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**ESPACE 114  
INTER-REP 129**

## **COVER NOTE**

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Subject: Presentation by the European Space Policy Institute (ESPI) Europe in  
Space: It Takes a Village  
- Powerpoint presentation (Space WP meeting 11.12.2024)

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# Europe in Space: It Takes a Village

**Space Working Party, Council of the EU**

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Matija Rencelj, Research Manager

Sara Dalledonne, Lead on EU Relations & Regulatory Affairs

11 December 2024, Brussels, Belgium

## AGENDA

➔ **European Space Policy Institute (ESPI)**

➔ **Space in a Year of Reports**

➔ **Towards European Leadership**

➔ **It Takes a Village**



# European Space Policy Institute

# ESPI Governance and People



Co-founder

Co-founder



20 member organisations



Advisory Council



**Etienne Schneider**  
Chair, Former Deputy Prime Minister of Luxembourg



Interdisciplinary staff of 20+ nationalities



Supported by

Federal Ministry  
Republic of Austria  
Climate Action, Environment,  
Energy, Mobility,  
Innovation and Technology





# Current Composition of ESPI Advisory Council



**Marek Banaskiewicz**  
Former President of the Polish Space Agency  
(2020-2026)



**Niklas Nienaß**  
Member of the European Parliament  
(2023-2025)



**Sinead O'Sullivan**  
Economist at Harvard Business School's Institute for Strategy and Competitiveness  
(2023-2025)



**Etienne Schneider**  
Former Deputy Prime Minister of Luxembourg  
(2024-2026)



**Magali Vaissière**  
President of the IRT Saint Exupéry and Member of the Ministerial Space Steering Committee of France 2030  
(2024-2026)



**Major General Michel Friedling (Ret.)**  
Former French Space Commander  
(2024-2026)



**Margit Mischkulnig**  
Head of the Department for Space Affairs at the Austrian Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology  
(2020-2026)



**Fritz Merkle**  
Former Chief Technical Officer at OHB  
(2020-2026)



**Samantha Cristoforetti**  
ESA Astronaut, member of the European Astronaut Corps  
(2023-2025)



**Peggy Hollinger**  
International Business Editor of the Financial Times  
(2024-2026)



**Walther Pelzer**  
Director General of the German Space Agency at DLR  
(2024-2026)



**Lord David Willetts**  
Chair of UK Space Agency and President of Resolution Foundation  
(2024-2026)

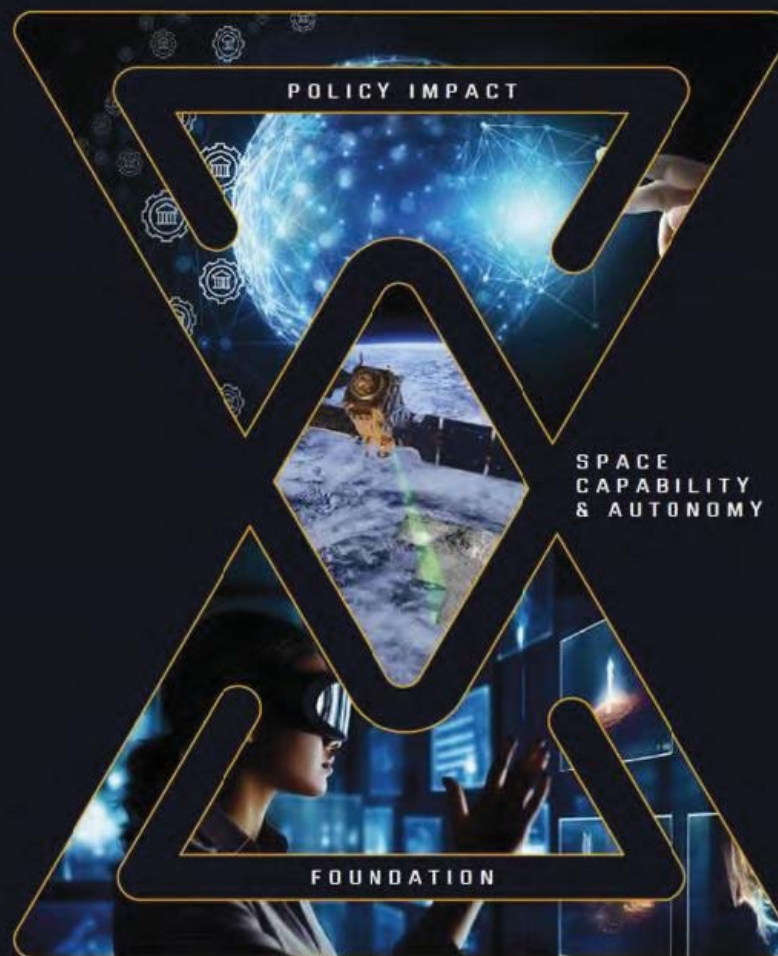
## KEY:

Joined prior to 2023

Joined 2023

Joined 2024

New Chair



Scale up **policy impact of space** in Europe:

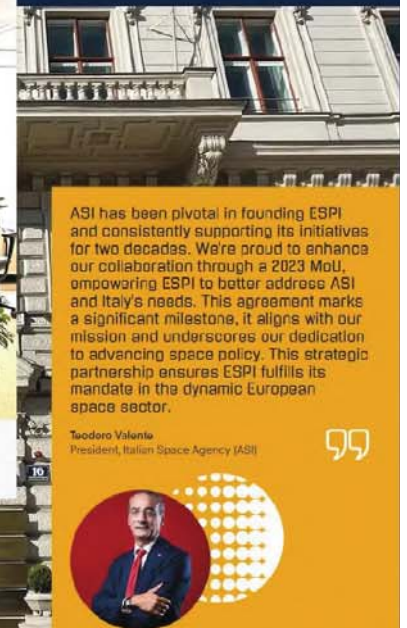
- **Integrate space with policy actions** of governments and parliaments and international bodies in sectors such as **economy, diplomacy security, and defence**
- **Design space policy in support of business strategies** of and beyond the space industry

