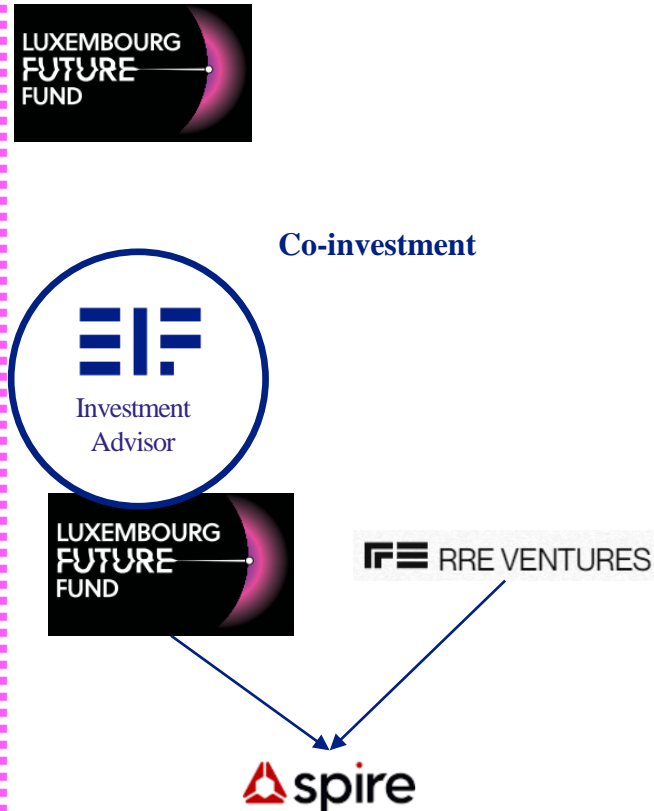
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*Elf's historical & current space  
exposure*

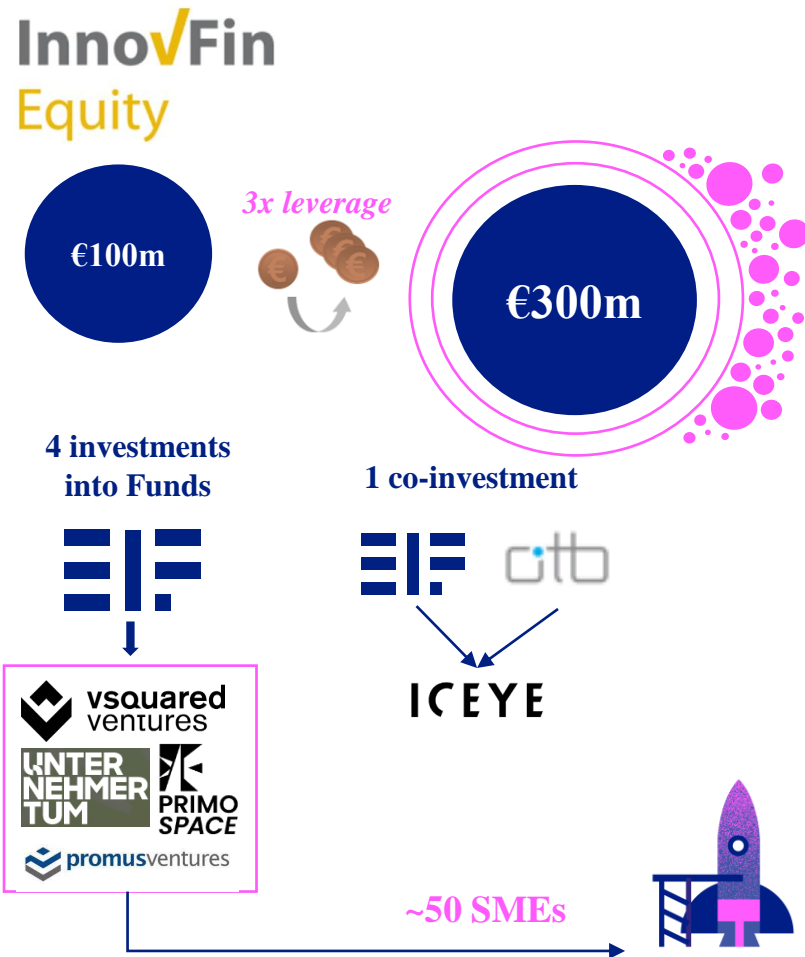
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# Our Space journey over the years

