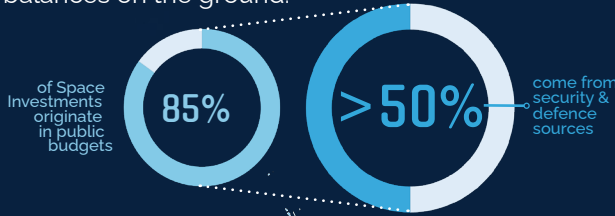


Scaling Europe's Space Capabilities for Security & Defence: From Ambition to Implementation

Multiplication of Space Defence Strategies and Space Commands Across Europe

The security and defence dimension of space activities is present more than ever. Today's conflicts show that space systems (institutional and private) are becoming fundamental in shifting strategic balances on the ground.



Military investments represent more than 50% of public investment in space globally, driving advancements with stronger industrial policies and state intervention in space activities. Space assets enable decisive action during military operations, for instance by providing early warning of missile launches, receiving information from drones and allowing to control them beyond line of sight, or by launching precision-guided ammunition.

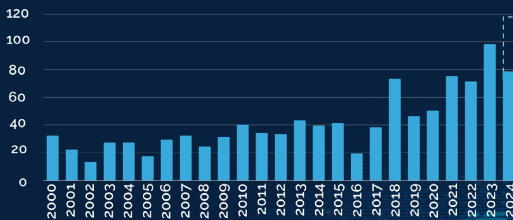
In parallel, a growing number of states are adopting military strategies dedicated to space and reorganising their military apparatus to better integrate the space dimension (including through the setting up of specific entities, such as Space Forces or Commands).

In Europe, the policy and capability gaps in space for security and defence continue to grow in comparison with other space powers.

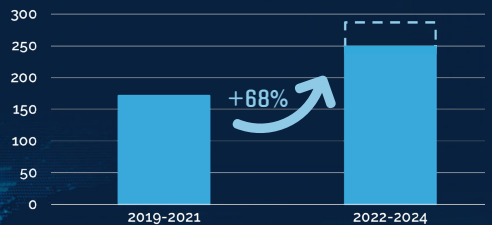


Military Satellite Infrastructure Continues to Grow

number of spacecraft launched from 2000 to 2024



Number of Military Satellites Launched since the War in Ukraine



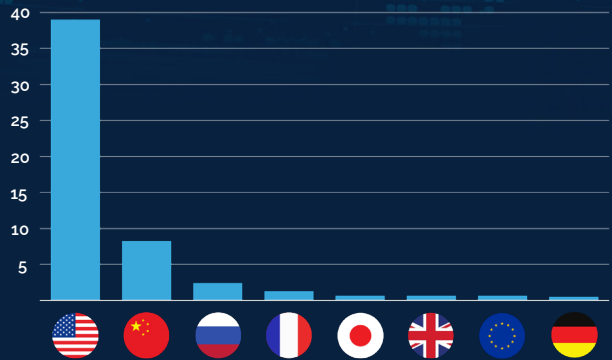
Projections based on data until Aug 2024

Europe Trailing Behind

According to Novaspaces, global public expenditures in space defence and security reached over \$58 billion in 2023, a historic high. Europe is currently not at par with the two major space powers. European spending remains concentrated in national budgets, with a growing presence of funding provided at the EU level; for instance, the EDF, which focuses on military R&D, is expected to have a budget of ~€800 million for space projects for the period 2021 - 2027.

Space Defence Budgets Globally

in billions (USD)



Created with data from Novaspaces

Major Recent Policy Developments outside Europe in 2024

- An alleged Russian counterspace capability involving a nuclear component created concerns (Feb.)
- The United States published two strategies for commercial space integration in defence (Apr.)
- The Chinese military was reorganised with the dissolution of the PLA SSF and the creation of the Information Support Force (Apr.)
- South Korea launched its second intelligence satellite (Apr.)
- North Korea allegedly launched an intelligence satellite (Nov. 2023) and failed another attempt (May)
- NATO collected \$1bn for the APSS and announced the elaboration of a commercial space framework (Jul.)
- New Zealand joined Operation Olympic Defender (Sept.)