*Source: ESPI 04/20 Space for Prosperity, Peace and Future Generations*



# Engagement – ESPI presence in Europe

- **ESPI 2040:** Strengthening ESPI's engagement with its national and European members and stakeholders
- From March 2024, ESPI is taking first steps in developing a **presence in Brussels**, with the support of BELSPO and ESA
- Establishing sustainable relations with the **European Commission, European Parliament, Council of the EU, Advocacy groups, Belgian national** stakeholders (...)
- First steps towards a possible network of **ESPI antennas (Brussels, EU)** complementing the work of the Institute's Vienna HQ

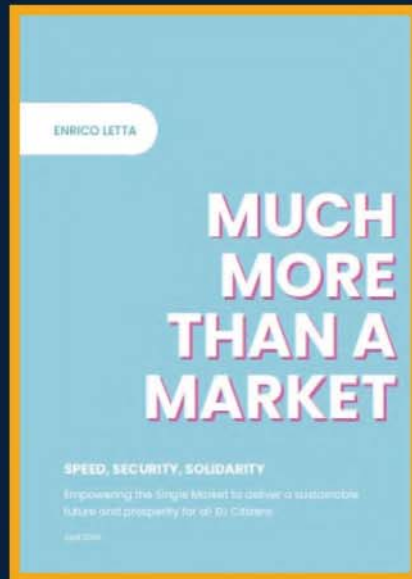






# Space in A Year of Reports

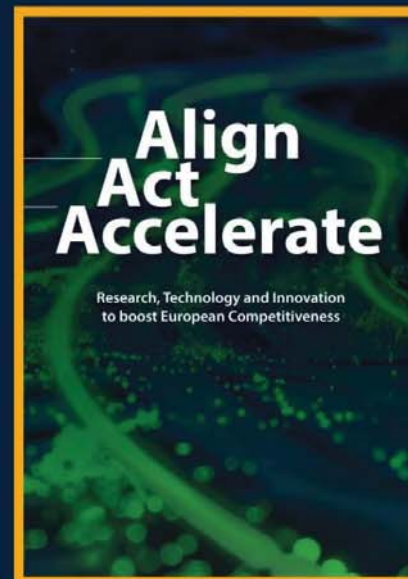
# A Year of Reports



**Letta Report**  
April 2024



**Draghi Report**  
September 2024



**Heitor Report**  
September 2024



**Niinistö Report**  
October 2024

**“We need to reaffirm the goal of 3% of European GDP assigned to research.”**



**Emmanuel Macron**  
Europe Speech  
April 2024

**“...to make Europe a global leader by 2030 in five of the most emerging and strategic sectors.”**



**Artificial Intelligence**



**Quantum Computing**



**Space**



**Biotechnology**



**New forms of Energy**

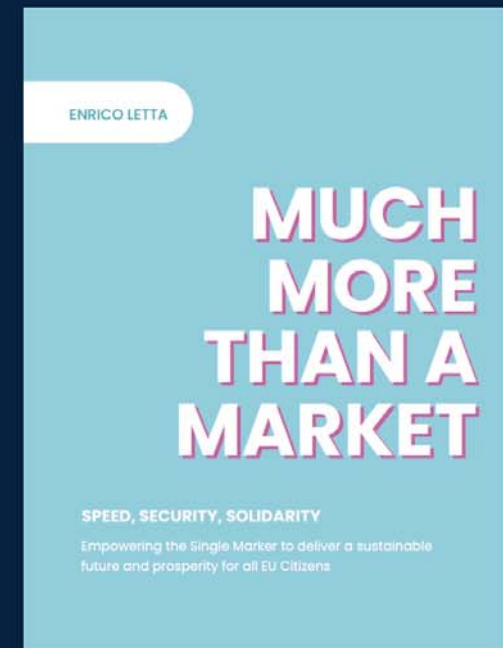
Image sources: Élysée / Youtube, Picryl / Public Domain



Prepared by the former Italian PM Enrico Letta.  
Focused on improving the EU's economic and industrial frameworks.

## Key space-relevant proposals:

- 1. State aid reform:** Introduction of an **EU-wide mechanism for industrial competitiveness**. This could ease existing restrictions that limit government support for the space sector, allowing for increased investment.
- 2. EU stock exchange for deep-tech start-ups:** Creation of a **new vehicle to improve funding access**. This could provide more financial opportunities and acquisition opportunities for space companies.
- 3. Internal market & space sector support:** Shifting away from **public funding and pure geo-return**, with the intention of lessening the space sector's reliance on public funding and provide more private opportunities.



# Draghi Report: An in-depth analysis in-vacuum

Prepared by the former Italian PM and ECB President Mario.  
Focused on improving the EU's competitiveness across domains.

**Chapter 8 is dedicated to space.** Also, **space is noted as a key enabler in several fields**, including transport, communication, environment, energy, financial markets, security and defence.

- The **EU has remained competitive in space in the past decades**, but is losing ground, potentially leading to **deeper strategic dependencies in the future**.
- Identified root causes of the competitiveness gaps in the sector largely have to do with **financing and investment issues**, as well as **fragmented governance and coordination**.

Yet, the analysis of root causes and the resulting proposals targeting space **do not have a sense of urgency**, and fails to **leverage the whole European space ecosystem**:

- **Outlook on satcom** — a key pillar in sustaining the European space sector until the late 2010s and the current transformative driver of the global LEO space economy — **fails to consider the potential of PPPs in stimulating a commercial market**.
- The Report **fails to recognise the power of B2B and B2C markets in space**.
- When discussing the EU Space Programme, the Report **overlooks the value of a symbiotic relationship and interdependence between the EU & ESA**.
- The Report partially **fails to distinguish between the EU Space Programme and Europe's space ecosystem** at large.





## ESPI's perspectives

Better leverage the realities and strengths of Europe's multi-stakeholder environment.