## 2017 First investment in Space



## 2020 Dedicated Space pilot



## 2022- Scaling up our support to Space



# Targeting different types of VCs....

## General Deep Tech Funds with space focus

- Funds investing in various new / disruptive technologies
- Partial involvement in New Space
- Moderate number of VCs



## Vertical Space Funds

- Specialised funds investing uniquely in New Space
- Limited number of VCs



## Generalist Funds with specific space allocation

- Generalist funds with appetite / credible past investment track record & team expertise in New Space
- Increasing number of VCs



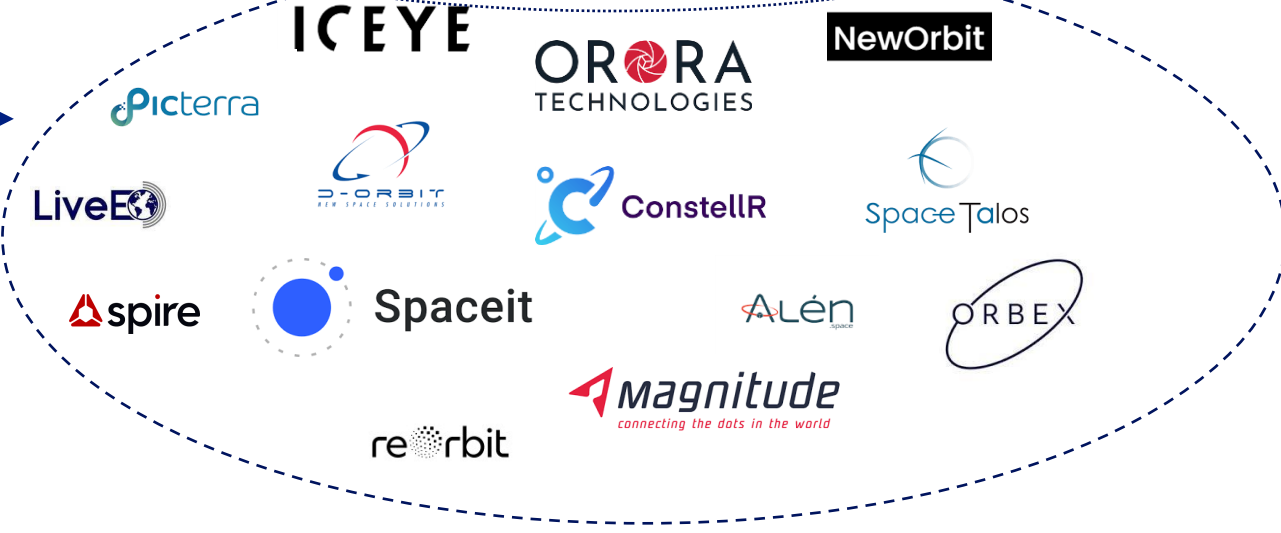
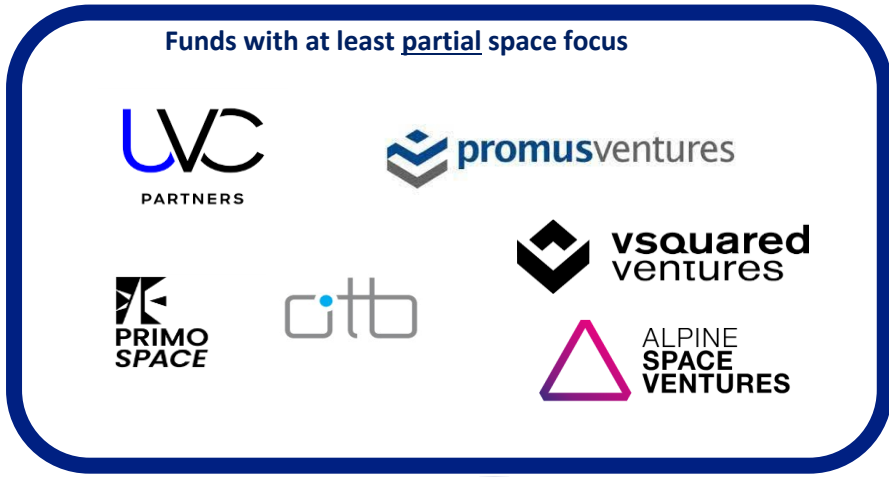
## Selected co- investments with existing intermediaries

