



European autonomy, competitiveness and security in the new space era

European View
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journals.sagepub.com/home/euv**Connor Horsfall¹**

Abstract

Europe is lagging behind the US and China in the new space era. Accounting for only 11% of the global institutional space budget, Europe must transition from fragmented, slow-moving institutional programmes to a highly coordinated, pragmatic strategy that balances strategic sovereignty with operational realism. This article outlines how Europe can boost its autonomy, macroeconomic competitiveness and national security in space. First, Europe must develop sovereign, reusable heavy-lift launch capabilities while streamlining procurement for innovative small and medium-sized enterprises. Second, accelerating the multi-orbital Infrastructure for Resilience, Interconnection and Security by Satellite constellation will secure resilient, quantum-encrypted connectivity. Third, Europe can capture the rapidly growing in-orbit servicing market by leading on space sustainability standards. Fourth, dismantling defence silos in favour of a unified continental space command will optimise resource pooling. Finally, expanding public–private growth funds and anchor-customer frameworks will make Europe's commercial ecosystem less risk-averse. Pragmatic international alliance collaboration remains critical to address the residual resource gaps.

Keywords

Space capabilities, EU Space Act, European sovereignty, Space launch, In-orbit servicing, Space venture capital, Space competition, Space sustainability

¹Shearwater, London, UK

Corresponding author:

Connor Horsfall, Medius House, 2 Sheraton Street, London W1F 8BH, UK.

Email: connorhorsfall44@gmail.com



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Introduction

Europe has made significant progress on space by beginning to address long-standing structural bottlenecks. Yet global competitors, most notably the US and China, are accelerating their efforts at a rate that threatens to leave Europe excluded from the vast benefits space offers. Historically, Europe has been slow to develop robust, sovereign space capabilities. The continent has relied on institutional programmes that have not sufficiently harnessed the commercial sector. This contrasts with the rapid, venture-backed rise of private launch providers in the US and the state-backed military-industrial approach taken by China. Europe accounts for only 11% of the global institutional space budget (ESA 2026, 8).

Space has become an essential domain for ensuring economic resilience, national security, global communications and climate monitoring. European nations are now providing greater funding and political bandwidth for space issues, as seen by European space budgets growing by 12% to €13.5 billion in 2025, led largely by German defence spending (ESA 2026, 10). France also announced a €4.2 billion investment in defence activities and the UK has committed £3.2 billion in direct funding for space capabilities over the next four financial years in the Defence Investment Plan (UK, Ministry of Defence 2026).

Growing tensions between Europe and the Trump administration have also seen questions of sovereignty increase. In the UK, tech sovereignty has become a recurring theme in parliamentary sessions, with both the Science, Innovation and Technology Committee and the Defence Committee scrutinising the country's reliance on foreign providers. US tech giant Palantir has found itself at the centre of this debate across the continent, including with the German national army, which cut ties with the company, and Switzerland's military, which published a risk assessment warning that data could be accessed by the US government (Tobin 2026).

Those posing the question are right to do so, but the reality is that Europe does not have the capability or capacity to be fully sovereign in all aspects of space. Stagnant growth across the continent means that tough trade-offs need to be made. Europe must balance its desire for strategic sovereignty with the pragmatic need to deploy the best technology available, particularly when considering national security. Sovereignty for its own sake is a mistake if it locks Europe into obsolete or uncompetitive technologies.

The EU Space Act has been a positive catalyst for bringing space to the forefront of political discourse, but it remains a long way from becoming law. Whilst its aims of reducing market fragmentation and increasing resilience are welcome, there remain a lot of unknowns, including what assets will be given exemptions under national security and whether attempts to promote European companies may harm Europe's access to the best capabilities on the market.

European strategy must be highly pragmatic, focusing on securing control of critical infrastructure, developing key capabilities where dependencies pose an existential risk

and selectively reducing vulnerabilities. This article outlines five key areas in which Europe should concentrate its political will and financial resources.

Launch capability: reusability and competitive procurement

Europe's primary bottleneck is access to space. The continent has lacked a competitive sovereign heavy-lift capability and, like most of the world, has become reliant on a thriving US commercial sector, especially market-leader SpaceX. The roots of this dependency are structural. The US commercial sector has capitalised on massive economies of scale, driven by early mover advantages and the support of government. US National Aeronautics and Space Administration and US Space Force contracts gave US launch companies the reliability and long-term backing to invest and take risks (Weinzierl 2018, 180). China has also made progress in this area with its Long March family, alongside a surging state-supported commercial sector.