It would risk losing MS's funding. ESA/EU to focus on improving procurement rules and using them to transition from innovation to commercialisation

Acknowledge that the Law alone will not resolve the need to improve and diversify the internal market for space services.

First ensure that Europe has a well-defined strategic direction the Fund can act upon.

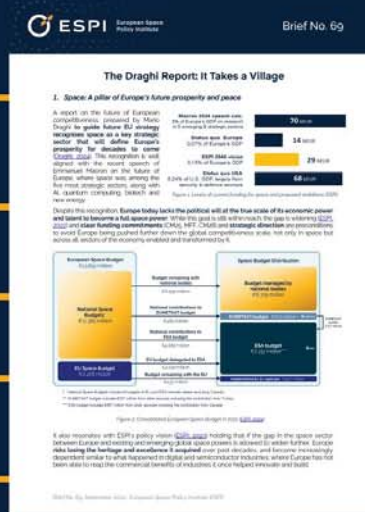
Tailor the European preference to specific target areas.

Recognise the urgency of defining strategic priorities (and overlap as a form of resilience).

Identify synergies between space and defence urgently (industrial dimension is undervalued).

Develop broader ambitions in space, which will spur further launcher development.

Utilise space capabilities and posture for diplomacy *beyond* the space sector.





# Heitor Report and New Research Framework Programme **ESPI** European Space Policy Institute

Prepared by COM Expert Group on the Interim Evaluation of Horizon Europe chaired by Manuel Heitor, Portugal's former Minister of Science, Technology and Higher Education.

**Focused on strengthening EU innovation and funding programmes.**

## Three key space-relevant proposals:

1. Create an independent **Industrial Competitiveness and Technology Council** to strengthen EU R&D&I.
2. Create an **innovation procurement programme** that would help drive innovation through various tools
3. **Do away** with the distinction between "civilian" and "dual-use" in funding calls



## ESPI Perspectives

- ☐ A **removal of distinction** — favoured by Commissioner Zaharieva — **would likely allow for a wider variety of space technologies to receive funding**
- ☐ **Ring-fencing** might make allocation of funds towards various dual-use and security space projects more difficult
- ☐ FP10 may enable further **collaboration between sectors**, opening new avenues for applying SP assets and data in other fields.
- ☐ **Simplified application / review** procedures may allow more space SMEs to apply for funding, helping mature low TLR tech
- ☐ Subsuming FP10 into the policy-driven Competitiveness Fund could allow for budgetary flexibility

Published by the former Finnish President Sauli Niinistö. **Focused on enhancing Europe's civilian and defence preparedness and readiness.**

Highlighted the **central role space plays in ensuring EU safety and resilience**; includes space into the list of "sectors critical for maintaining societal and economic stability". Dedicated a box to "Preparing for Crises in Space".

## Five key space priorities:

1. **Enhancing SSA** to better anticipate and respond to issues arising in the space environment;
2. Strengthening **space R&D and resilience** to ensure continued capability access;
3. **Enhancing dual-use potential of space** via propping up planned and existing assets, such as Galileo PRS, to better support military action;
4. Utilising **space infrastructure for civilian preparedness**, e.g. via creating a direct-to-consumer warning app with Galileo EWSS;
5. **Using space for diplomacy**, e.g. via streamlining the uses of space-based monitoring and information throughout the Global Gateway strategy.

## Safer Together Strengthening Europe's Civilian and Military Preparedness and Readiness

Report by Sauli Niinistö, former President of the Republic of Finland,  
in his capacity as Special Adviser to the President of the European Commission





# Transversal analysis of key documents



**ESPI**

European Space  
Policy Institute

Document Name	Whose Priorities?	EO	PNT	Satcom	SSA	Sustainability in space	Security and Defence, including SDA	Space data/ downstream applications	Launchers	New procurement practices	New funding modalities	Role clarification
Space Strategy for Security and Defence (3.24)	COM	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes	No	No
Letta Report (4.24)	COM (requester)	No	No	No	No	No	Yes	No	No	Yes	Yes	Yes
Council strategic agenda 2024-2029 (6.24)	European Council	No	No	No	No	No	No	No	No	Yes	No	No
EP election manifestos (parties who ultimately joined the top-3 groups: EPP, S&D, PFE)	EP	Yes	Yes	Yes	No	No	Yes	No	Yes	No	No	Yes
Space Programme Mid-term evaluation	COM	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Political Guidelines for the Next European Commission, 2024-2029	COM	No	No	No	No	No	Yes	No	No	No	Yes	No
Draghi Report (9.24)	COM (requester)	Yes	No	No	No	No	Yes	No	Yes	Yes	Yes	Yes
Heitor Report (9.24)	COM (convenor of Expert Group)	No	No	No	No	No	Yes	No	No	Yes	Yes	No
Defence & Space Commissioner Mission Letter	COM	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	No	Yes
Niinistö Report (10.24)	COM (requester)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes	No
Council Conclusions since 2021	Council of the EU	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No





# Towards European Leadership

# The World in Flux

## Renationalisation in Space



- ❑ Countries increasingly **prioritise national space initiatives**
- ❑ Countries might channel more **resources into national technological capabilities** to ensure independence in critical technologies
- ❑ More **varied space policy and regulatory frameworks** within the EU

## Russia's War against Ukraine



- ❑ Strengthen the resolve and **security and defence focus** within European space policy
- ❑ Redefining and expanding what constitutes '**critical infrastructure**' to fully include space systems
- ❑ **Bolstering cybersecurity** across European systems
- ❑ Potential membership of Ukraine and other countries in the EU might **complicate consensus-finding**

## Strategic Competition for Tech Superiority & Market Gain



- ❑ US-China competition **compels Europe to enhance its own space capabilities** to remain competitive and less dependent
- ❑ **EU needs to be cautious of potential technological and regulatory (US) and resource-based (China) dependencies** within its SP
- ❑ World powers **vying for global markets** through corporate and diplomatic channels