- Co-Investments through an existing relationships with VC
- Target a selected New Space opportunity, managed by the GP





# Portfolio funds involved with space



# Beneficiaries of EIF's funding are active in the upstream and downstream sectors...

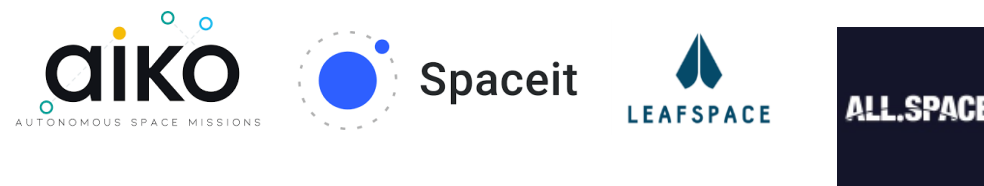
## Satellite manufacturing, launchers & propulsion (upstream)



## Space utilization, exploration & in-orbit services (upstream)



## Mission operations, mission control & downlink infrastructure (downstream)



## Earth observation & analytics (downstream)



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# *InvestEU & Space*

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# InvestEU Fund

New finance to boost investment, innovation & job creation

**€11bn**  
Of InvestEU Funding under EIF deployment



*Green transition*

To target

investments across:

*Innovation & Digitalisation*

*Climate & Sustainability*

*Competitiveness*

*Social Impact & Inclusion*

*Culture & Creativity*

*Skills & Education*

*Digital transition*

*Continued recovery*

# InvestEU & Cassini Space program

- Under InvestEU, the EIF has in excess of EUR 7 billion to invest in private equity and venture capital funds in Europe
- EIF will support funds with investment strategies covering a range of predefined thematic areas, e.g. *space*, defence, industrial technologies and semiconductors
- The Cassini programme has provided additional funds to InvestEU in support of the Space thematic, covering research & development, manufacturing, distribution or operation of components, products, systems technologies for Space
- InvestEU covers the full entrepreneurial lifecycle and covers both upstream and downstream applications for Space
- Focus on European SMEs involved in different space sectors (ground or launch systems segments, data processing, adaptation of space tech incl. to non-space economic sectors...)
- Capacity Building to support the building of the ecosystem

*€400m from InvestEU  
& EIBG resources*

+

*€200m top-up from Cassini*

=

**€600m**

# Maximizing impact

By leveraging the InvestEU resources with those of the European Space Programme (Cassini), we can broaden our reach...

