

EU Space Law: Contribution of the European Space Policy Institute to the public consultation on EU Space Law

1. Objectives and Perimeter of an EU Space Law

The EU Legislative action on space activities currently under development finds its roots in the 2022 EC-HR/VP Joint Communication on an EU Approach for Space Traffic Management, where a legislative proposal covering STM rules was proposed. In early 2023, The EC-HR/VP Joint Communication on European Union Space Strategy for Security and Defence expanded the perceived scope of the legislative action, by **introducing the concept of an EU Space Law**, which would also provide the framework to collectively enhance the level of resilience of space systems in line with NIS and CER directives.

EU legislative action is bound by the fact that space is a shared parallel competence, meaning that actions taken by the EU do not pre-empt the competencies of Member States. In this context, this Contribution aims to provide a two-fold reflection:

- React to the Public Consultation, in view of its [proposal for a regulation](#), taking into account the proposed [policy options](#) identified in the Targeted Stakeholder Consultation;
- Identify additional potential actions that could, in part, fall under exclusive or concurrent competencies with an impact on space activities.

The European Space Policy Institute (ESPI) considers the three identified pillars currently under development – Safety, Resilience and Sustainability – as important elements of any potential legislative action targeting space activities while holding a belief that the EU should leverage its strengths and competencies enshrined in the Treaty on the Functioning of the EU. In this context, ESPI calls for an open and cooperative reflection with Member States and relevant European stakeholders to assess the specific areas, within the three identified pillars, in which Article 114 justifies EU action.

Moreover, given the current maturity level of presented policy options, ESPI calls for **further consultations beyond this initial phase**, once the policy options are further elaborated and notably in the process of drafting and negotiating a potential legislative text.

2. Safety, Resilience and Sustainability under the EU Space Law

The three areas of action identified in the ongoing consultation are well-defined and each pillar includes elements aligned with wider EU policy objectives. Nevertheless, initial reflections on these pillars can help further enhance the effectiveness in drafting and ultimately implementing provisions of a potential EU Space Law.

2.1 Safety and Sustainability in Space

ESPI has been and remains **a strong advocate for Europe's leadership in space safety and sustainability**, with the Institute's output showcasing that there is a **strong need and policy push to share better and steward the orbital environment**. Simultaneously, there is a recognised challenge to **translate this political willingness into funding and capability development**.¹ In this context, we note that any legislative action including provisions on space safety and sustainability must ensure that:

- It is matched with a strong capability-development support framework that enables smooth transition pathways for both established and emerging companies in the sector;
- Its provisions promote compliance through financial incentives and market creation;
- It is matched with diplomatic efforts to incorporate similar provisions into policies and regulations developed in export markets of European Industry;
- Its requirements bind any entity that aims to offer and deliver products and services on the territory of EU Member States irrespective of its ultimate ownership.

¹ ESPI work on Safety and Sustainability includes "Towards a European Approach to Space Traffic Management" ([ESPI Report 71](#)), "Space Environment Capacity" ([ESPI Report 82](#)), "Space Safety and Sustainability Momentum" (ESPI Report 86), and "Space Spectrum Management: Foundations for an informed policy discussion towards WRC-23 and beyond" ([ESPI Report 88](#)).

In this context, **Policy Option 1** put forward in the targeted stakeholder consultation on the EU legislative initiative identifies a valuable first step before embarking on drafting new instruments, namely the stock-taking exercise and analysis of non-binding instruments currently in place at national, European and international levels. ESPI is already undertaking and will provide informed input relevant to such a stock-taking exercise in H1 2024.

Focusing on specific instruments, the **use of a labelling system can be valuable**. However, its suitability and effectiveness should not be overestimated either, especially considering that space is not a consumer-oriented market. Similarly, it cannot be excluded that labels themselves could turn into a form of greenwashing on the part of private actors obtaining the label. More generally, previous research conducted by ESPI suggests that soft mechanisms (e.g., prizes, ambassador programmes) remain insufficient tools to stimulate concrete action. For these reasons, it is recommended that a labelling system should be associated with the use of additional incentives through dedicated financial means.