## Dynamic national political orientations



- ❑ Elections in 9 EU countries in 2024; 2 more in 2025 — influence over new space other priorities
- ❑ **U.S. election:** Trump victory
  - ❑ Potential withdrawal of NATO support and **imposition of high import tariffs** — all restricting the EU's fiscal flexibility

# Scaling Europe's ambition



## Macron

ESPI calculation derived from the call for **3% of** Europe's GDP on research, to foster Europe's leadership in five emerging and strategic sectors



## Status quo USA

Currently at the level of **0,24%** of U.S. GDP, majority originating in **defence & intelligence**



## Status quo Europe

Currently at the level of **0,07%** of Europe's GDP



## ESPI 2040 vision

European public space budget at **0,15%** share of Europe's GDP

Data Sources: ESPI, Euroconsult, IMF, ESA, EUMETSAT

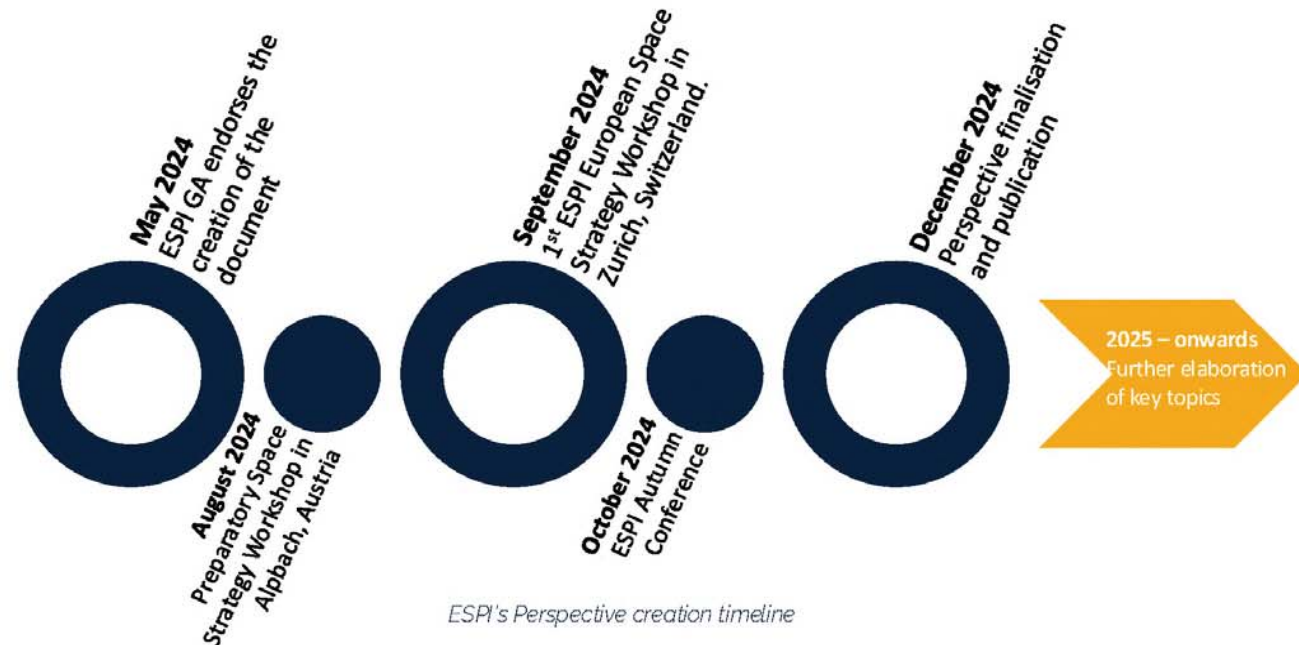


# ESPI's Perspective on a European Space Strategy

*"Elaborate perspectives and guidelines for key issues and challenges a space strategy should consider when being drafted."*



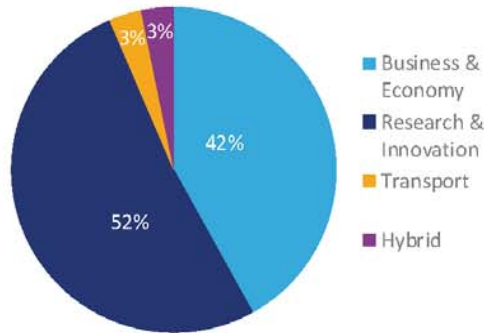
ESPI Advisory Council guidance, 2024



ESPI's Perspective creation timeline

Informed by the first ESPI European Space Strategy Workshop (WS) held at ETH Zurich in September 2024. **Participants included representatives of ESA, EU, national bodies, industry and academia.**

# Need for a Coherent European Space Strategy



Breakdown of the primary focus of ministries in charge of Space Policy in Europe (as of July 2024)

European action in space is currently guided **by inherently contending strategies at national, intergovernmental and supranational levels, with priorities set by Ministries with diverse main foci.**

The lack of an overarching European Space Policy prevents Europe from achieving its full potential in space amid the backdrop of changing (geo)political realities.

***“Reinforce the ESA-EU strategic partnership in its various forms of cooperation in view of fostering a globally competitive European space economy”***

***“ Reinforce coordination for the development of the overall European Space Policy.”***

EU Council Conclusions “Strengthening Europe’s competitiveness through space”. (May 2024)

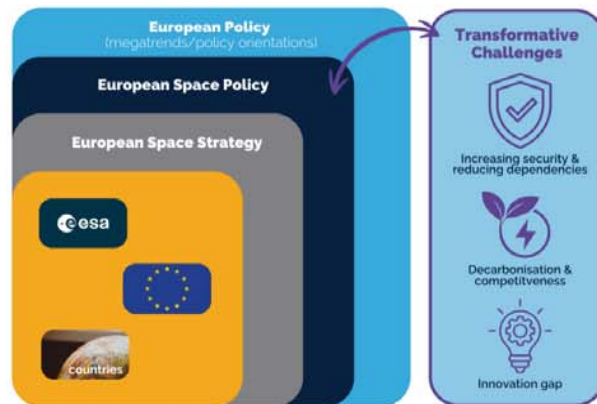


Latest releases of comprehensive national strategic documents dealing with space.