**€400m**  
Combining  
InvestEU &  
EIBG resources

**€200m**  
*With  
CASSINI top  
up*

*...Translates into...* **> 1.5bn**

*Made available  
in the market for  
SMEs and Small  
Mid Caps*

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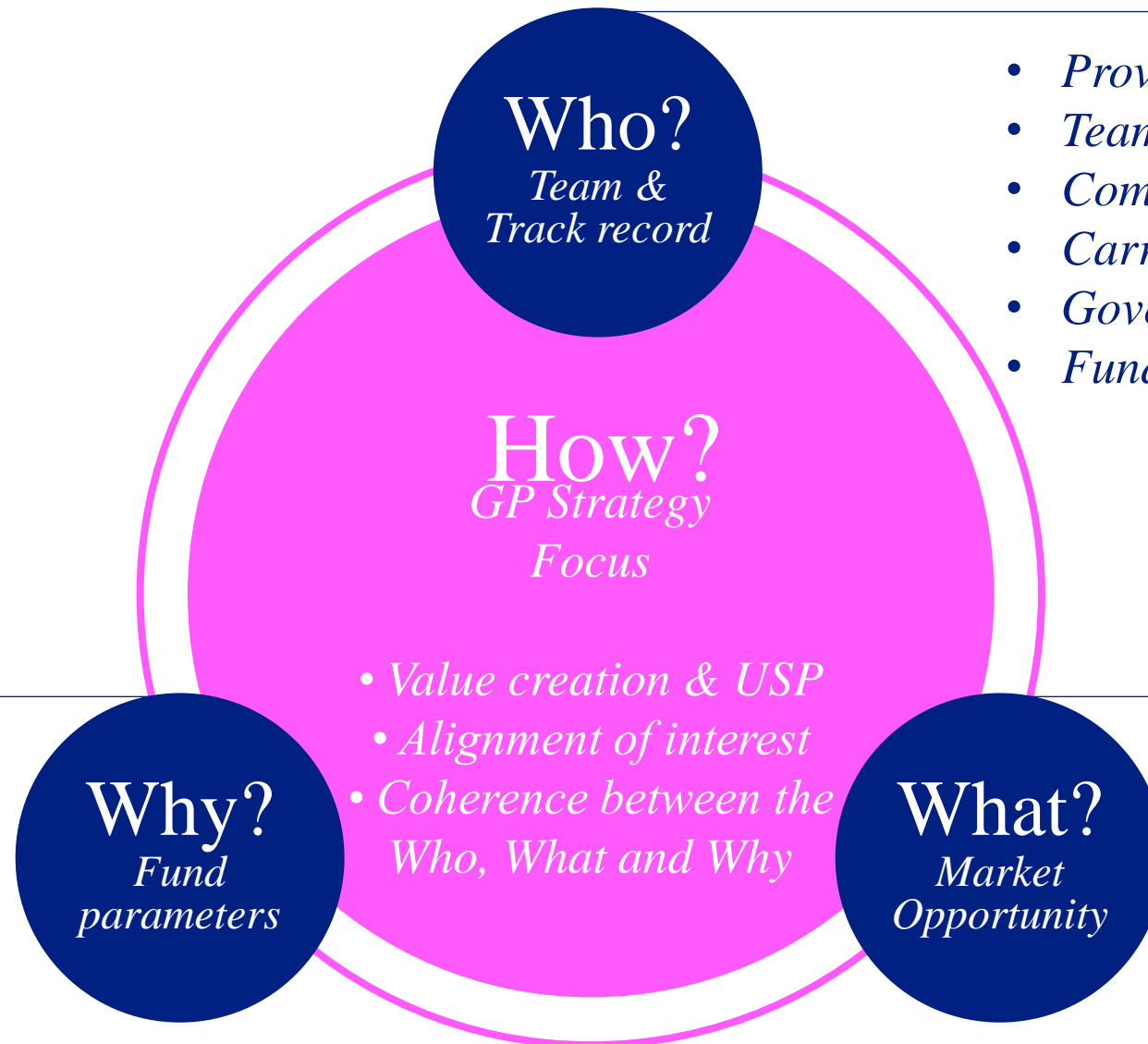
# EF's investment process

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# What are we looking for?

Policy fit and commercial assessment criteria

- *Geographical focus*
- *Thematic focus (Target Areas and Horizontal Priorities)*
- *Fund model*
- *Terms & Conditions*
- *Legal structure*



- *Value creation & USP*
- *Alignment of interest*
- *Coherence between the Who, What and Why*

- *Proven track record & reputation*
- *Team cohesion & succession*
- *Commitment*
- *Carry split*
- *Governance*
- *Fundraising traction*

- *Trends*
- *Market needs*
- *Competition*
- *Demand side economics*
- *Deal flow & pipeline*



# The EIF's investment process

Applications will go through four steps

# 1

## Sourcing

### Creating a deal flow

Marketing, active participation in and organization of events.

Pro-active sourcing via existing network.

# 2

## Screening

### Understanding your concept

Desk review and physical meeting; chance to articulate your investment opportunity and understand more about the EIF.

# 3

## Due Diligence

### Stress testing and verification

An EIF team conducts a physical due diligence visit (usually 2 days) to assess all aspects of the proposal and meet the investment team in person.

# 4

## Legal negotiation/Signature

### Legal documentation

After final approval, legal negotiation.

Aim is to align the terms and conditions to best market practice.