Europe's flagship heavy-lift launcher, Ariane 6, suffered significant delays before its debut and was always likely to struggle as a one-shot system in a global market dominated by reusable rockets. There remains an extensive launch backlog, which reduces confidence in Europe's space capabilities and keeps production costs less competitive. To become more competitive, Europe must pivot on three fronts.

First, institutional funding is needed for reusable engine technologies. This includes accelerating development of the European Space Agency's (ESA) Prometheus—a reusable, low-cost liquid oxygen–methane engine—and the Themis reusable booster demonstrator. Good progress is being made on this, with the technical hurdles informing the direct design baseline for Europe's upcoming commercial reusable launchers, such as ArianeGroup's MaiaSpace (Simontacchi et al. 2019).

Second, the procurement process should be made less time-consuming and less expensive for firms. This will encourage more small and medium-sized enterprises to participate, and these are often the most innovative. European governments should also increase their risk appetite for procuring from newer companies rather than just established primes. Europe has several growing companies working on launch, including Isar Aerospace and Rocket Factory Augsburg (Germany), PLD Space (Spain), MaiaSpace (France) and Orbex (UK). The expertise and appetite is there, the sector simply needs the backing and reassurance to fully succeed.

Third, Europe needs to better utilise its launch facilities. The continent has geographic advantages at some of its facilities, such as SaxaVord in the UK and Andøya in Norway, and should support these providers to demonstrate orbital flight capability as soon as possible. Their advantages include being at high latitude, in a remote location and on the coast, with the sea and air corridors north of Shetland and northern Norway being relatively quiet. There should also be clear roadmaps for capacity upgrades.

Secure, high-speed connectivity

The war in Ukraine has illustrated that space-based Internet is an indispensable defence asset. Europe remains dependent on foreign-controlled systems such as Starlink for low-latency low-earth-orbit broadband. Europe needs its own deployment of satellites for this and therefore should accelerate the deployment of the Infrastructure for Resilience, Interconnection and Security by Satellite (IRIS²), its flagship €10.5 billion multi-orbital constellation. To scale IRIS² effectively, investment should move towards an agile, dual-use architecture focused on three technical frontiers.

First, IRIS² is designed as a hybrid network of nearly 300 satellites. It combines low earth orbit for ultra-low latency data transfer with medium earth orbit for continuous, high-throughput global coverage. Funding should prioritise the development of optical inter-satellite links. These terminals dynamically cross-link low-earth-orbit and medium-earth-orbit layers, allowing data to bypass vulnerable ground-based terrestrial infrastructure and route around localised physical or electronic jamming zones.

Second, with quantum computing threatening to break standard public-key cryptography, integrating the European Quantum Communication Infrastructure into IRIS² is important. Investments must target space-qualified quantum key distribution payloads. These payloads transmit cryptographic keys using entangled photons. As any intercept attempt alters the quantum state of the photons, it creates an un-hackable secure loop, protecting government data, military commands and financial networks.

Third, Europe should move away from the strict dividing line between civilian and military hardware. Under a unified model, the EU must retain strict operational control and ownership over dedicated military transponders and security-critical software pipelines. Excess capacity can then be commercialised through public-private partnerships, such as the SpaceRISE consortium (comprising Eutelsat, SES and Hispasat). This commercial window will help to drive down manufacturing costs for user terminals and eliminate broadband dead zones across rural Europe. These systems should be made to withstand kinetic or cyber-warfare.

Space sustainability and in-orbit servicing

As the earth's orbits become increasingly congested, space sustainability is rising up the geopolitical agenda. With tens of thousands of active and defunct satellites now in low-earth orbit, the increasing risk of collision threatens the long-term viability of critical space assets. Whilst space congestion may not yet be an immediate crisis, the exponential surge in satellite deployments is creating a lucrative new market that Europe could capture. In particular, active debris removal and in-orbit servicing, assembly and manufacture represent two rapidly growing sectors. The emerging in-orbit servicing market is estimated to be worth billions and is expanding fast, fundamentally shifting the space sector towards a sustainable, circular economy model (Lenkart and Williams 2026).

Historically, satellites have been treated as entirely disposable assets—launched with a fixed fuel supply and simply left to decay in orbit or boosted into graveyard trajectories at the end of their lifespans. There is now a growing consensus that this is an incredibly inefficient use of high-value hardware. Fortunately, Europe already boasts innovative, continent-based market leaders within the in-orbit servicing domain, such as ClearSpace, D-Orbit and Astroscale (ESA 2020). However, for this technological capability to be fully realised, it must be backed by a robust regulatory and commercial framework.