More generally, additional development of non-binding instruments should be pursued with caution, as ESPI believes any newly proposed non-binding instruments need to be uniquely positioned in comparison to the already saturated space safety & sustainability landscape. Support to **existing international or European mechanisms and their evolution, such as ISO Standards, IADC Guidelines or the Zero Debris Charter** would in our view be preferred, should unique positioning and impact not be attainable.

Concerning **Policy Option 2**, the indicated provisions seem positively ambitious. Mandatory registration to a collision avoidance service provider, the establishment of an EU registry and obligations to inform manoeuvre changes would certainly increase transparency and reduce safety-related risks.² Yet, elements of such obligations do give rise to questions of implementation, notably in view of non-EU entities providing products and services in the EU, and in consequence their competition with EU entities, as well as in relation to competencies of EU Member States under Article 189(2) TFEU.

Regarding **Policy Option 3**, bilateral agreements may be signed with non-EU countries for space safety and collision avoidance. Most coordination mechanisms for collision avoidance are carried out through phone calls and emails. Therefore, in the absence of a proper space traffic management (STM) regime at the international level, bilateral agreements are a meaningful way of improving the safety of the orbital environment.

2.2 Resilience of Space Activities

The targeted stakeholder consultation considers resilience as “the capacity of space infrastructures and assets to maintain at all times their digital and physical integrity and functionality”. This holistic approach to resilience appears relevant, given the **multiple threat profiles to space assets**.³ Moreover, awareness about this issue has reached the highest levels of decision-making within the EU, with Council Conclusions on the EU Space Strategy for Security and Defence underlining “the need to enhance the resilience of EU space assets and the ability to promptly detect and identify hostile and irresponsible behaviours, and to respond proportionately, effectively, and firmly, using all available EU tools, in coordination with the EU Member States” and acknowledging the initiative to draft an EU Space Law addressing, among others, resilience issues.

2.2.1 Cyber Dimension

The NIS2 Directive and the CER Directive are already outlining measures that have to be integrated at the national level to increase the overall resilience of space systems to physical and cyber threats. However, **future EU space legislation should take into account the specificities of the orbital environment**. Today space systems are digital objects, which are subject to similar cyber

² Concerning reporting manoeuvre changes, such requirements would need to be fine-tuned, as obligations regarding station-keeping or other regular manoeuvres would result in overburdening while not meaningfully contributing to the safety of the orbital environment.

³ ESPI has published several Security & Defence reports over the past years, including “Space, Cyber and Defence: Navigating Interdisciplinary Challenges” ([ESPI+ Report](#)), “The War in Ukraine from a Space Cybersecurity Perspective” ([ESPI Report 84](#)), “Space in Support of Security Missions” ([ESPI Report 80](#)), and “Europe, Space and Defence” ([ESPI Report 72](#)).

threats as traditional computers on Earth. Therefore, traditional cybersecurity solutions are generally adapted to the space infrastructure. In this context most of the sector is already subject to some form of cybersecurity regulation and duplication of obligations should be avoided, as also held by the [Czech National Cyber and Information Security Agency](#) in their contribution.

However, while this is true for the ground, user, and control segment, **it is somewhat different for the space segment** as the orbital environment has an impact on cybersecurity solutions such as encryption. Therefore, the future EU space legislation could be leveraged to ensure that the standards of the NIS2 Directive are adapted to the specificities of the space segment and support the space sector in the implementation of the NIS2 Directive through a mechanism along the lines of **Policy Option 1**. ESPI believes the key aspects in this context are not prescriptive requirements but rather **platforms for incident and information-sharing, sharing of best practices, understanding of the threat landscape, and capacity building**, which can be pursued through the announced EU Space ISAC. Such a mechanism would bring added value in tackling both cyber and non-cyber threats and enhance the anticipation capacities and resilience of EU space stakeholders (in particular, manufacturers and operators).

The KA-SAT cyberattack also underlined the issues in applicable jurisdiction in case of cyberattack as it targeted the ViaSat KA-SAT satellite network owned by a U.S company, with a reported point of entry on the ground segment operated by Skylogic (Italy), a subsidiary of Eutelsat (France). Therefore, **encouraging operators to define responsibilities for cybersecurity** in their own service and subcontracting contracts as a best practice may be beneficial but a binding rule does not seem necessary. The applicability of such rules to European facilities operated on non-EU soil should also be taken into account.