# Foundations of a European Space Strategy 2040

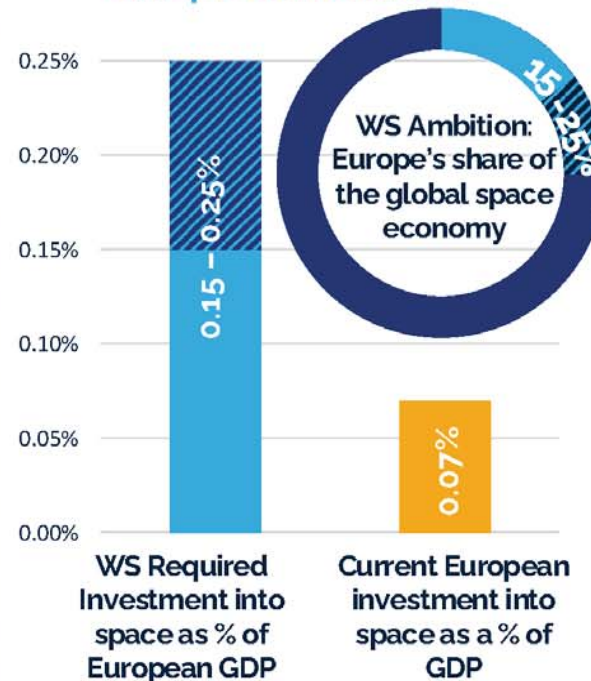
## Challenges – A generational turning point for Europe



WS's **3 key challenges** to drive a European Space Strategy:

- **NetZero** and adapting societies to climate change impacts
- Increasing **security and resilience**
- Closing the **innovation gap**

## Ambition – Europe's share and Europe's investment

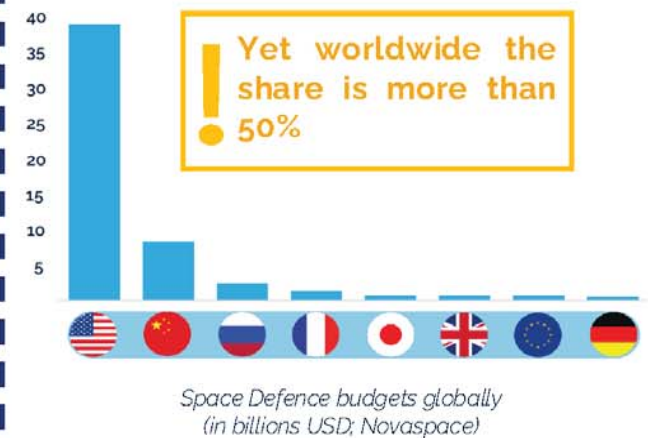


**ESPI considers the 25% and the 0.25% targets perhaps overly optimistic**

## Game Changer – Space for Security & Defence

**Security&Defence** is currently the **only game changer** that may help achieve envisioned investment levels.

**WS Goal: 30% of public European space budgets for S&D.**

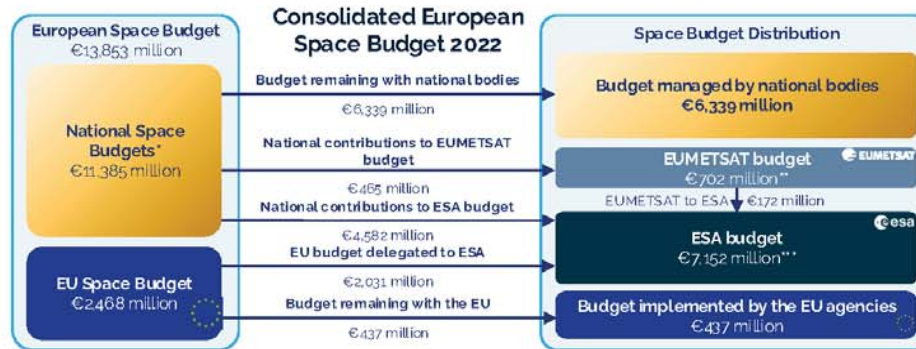




# Foundations of a European Space Strategy 2040

## The Space Budget Reality of Europe

Space is and will remain mostly driven by public investment, and today most of it originates in national space budgets



A European Space Strategy must identify a path to leverage the full European ecosystem and budget distribution towards a shared strategic vision.

## Innovation at the core

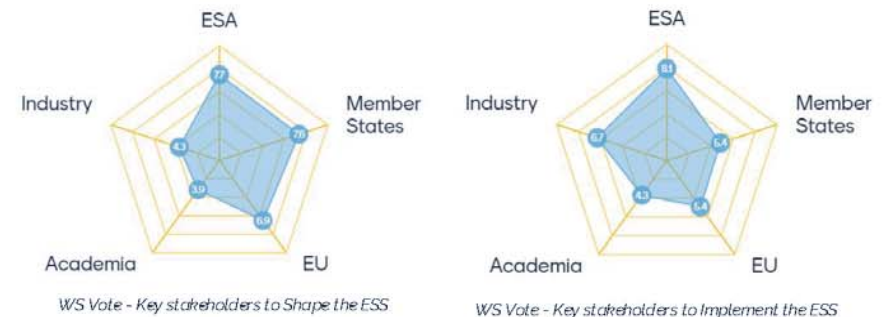
Closing the innovation gap, especially in future-defining technologies like space, is critical. **R&D should be a priority for a future European Space Strategy.**

WS voted on R&D being the driver behind a future "European Space Agency", with a focus on dual-use nature of space technology.

## Overcoming the lack of inclusiveness – Shapers & Implementors

A “whole of Europe” approach is missing from many of the policies and strategies brought forward at the national and European levels. Strategies need to be implemented via compromise within existing imperfections of the governance framework.

