

European Space Governance and Its Implications for Italy

edited by Karolina Muti and Michele Nones

ABSTRACT

In recent years, European space governance has undergone a phase of rapid redefinition. Central to these changes is the desire to find a *modus operandi* and complementarity among the various actors involved. The position paper aims to contribute to the definition of the national position concerning the evolution of European space governance, as well as, on a general level, to the definition of the EU's space policy in its medium- to long-term objectives. Within this framework, the paper addresses some of the latest developments at EU level, such as the promotion of a European Space Law, the implementation of the EU Space Strategy for Security and Defence, or the IRIS² and GovSatCom space programmes. The document also focuses on Italy's collaborations and partnerships, such as the relationship with the United States, and proposes a medium- and long-term approach that allows for the timely definition of Italian priorities in view of key events, such as the ESA Ministerial Conference in 2025 or the definition of the next EU multiannual financial framework 2028-2034.

Space | Defence industry | European Union | Italy | NATO | USA

keywords

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This position paper aims to:

- contribute to the elaboration of Italy's position regarding the evolution of European space governance;
- support the definition of the EU's space policy with a view to the medium- to long-term objectives.

Key points

European space governance

- European space governance should be functional in addressing global challenges such as the security and defence of space systems, space sustainability, and maintaining autonomy and competitiveness vis-à-vis players such as the United States and China. This should also be achieved through an adaptation of EU decision-making to ensure flexibility and responsiveness, going beyond the seven-year programming through the Multiannual Financial Framework (MFF).
- In view of the 2025 European Space Agency (ESA) Council at the Ministerial level and the potential modification of the geo-return principle, Italy should

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This is the translation of the position paper "La governance spaziale europea e le implicazioni per l'Italia", published by IAI in April 2024. The English version of the paper was updated based on the latest developments in the European space sector. This position paper is the result of a project that began in October 2023 and ended in March 2024. In light of recent developments in European space governance, IAI has developed the conviction that it was possible and appropriate to start a new form of dialogue between the national stakeholders participating to the discussions at European level (the Ministry of Foreign Affairs and International Cooperation, the Ministry of Defence, the Ministry of Enterprises and Made in Italy, the Presidency of the Council of Ministers and the Italian Space Agency), the industrial world, think tanks and academia as well as experts in the space sector. The aim was to intensify and consolidate such collaboration, moving from individual contacts to a collective sharing of reflections through a series of meetings promoted by IAI in a hybrid form (both in presence and online), based on two assumptions: confidentiality and the informal nature of the initiative. The work carried out by the reflection group represented a unique experience in the national panorama, especially for its operational nature that offered useful stimuli and suggestions to institutional representatives. In this context, the authors want to warmly thank all the participants of the reflection group.

continue to act in support of its national interests by (i) safeguarding its investments, (ii) protecting its role in the European space governance and policy and (iii) holding positions of adequate responsibility.

Italy's positioning

- It is crucial to assess which assets should be developed at the EU level (much like the Positioning, Navigation and Timing – PNT), which ones at the national level – i.e., Earth Observation (EO) with Synthetic Aperture Radar (SAR) capabilities –, and which need to be interoperable with those of the US or other non-EU partners. Regarding initiatives in the field of security and defence, establishing a specific Defence-Industry Working Group at national level could effectively support such assessment.
- Within a highly competitive European context, it is essential to clarify the national strategy towards potential access to space solutions and ensure that access to space has the highest level of priority in terms of timing and quality, due to its' strategic nature. This should be done by leveraging the national institutional demand, which is envisaged to grow.

EU Space Strategy for Security and Defence (EUSSSD)

- The EUSSSD places a strong emphasis on security aspects but does not explicitly address specific defence issues, such as military operations in space and potential responses that the EU could develop. It will be necessary to specify how to implement the ambition to defend against and respond to space threats, including aspects related to governance and the establishment of the necessary operational command and control chains.

Cooperation with the United States

- Cooperation with the US ensures Italy's participation in qualified programmes, fostering progress in terms of expertise, doctrinal developments, best practices and more accurate forecasting of future scenarios in the space domain. Italy's entry into the exclusive Combined Space Operations Initiative further confirms its privileged relationship with Washington. However, the role played by major US private space actors and the persistent lack of reciprocity in terms of regulations significantly affects the equality of the relationship between the two sides of the Atlantic. At the European level, efforts must be made to both reduce the technological gap and prioritise sectors where Europe has advantages in terms of skills, capabilities or cutting-edge regulations (i.e. on sustainability).