To lead the orbital economy, Europe must focus on two strategic priorities. First, it should mandate that all sovereign satellites launched feature standardised docking plates and refuelling valves. Establishing these uniform physical standards will catalyse a highly competitive commercial market for orbital tow trucks and refuelling tankers. Second, the EU and the ESA should explore issuing more competitive commercial contracts to retrieve defunct, European-owned space debris. This institutional backing would provide immediate, predictable revenue for active debris removal startups, giving them the financial runway to scale their technologies for the wider global market. Progress has been made with the planned UK active debris removal mission and the upcoming ClearSpace-1 mission, which is backed by the ESA and set to take place in 2029 (ESA 2024). The ESA has also promoted the Zero Debris Charter, which, whilst voluntary, will have some influence on commercial behaviour as space companies bid for European contracts (ESA 2023).

Reducing silos across space

Space is now officially recognised as a contested military domain, meaning Europe's traditional separation of strictly civilian space programmes from fragmented national defence initiatives is no longer viable (European External Action Service 2026). The primary hurdle facing the continent is financial and structural fragmentation. While European nations are on track to invest over \$100 billion in military space capabilities over the medium term, this capital is currently being spent in a highly inefficient, country-by-country manner (Pobjie et al. 2026, 4). To build genuine, integrated resilience against electronic, cyber and kinetic counter-space threats, Europe must urgently shift away from national silos and move towards a unified European space command structure.

Achieving this required level of resilience demands a fundamental overhaul of how continental space infrastructure is funded and organised. Rather than Germany, France and Italy building separate, redundant radar or reconnaissance satellites, transnational budgets should be pooled into a singular, shared alliance architecture. This consolidated approach is particularly vital for establishing comprehensive space domain awareness and unified missile early warning systems that are fully integrated with NATO protocols. The same is true for the procurement of earth observation data, for which consolidated contracts may provide better value for money.

This new strategic framework must look beyond the borders of the EU. Space defence and security initiatives must actively include highly capable, non-EU ESA member

states—especially the UK and Switzerland—to prevent the costly duplication of infrastructure and to maximise continental expertise (Ivasechko et al. 2026). Finally, strategic funding must target responsive space capabilities, ensuring the ability to launch replacement satellites rapidly in an active crisis. Only through a collective, agile framework will European forces be able to guarantee that they will not be left digitally blind during a hybrid conflict.

Fuelling the space ecosystem

Even the most sophisticated technological roadmap will falter without a healthy commercial ecosystem to sustain it. European venture capital markets have historically been highly risk-averse and structurally fragmented, a systemic weakness that routinely forces the continent's most promising space-tech startups to look across the Atlantic for growth capital (Arnold and Claveres 2024). To reverse this capital flight and establish Europe as an attractive, high-growth hub for the global commercial space sector, institutional tools must be strategically deployed to crowd-in private finance.

The first step in de-risking private investment is expanding anchor-customer procurement. By shifting ESA and EU funding models away from traditional cost-plus institutional subsidies and moving towards guaranteed anchor-customer frameworks through competitive services agreements, the public sector can give private venture capitalists the revenue certainty they require to confidently back early-stage startups.

Simultaneously, Europe must deploy dedicated growth funds to bridge the Series B and C funding gap that prevents companies from scaling. Establishing and expanding targeted public-private space investment vehicles—such as the CASSINI initiative¹—will provide the late-stage growth capital necessary to prevent European scale-ups from being prematurely acquired or pushed to relocate by foreign investors. Finally, accelerating time-to-market requires the streamlining of technology transfer. Creating friction-free pathways to transfer intellectual property and patented technologies directly from ESA labs and academic institutions into the hands of agile commercial startups will ensure that public research efficiently fuels market-ready, European-led orbital innovation.

Conclusion

The geopolitical reality of space has changed. Competitiveness in space is essential for Europe's macroeconomic survival and national security. For Europe to maintain a strategic edge, it must take a more coordinated approach to developing its space capabilities, ensuring that commercial entities operate in an environment that fosters innovation.

The EU Space Act has many revisions to come in the coming years and will be an essential piece of legislation once finalised. The Act must strike the right balance between encouraging European capability development and ensuring our allies continue to provide the world-leading capabilities that Europe would otherwise be without.