**Who should shape and implement the European Space Strategy?**



## More than a space programme?

The value of space exploration as a catalyst for the space ecosystem is underestimated in Europe. Yet, it has inspirational, economic and geo-political benefits, and is a key driver of innovation, next to S&D.



# Perspectives on the Security & Defence Dimension

*“Defence does not equate to aggression; in fact, it is about providing the means to deter aggression and avoid escalation of conflict.”*



## Critical infrastructure, food security and economic resilience

**Embrace system-wide resilience and security of all aspects of life:** from critical infrastructure to food and water security.

In times of hybrid threats, **space is an essential resilience-building tool.**

## The elephant in the room: Do not avoid defence aspects.

**A perimeter allowing European action should be defined,** around the possible development of a space-based early warning and tracking system and an information, surveillance and reconnaissance satellite constellation.

## Integration of commercial solutions

Identify, in which domains increased commercialisation for defence is desired and effective

**Establish a structured framework for civil-military cooperation and commercial integration,** and the European Space Strategy should **clarify the extent of such integration.**

## Regional priorities and cooperation beyond boundaries

**Consider distinct regional priorities** along their perceived urgency for action, relying on stakeholders most concerned and implicated. Include a **critical assessment of how Europe may leverage from national entities and European institutions,** e.g. ESA, for dual-use R&D.



*Multiplication of space defence strategies and Space Commands in Europe*



# Initial Perspective on the Economic Dimension

*"The economic dimension is the most important. It is the greatest limiter of what Europe can achieve."*

Three main economic dimensions to consider

Diverse sources of financing to guarantee a consistent supply

Strategic procurement to stimulate market demand

Robust strategy and implementation pathways

## Competitiveness

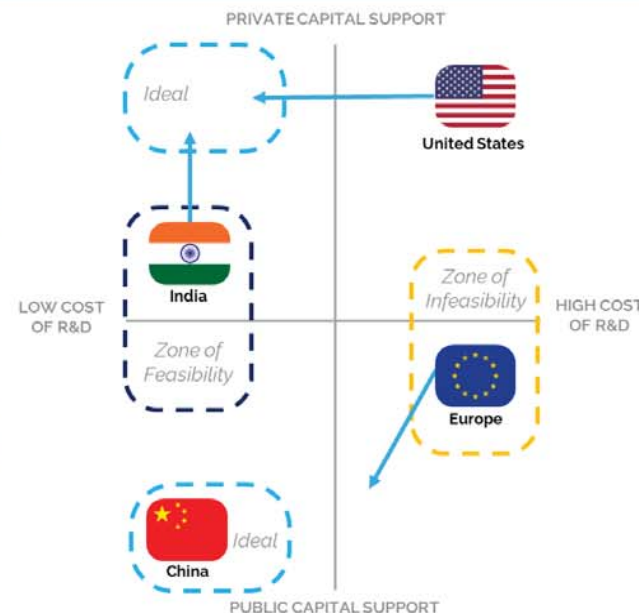
Consider how an increased level of public capital support may improve European competitiveness.

Focus on areas Europe already excels at, such as space applications.

## Innovation

Include elements on scaling up public support to the maturation of the NewSpace ecosystem.

Learn from the Chinese model to allow for an emergence of regional champions.



An overview of R&D costs and capital support in various space nations

## Integration

Consider taking the next step beyond continued development in areas Europe excels at, creating integrated systems combining these domains

Shift long-term strategic priorities beyond individual programmes to best harness integrated solutions.

## Autonomy

Develop a route to guarantee the availability of critical technologies from domestic sources and to ensure these technologies have the right level of performance, maturity, and affordability.



**\$7.9T**

**estimated wider benefit of space  
on the overall economy by 2040**

**The Space  
Multiplier...**

**Space**



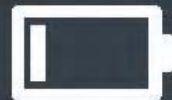
Market  
size

**~ 460**

Multiplier  
effect

**6-7x**

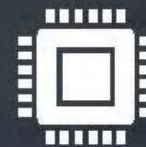
**Batteries**



**~ 120**

**8-9x**

**Semiconductors**



**~ 600**

**6-7x**

**Pharmaceuticals**



**~ 2,000**

**6-7x**

**...In sectors of  
policy & economy**

**Security  
& Defence**



**Transport &  
Mobility**



**Weather &  
Climate**



**Telecommu-  
nications**



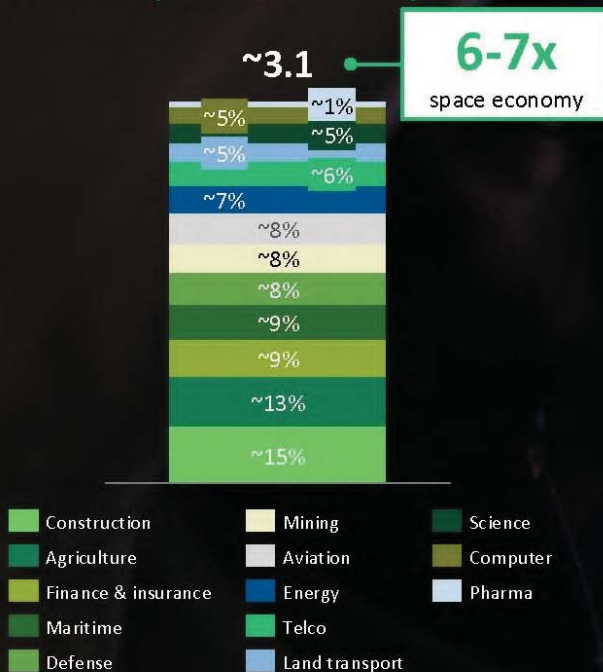
**Food &  
Agriculture**



*Data Sources: ESPI & Boston Consulting Group, More than a Space Programme: The Value of Space Exploration to Empower the Future of Europe*

# Space technologies benefit economy and society by enabling key industries and enhancing value generation for ~\$3.1T in '22, 6-7x vs space economy