2.2.2 Physical Dimension⁴

Given the expected development of in-space activities in both the civilian and military realms, the physical security (and safety) of satellites in orbit could be improved by encouraging the development of measures to declare rendezvous and proximity operations and in-orbit servicing to a designated authority, as well as encouraging a potential definition of safety zones around (critical) satellites to promote responsible behaviour in outer space.

The aforementioned concept of "safety zones" also has a resilience dimension, as it is aimed at improving the knowledge of potential risks or threats surrounding a spacecraft. In addition, in line with **Policy Option 1**, **fostering the development of appropriate standards for grappling or docking mechanisms** would both support industrial efforts (and their potential economic benefits) towards in-orbit servicing and enable to extend the lifetime of EU space assets and repair them in case of technical issue, as happened recently with Sentinel-1B, or malicious disruption.

2.2.3 Supply Chain Dimension

Finally, **resilience also includes supply chain considerations**; tools developed to ensure the security of the supply chain, in particular regarding critical technologies, should also **be applied consistently to the space sector**. In this context, the supply chains relevant to the space sector should be part of the **common EU resilience** framework called for by the aforementioned Council Conclusions on the EU Space Strategy for Security and Defence and periodically review not only existing but also future needs of the European space sector and European space programmes under the auspices of the European Critical Raw Materials Act and the Observatory of critical technologies

2.3 Sustainability/environmental impact of space activities

When tackling sustainability, it is also relevant to look at the **environmental impact of space activities**, including pollution (comprising atmospheric, soil, water and light pollution), extractive supply chain (e.g., aluminium mining and refining), and effects of atmospheric burn-up. Indeed, a responsible space sector requires ensuring a reduced footprint throughout the development, manufacturing, launch, and operational life cycles of space missions.

⁴ This subchapter also includes considerations also relevant for Chapter 2.1.

Noting that the current body of research related to the environmental impact is limited it is crucial to undertake further interdisciplinary assessment.⁵ Yet, this situation also calls for caution in prescriptive measures before such assessments can be conducted and weighed against the benefits unlocked by space, and applicable methodologies developed and streamlined.

In this context, the environmental footprint of space activities should be included in a labelling system, if ultimately pursued in line with **Policy Option 1**. The establishment and operation of the **ESPI Centre of Excellence for Space and Sustainability (CESS)** is ready to support the aim of reaching these ambitions.

3. Beyond the current Perimeter

Beyond the safety, resilience and sustainability pillars, a potential EU Space Law should also consider areas of intervention where the EU can fully leverage its added value and market power. This includes integrating space into other policy sectors including autonomy in security and defence, and increased non-dependence in technological excellence, innovation, talent and finance. An initial reflection across three possible areas of intervention, notwithstanding questions of jurisdiction, is provided below.

3.1 Foreign Investment in European Space

The European space sector, much like other critical industries, requires **monitoring of foreign investment to ensure both competitiveness and national security**. The [UNCTAD Special Investment Policy Monitor](#) indicates that cases where governments rejected foreign investment on national security grounds are gaining prominence.

This need becomes even more pertinent when comparing the situation to less critical sectors such as commercial aviation. For example, within the EU, limits are placed on foreign ownership and control of EU airlines to ensure that the Member States retain control over their air carriers under Regulation 1008/2008.⁶ The restrictions are even stricter in the United States. The approach to aviation highlights the importance of closely monitoring and potentially restricting foreign investment in sectors deemed strategic, whereby ESPI believes the space sector, at least in part, certainly qualifies as such.

In this context, the **EU Regulation 2019/452** (also referred to as FDI Screening Regulation), becomes highly relevant. The Regulation establishes a framework for the screening of foreign direct investments into the EU on the grounds of security or public order. It reflects the growing awareness within the EU of the need to scrutinise investments, especially in sectors that are vital for security and public order, which undoubtedly includes the space sector.

While ESPI believes **hard limits or blanket restrictions would be detrimental** to the European space sector, establishing platforms that would allow for better screening of investment influx would enable policymakers and regulators to better understand the sector. Alternatively, notification requirements similar to those used in merger control procedures could be considered for transactions involving investors with ultimate ownership in jurisdictions with a perceived high risk to security or public order.