# What happens at Due Diligence?

Main aspects of the DD process

## 3

**Due diligence**

**Stress testing and verification**

EIF team conducts a physical due diligence visit (usually 2 days) to assess all aspects of the proposal and meet the investment team in person.

Management team

Market

Deal flow

Investment strategy

Fund size

Proposed terms

Expected returns

Investor base

*If we believe in small  
big things can happen*



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To find out more please visit us  
at: [www.eif.org](http://www.eif.org)

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Investment Fund  
37B avenue J.F. Kennedy

L-2968 Luxembourg  
Phone: +352 24851

# Backing **the stars** of **Europe**

EIB's activity in the  
Space Sector

Jaroslav Tóth, EIB



# EIB as part of the financial sector support to new space

1

Introduction: the EIB Group

2

EIB supporting the EU space sector:

- How EO and new space fits into EIB's mission
- EIBG history in space
- Financial instruments suitable for (new) space companies

3

Support beyond financing: advisory services

4

Looking to the future



# The EIB: The bank of the European Union

Improving quality of life in Europe and beyond – also in space



- The world’s largest multilateral lender
- The EIB Group: EIB + EIF
- Established in 1958; since then EUR 1.5 trillion invested



- Financing in 2022: EUR 65 bn + EUR 9 bn
- Leading provider of climate finance; Green investments: € 26 billion in 2022



- Governed by the EU Member States
- Around 4,000 staff; HQ in Luxembourg



- Priority areas: Innovation, Environment, Infrastructure, SMEs
- Space activities > Innovation



# How space fits into EIB's mission

How EO and new space fits into EIB's mission

Climate



SME and cohesion



Strategic independence



Market failures



# EIB Group: History in Space

Selection of counterparts since the 1980s

- ▶ **EUTELSAT** (1980s-2010s): launch of broadcasting satellites
- ▶ **SES Astra** (1990s): launch of broadcasting satellites
- ▶ **Ariane** (1980s-2010s): Ariane Space, Ariane-5, Ariane-6 R&D
- ▶ **OHB** (2010/16): R&D for electric propulsion systems
- ▶ **Terma** (2015): products and equipment for civilian applications
- ▶ **Sener** (2016): engineering for renewables and space sectors
- ▶ **Avio Space** (2017): R&D for mid-sized launchers
- ▶ **SES** (2022): design, purchase and launch of three satellites
- ▶ **Spire** (2020): nano-satellite constellation for data analytics
- ▶ **D-Orbit** (2020): satellite deployment/validation, debris mgmt.
- ▶ **EnduroSat** (2021): nano-satellite value chain & data mgmt.
- ▶ **Gomspace** (2022): R&D for nano-satellite platform

EUR 2bn+ in EIB loans or capital for space since 1980s

Old Space (Traditional)      New Space (Ventures)

Old Space (Traditional)	New Space (Ventures)



# EIB Group: Financial Instruments

Complementarity across development stages

Instrument	Role	Maturity			Sector	Tickets	Examples
		Early	Late Profits	Growth			
<b>1</b> EIF: Space Equity Pilot <i>(LP equity capital)</i>	LP in Space Funds				Space	Indirect (N/A)	Primo Space Orbital Ventures Lux. Future Fund
<b>2</b> EC & EIB: EIC Fund <i>(seed grants &amp; venture equity)</i>	Investment Advisor				Broad (Technology)	< €15m	Hiber
<b>3</b> EIB: Venture Debt <i>(venture loans)</i>	Venture Lender				Broad (Technology)	€5 – 50m	Spire D-Orbit EnduroSat
<b>4</b> EIB: Corporate Debt <i>(corporate loans)</i>	Corporate Lender				Broad	> €50m	Eutelsat Ariane Group

NEW SPACE INSTRUMENTS

# EIC and EIB Venture Debt

## EIB as venture banker or advisor to New Space

### 2 European Innovation Council (EIC)

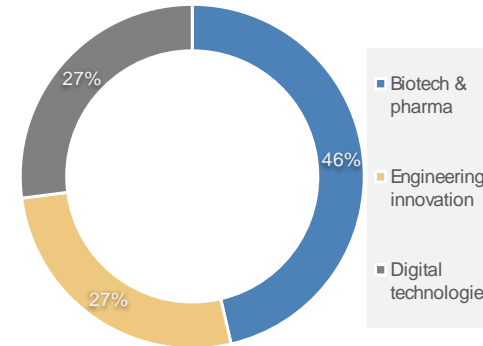
- ▶ EIC Fund set-up by EC to support deep tech ventures in Europe
- ▶ EIB acts as investment advisor to the EC and EIC Fund
- ▶ EIB due diligence, structuring, negotiations and monitoring
- ▶ New Space EIC : **Hiber (Netherlands)** – IoT connectivity