## Value of Space for economy '22, \$T

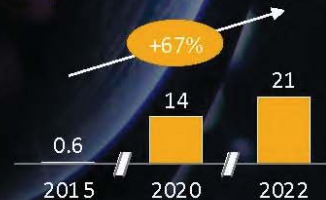


Pharma

Space exploration

New solutions

Keytruda revenues, \$B



~35% of 2022 Merck revenue



Agriculture

PNT, SatCom

Performance improvement

Precision fertilisation

10-15%

Improvement over average local yields

10-20%

Cost savings on crops such as wheat or rapeseed



Defense

PNT, SatCom, EO

Critical enablers

SatCom for comms

PNT for MDS



EO for C4ISR

Data Sources: ESPI & Boston Consulting Group, *More than a Space Programme: The Value of Space Exploration to Empower the Future of Europe*

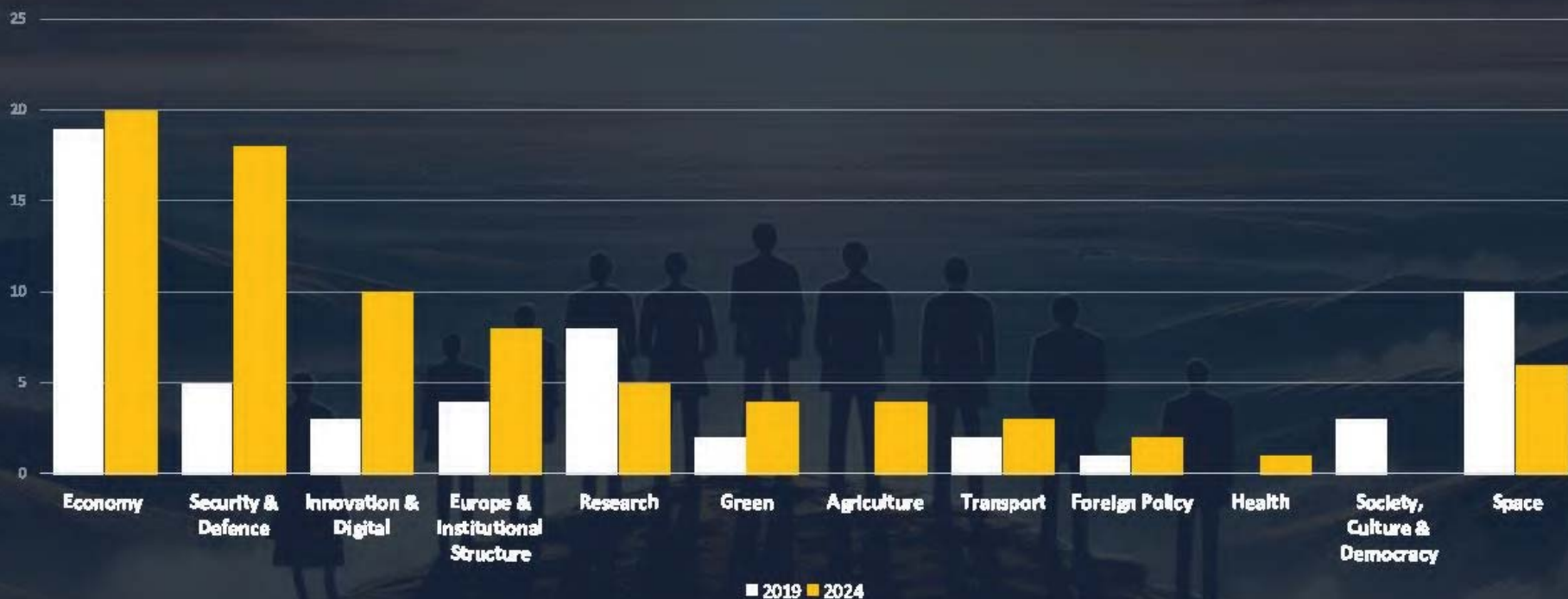
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# Framing of Space in EU elections

Space increasingly is seen as an enabler of many policy sectors

**+ 41%** surge in space-related references in 2024 EU elections compared to 2019 across party manifestos.



Source: Will Space Sit in the European Parliament? Advancing Space Policy in the European Political Debate (ESPI Report 92)



# Beyond Security & Defence and Economics

## Becoming a full-fledged Space Power

Europe lags behind in critical areas and remains vulnerable to foreign influence in external and internal decision-making autonomy.

## Space diplomacy -> space for diplomacy

Beyond engaging with the global community *on* space, Europe should use its space posturing as a means to achieve goals beyond the Space Strategy.

## Exploration as a core enabler

Exploration drives the growth within and pushes the boundaries of innovation and attracts the best and brightest to join the space industry. It could be the other game changer for Europe in space.