Increasing Engagement of Small- and Medium-sized European Countries

Pursuit of military & dual-use space capabilities is increasingly visible across Europe with:

- Accelerated development of dedicated policies and strategies
- Enhanced national capability development
- Stronger footprint in transnational collaborative projects
- Deeper involvement in collaboration and funding at the EU level (e.g. PESCO, EDF, EDA projects)

Major Outstanding Questions for Europe

Management and coordination of space activities in Europe are fragmented, as a shared responsibility between states, the EU, and other intergovernmental organisations (ESA, EUMETSAT, etc.). In addition, the topic of defence always raises unique concerns that increase the sensitivity of states. All of these coincide to create a particular **challenge to develop a space defence posture in Europe**.

Sovereignty

Scale

European funding in space defence remains very modest, with limited appeal to significantly increase expenditures, beyond what is already budgeted by Member States. While the role of space in security and defence **has gained unprecedented policy recognition, the institutional programmatic scale of support is still missing**, and the industrial dimension is still undervalued.

While European cooperation in space defence is progressing, it still faces difficulties (e.g. due to national sovereignty or geopolitical considerations). EU funding alone will not be sufficient to raise Europe's investment in space for security and defence to levels comparable with the U.S. and China. In this context, **Europe will need to better leverage its multistakeholder model**.

Multi Stakeholder

Commercialisation

In light of the increasing role of commercial actors, Europe must **identify areas in which enhanced commercialisation would be beneficial** (e.g. SDA, responsive access to space, ...) and clarify to which extent it wants to rely on private actors.

Unlike major space powers, Europe's public investments have tended to aim at socio-economic returns, frequently overlooking broader rationales (e.g. autonomy). Building on renewed dynamics in Europe, **a shared strategic approach to space embracing security issues is needed**, to prevent Europe's dependence turning into a crippling weakness (as it did for other transformative sectors, e.g. semiconductors).

Strategic Direction

Looking Beyond Security and Defence

Compared to other space powers, the level of resources allocated to space in Europe is limited. Despite this structural weakness, Europe has managed to reach a world-leading position in space applications, thanks to programmes such as Copernicus and Galileo. To go further and become a true space power, Europe will have to step up in security and defence, but also in other core domains, notably space exploration. Indeed, a lack of autonomous capacities may restrict its freedom of action and ability to decide when and under what conditions to develop its space programme, and with which partners.

Status quo Europe
0.07% of Europe's GDP

14 bEUR

Status quo USA
0.24% of U.S. GDP, largely from security & defence sources

68 bEUR

ESPI 2040 Vision
0.15% of Europe's GDP

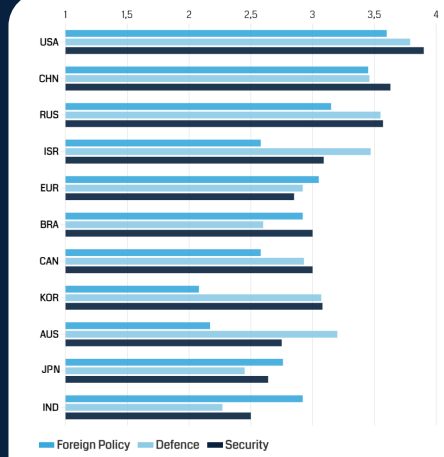
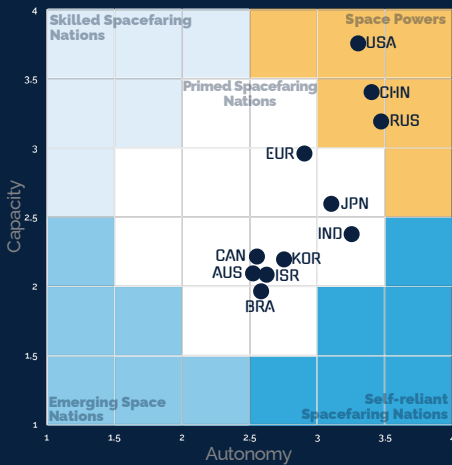
29 bEUR

Macron 2024 Speech Calculation
3% of Europe's GDP on research in 5 emerging & strategic sectors

70 bEUR

Levels of current funding for space and proposed ambitions (ESPI 2024)

Europe as a Space Power?



Assessment of the use of space for foreign and security policies (ESPI 2024)

About



ESPI is Europe's independent think-tank on space, based in Vienna, Austria. Working in a non-profit capacity, ESPI promotes European space policy globally, provides analyses and recommendations to decision-makers and institutions, and raise public awareness on critical space issues.

About the

The Autumn Conference is one of the highlights of ESPI's calendar. Welcoming 200+ participants to address a unique theme each year, it offers an independent platform for European and international stakeholders to convene and hold informed and in-depth space-related discussions that reach beyond the headlines.