3.2 European Launch Preference

The European Commission is continuing to promote strategic autonomy and European non-dependence on key space technologies to underpin the maintenance, development and evolution of European space systems. Without actively **promoting a level playing field that would allow the European space industry to continue to expand, Europe risks falling further behind its international competitors**. At the international level, other space-faring nations have nationally and regionally enacted several rules that protect their domestic space industry while indirectly precluding European companies from accessing parts of these markets. This is most visibly the

⁵ The study [Impact of Rocket Launch and Space Debris Air Pollutant Emissions on Stratospheric Ozone and Global Climate](#), authored by Ryan, Marais, Balhatchet & Eastham is one of the few reference points.

⁶ Regulation (EC) No 1008/2008 of the European Parliament and of the Council of 24 September 2008 on common rules for the operation of air services in the Community ([Link](#))

case of the United States policies and practices. But similar rules can also be found in India and Japan, as well as in some countries of the African continent, thus making market access more difficult and even impossible for European companies. Foreign space private companies are improving space technologies at a fast pace while receiving support from their government.

Recognising the risk of hard restrictions in view of promoting international trade, Europe should nevertheless react by providing its Industry with the right policies allowing space activities to evolve with more certainty. This is particularly true when focusing on European launch services and satellite manufacturing for governmental needs, in particular missions critical to national security.

While considering the remit of its mandate, and building on the EU Space Regulation establishing the new EU Space Programme, the EU can ultimately be the only political body prescribing such a Europe-wide launch preference, therefore such a preference should be contemplated among the provisions of a document ultimately titled the EU Space Law. However, the EU should not hinder European industrial competitiveness in global markets, carefully evaluating the remit of such a clause in the legislative process, and carefully identifying services and products where such a clause would indeed be beneficial.

3.3 Market Creation for Space Services and Solutions

Among the above-mentioned targets, the EU Space Law should also embed provisions related to market creations for space services and solutions, which prove to be a critical component for the future development of the space sector in Europe. Indeed, the synergy between regulatory support, market demand, and technological innovation can greatly promote the sustainability and competitiveness of Europe's space industry.

In line with the 2021 [European Court of Auditors Report](#), which emphasises the need to boost the uptake of these services, it is recommended that the EU Space Law should contain provisions prescribing the adoption and uptake of space technologies in the implementation of other EU policy objectives, as well as initiatives/regulations. For instance, in the implementation of the European Green Deal, the EU could require the use of space-enabled indicators to monitor the implementation of National Energy Transition Plans (e.g. tracking and reducing methane emissions in the energy sector).

Beyond the European Green Deal, additional key European policy objectives where the integration of space should be prescribed include areas such as the Common Agricultural Policy (CAP), the Common Fisheries Policy (CFP), the EU Road Safety framework; the EU Digital Agenda, and the Energy Union. Additionally, the uptake of space technology plays a huge part in Innovation Policy, laying the foundations for the cross-pollination of space technologies with ground technologies, and the development of new services in which space systems are key enablers (e.g., 5G networks, precision agriculture, forestry, ATM, smart energy grids, and autonomous vehicles).

In conclusion, the EU Space Programme and its applications, along with ESA and other European and national entities, should be leveraged as a driving force for the increased adoption of space solutions across various sectors. This approach should make space technologies a mainstream tool to implement and comply with European policies, thus ensuring the long-term competitiveness and relevance of Europe's space industry.

4. Conclusion

ESPI considers the three pillars (Safety, Resilience and Sustainability) as crucial components of any contemporary legislative initiative concerning space activities, be it International, European or National.

Given the EU's role, mandate and market power, the EU should consider how a potential Space Law can not only benefit the establishment and functioning of the single market but also further propel its growth. As identified in the **ESPI 2040 Policy Vision, space goes well beyond developing and operating capabilities**, and this should be solidly reflected in the EU Space Law.⁷ In this context, the Institute stands ready to further contribute to the development of the EU's position.

⁷ ESPI 2040: Space for Prosperity, Peace and Future Generations ([Link](#))