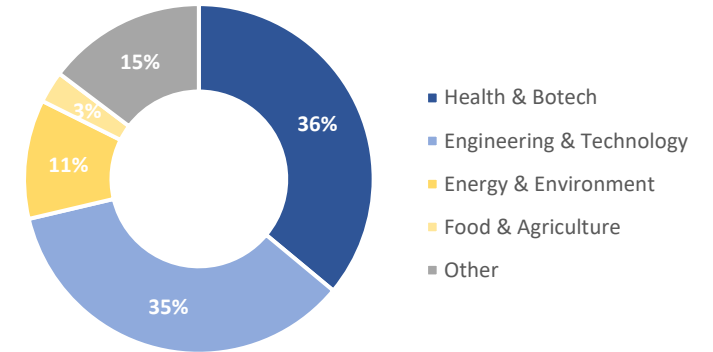
### 3 EIB Venture Debt

- ▶ EIB is the largest venture lender in the EU
- ▶ EUR 3bn+ in signed venture loans during 2015-2021
- ▶ 175+ technology start-ups supported across Europe
- ▶ Since 2020, also financing start-ups in New Space
- ▶ EU policy goals: SMEs, RDI, climate change, New Space

EGFF Venture Debt portfolio by sector



EIC Fund portfolio by sector (# approved transactions)



- ▶ **Spire Global (Luxembourg):** EUR 20m to expand Spire’s nanosat fleet and commercial Earth Observation solutions



- ▶ **D-Orbit (Italy):** EUR 15m for new in-orbit testing platform and market new satellite services for small-sat operators



- ▶ **EnduroSat (Bulgaria):** EUR 10m for new “shared nano-satellites” carrying multiple payloads to reduce space debris

# Advisory services support to the space industry

Market intelligence – project advisory – ecosystem building

## Study on Access to Finance in the Space Sector



[The future of the European space sector](#) (2019)

## Ecosystem development



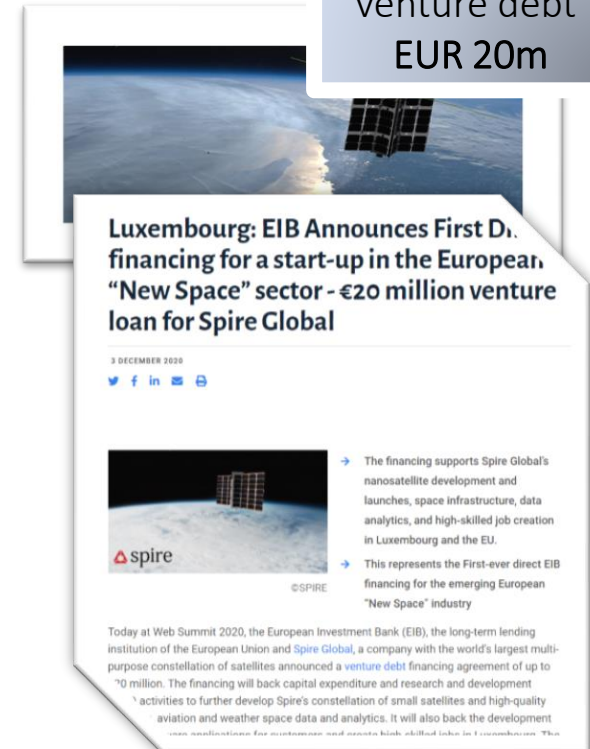
## Preparing potential projects for financing > feeding the EIB pipeline



InnovFin Advisory support



EIB financing – venture debt EUR 20m



# Supporting the future space economy

Complementarity across development stages



# Backing **the stars** **of Europe**

**Thank you!**