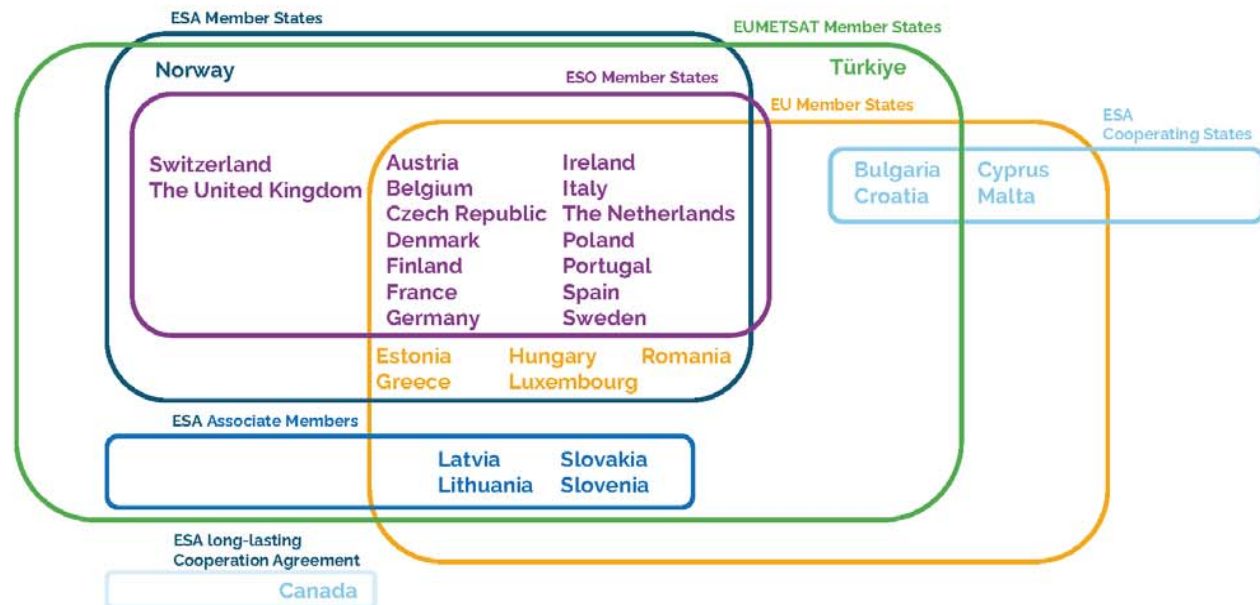


Source: Europe as a Space Power (ESPI Brief No. 65)



# It Takes a Village

- The debate centres around **two narratives**:
  - consolidating **internal governance and protecting national champions or monopolies** to maintain global leadership;
  - (quasi)monopolies often **fail to sustain dynamism and deliver breakthrough innovation**.



- Embracing complexity:** A diversification of actors, inc. in geographic terms, strong antitrust enforcement, and lowering barriers for innovation are **essential in fostering a future-proof and resilient environment**.
- Instead of challenging the role and responsibility of existing actors, like done over the last 20 years or more, **Europe should better deal with and leverage the realities and strengths of its multi-stakeholder environment**, with pragmatic implementation of existing provisions.



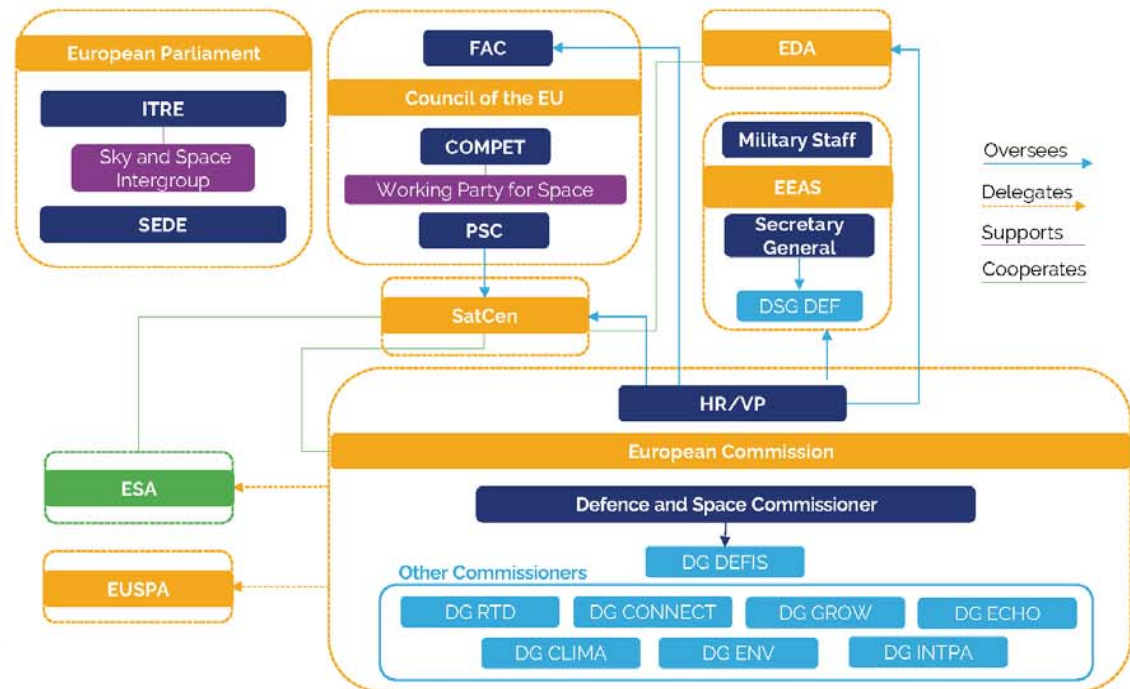
# A competitiveness and innovation gap

- The competitiveness and innovation gap across the European space sector needs to be acutely addressed here and now.

- Proposals targeting integrated capital markets, systematised joint debt, or the 5<sup>th</sup> freedom on R&I proposed earlier this year by Enrico Letta, could imply the necessity of a Treaty reform, consequently taking years.

- With crucial programme and funding decisions within the 2025-2028 period (ESA CM25, ESA CM28, EU MFF) on the horizon, the European space ecosystem needs to **ensure the competitiveness slip is reversed by:**

- Providing an integrated European space policy with clear strategic direction;
- Responding to the urgent challenges, including in security & defence and climate adaptation; and
- Fully leveraging the mechanisms and frameworks at hand of all stakeholders.





### Executive Order on the National Space Council

The Council shall **advise and assist the President on space policy and strategy**. In particular, it shall:

- (i) **review, develop, and provide recommendations** to the President on space policy and strategy;



“*...HIGHLIGHTS ...the importance ... **to reinforce coordination for the development of the overall European Space Policy.***”

*EU Council Conclusions  
May 2024*

*At a time of hybrid threats, global challenges and generational economic opportunities, it takes a village to succeed.*



*Will continue to support its Member institutions in elaborating informed, robust and visionary approaches to European space policy & stands ready to support future EU Council Presidencies and Space Work Party Meetings based on existing precedents*



# Thank you