Achieving strategic autonomy does not mean embracing isolationism. Fully sovereign capabilities across supply chains are economically and technically impossible in a highly interconnected global economy. Europe instead must be pragmatic in how it reduces its main dependencies, building sovereign capabilities in critical areas while filling the gaps through active collaboration with key allies, especially the US, Canada, Australia and Japan.

By seamlessly integrating independent, reusable launch systems with secure, multi-orbital communication constellations, and taking the global lead on space regulatory development, Europe can dramatically bolster its resilience against emerging counter-space risks. When backed by integrated military resource-pooling and a dynamic, well-funded venture-capital ecosystem, this strategy moves Europe past the idealistic hope of complete self-sufficiency. Prioritising operational realism ensures that Europe's front-line forces maintain the most advanced technology available globally.

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Note

1. CASSINI is the European Commission's initiative to support entrepreneurs, startups, and small and medium-sized enterprises in the space industry, including New Space. It stands for 'Competitive Access to Space for Start-ups and Innovative New Industrialists', as well as paying homage to the astronomer Giovanni Domenico Cassini, known for discovering Saturn's moons and ring divisions.

References

- Arnold, N., & Claveres, G. (2024). *Stepping up venture capital to finance innovation in Europe*. IMF Working Paper 146. doi:10.5089/9798400280771.001.
- ESA. (2020). *ESA purchases world-first debris removal mission from start-up*. 1 December. https://www.esa.int/Space_Safety/ESA_purchases_world-first_debris_removal_mission_from_start-up. Accessed 18 July 2026.
- ESA. (2023). *The Zero Debris Charter: Towards a safe and sustainable and circular space economy*. Darmstadt. https://esoc.esa.int/sites/default/files/Zero_Debris_Charter_EN.pdf. Accessed 19 July 2026.
- ESA. (2024). *ESA advances ClearSpace-1 development*. 23 April. https://www.esa.int/Space_Safety/ClearSpace-1/ESA_advances_ClearSpace-1_development. Accessed 18 July 2026.
- ESA. (2026). *Report on the space economy 2026*. <https://spaceq.ca/wp-content/uploads/2026/07/ESA-Report-on-the-Space-Economy-2026.pdf>. Accessed 17 July 2026.

- European External Action Service. (2026). EU space strategy for security and defence. 29 January. https://www.eeas.europa.eu/eeas/eu-space-strategy-security-and-defence-0_en. Accessed 19 July 2026.
- Ivasechko, O., Zdorovega, M., Zavada, Y., Turchyn, Y., & Tsebenko, O. (2026). The problem of EU's strategic autonomy in the space sector under contemporary security challenges. *Romanian Journal of European Affairs*, 26(1), 85–99.
- Lenkart, M., & Williams, J. (2026). Space debris material sourcing for in-space manufacturing: A quantitative evaluation framework. *Frontiers in Space Technologies*. doi:10.3389/frspt.2025.1690460.
- Pobjie, E., Bollfrass, A. K., Sabatino, E., & Dols, A. (2026). *Advancing European military capacity in space*. International Institute for Strategic Studies, March. <https://www.iiss.org/research-paper/2026/03/advancing-european-military-capacity-in-space/>. Accessed 10 July 2026.
- Simontacchi, P., Blasi, R., Edeline, E., Sagnier, S., Ravier, N., Espinosa-Ramos, A., Breteau, J., & Altenhoefer, P. (2019). *Prometheus: Precursor of new low-cost rocket engine family*. 8th European Conference for Aeronautics and Space Sciences. doi:10.13009/EUCASS2019-743.
- Tobin, J. (2026). *Digital and technology policy and national sovereignty*. UK Parliament, House of Lords Library. 16 July. <https://lordslibrary.parliament.uk/digital-and-technology-policy-and-national-sovereignty-2>. Accessed 10 July 2026.
- UK, Ministry of Defence. (2026). *The Defence Investment Plan: Equipping our forces, defending our future*. https://assets.publishing.service.gov.uk/media/6a44e989167a99cf0018da38/The_Defence_Investment_Plan.pdf. Accessed 19 July 2026.
- Weinzierl, M. (2018). Space, the final economic frontier. *Journal of Economic Perspectives*. doi:10.1016/j.spacepol.2021.101418.

Author biography



Connor Horsfall is a senior policy adviser focused on space policy and strategy. He is also a China specialist and has written extensively on China-related issues, including Beijing's space ambitions, artificial intelligence development and Britain's China policy.