EU Space Law

- The EU Space Law should not undermine the innovation potential within the European space sector. Italy has expressed its preference for a non-binding instrument, e.g. in the form of a directive, to avoid creating excessive constraints and thus exposing Europeans to a disadvantageous asymmetric relationship with other players.
- Compliance with the new law should not result in onerous obligations and requirements for space companies that may let them lose competitiveness compared to non-EU players.

EU current and future budget

- Italy should define its specific interests in space and influence the EU programmatic priorities and budget definition for the 2028-2034 period accordingly. It is crucial to carefully consider which areas of excellence should be prioritised in the upcoming seven-year budget, particularly concerning infrastructure planning in the areas of ground-based and in-orbit Space Situational Awareness (SSA), early warning (EW), in-orbit services, electronic warfare, "trusted" EO, etc.

IRIS²

- The current management of the Infrastructure for Resilience, Interconnectivity and Security by Satellite (IRIS²) procurement process has so far favoured French companies, to the detriment of the Italian ones. Against this backdrop, the assignment of the IRIS² Control Centre at the Fucino Space Centre is good news and a positive signal for the national space ecosystem. IRIS² also has the potential for projection towards Africa, which is in line with national interests and thus entails a potential leading role for Italy in this process.
- The IRIS² architectural solution to be chosen should be open, allowing different communication systems to interact with IRIS² without restrictions but still complying with security requirements.

1. European space governance

1.1 Relations between European space institutions and agencies

The balance of power within the European space institutional architecture is undergoing a profound and rapid redefinition. The core of these changes is the desire to find a *modus operandi* and complementarity among various actors, particularly ESA, the EU Agency for the Space Programme (EUSPA), the European Commission and, broadly speaking, the EU and its member states. The aim is to ensure a clear, harmonised, flexible and responsive governance model that also takes into account the acceleration of EU initiatives and commitments in the defence sector, as well as the rapid and profound shifts in the international security environment. The latter requires prompt responsiveness and a flexible approach, both necessary to avoid the risk of downgrading the European role on the international stage and address its dependence on third parties for access to space. The 2022 EU Strategic Compass addressed the implications of the Russian invasion of Ukraine also in the space sector and laid the groundwork for the elaboration of the EU Space Strategy for Security and Defence (EUSSSD). The latter envisages, among its key actions, the establishment of a European Space Law as an additional piece and guiding element of the European space governance. In this context, the hitherto fragmented framework raises strategic, industrial and technological policy issues of utmost importance for Italy.

Regulation (EU) 2021/696 established the European Union's space programme for the period 2021-2027 and the EUSPA. Furthermore, Regulation (EU) 2021/696 aimed

to streamline governance by assigning responsibilities to the various institutions and agencies involved.

The resulting type of “division of labour” can be summarised as follows:

- the European Commission bears the primary responsibility for the European space programme;
- EUSPA is tasked with the operational management of Galileo and the European Geostationary Navigation Overlay Service (EGNOS), and carries responsibility for the security and development of downstream applications for all components of the European space programme;
- ESA is responsible for research and development activities.

In such a “division of labour”, albeit still to be fully implemented, EUSPA is tasked with coordination and management of programmes and services, as well as with security aspects, and ESA is more focused on research and development of new programmes. ESA could therefore be considered as the “technological arm” of the existing governance, while EUSPA should be more oriented towards the operational management of various parts of the space programme and the provision of related services. The latter would include Public Regulated Service (PRS), as well as security protection and accreditation (i.e. Security accreditation board and Security monitoring), and supporting the development of a market for space services and applications. Furthermore, EUSPA would serve as user interface by intercepting users’ needs and subsequently translating them into operational requirements. The relationship between the two agencies is not yet fully defined, and it remains to be seen how the growing competencies of EUSPA, defined by EU Regulation 2021/696, will be implemented and organised to evaluate and ensure its complementarity with ESA activities – something which is currently far from certain. Consequently, political dialogue between the two organisations remains crucial.

ESA is also in the process of adapting from an organisational and thematic point of view, and in terms of partnerships, to the current geopolitical and institutional context, not only at the European level but also globally. Thus, in preparation for the 2025 ESA Council at Ministerial level, a reflection process is needed. Regarding the principle of geographical return (the so-called “geo-return”), Josef Aschbacher, the current Director General who will start a second four-year term in March 2025, has expressed interest in reviewing this principle in accordance with the Convention to establish a framework of a “fair contribution” industrial policy. In the ongoing debate between the ESA executive and its member states on how to reform the geo-return principle, it should be considered that while the protection of national interests seems inherent in the current process, some consider it as advantageous primarily for smaller countries. With a view to the gradual waning of the geo-return principle, countries that contribute the most to the ESA budget, such as Italy, must therefore address the critical issue of protecting their investments.

The geo-return mechanism was favoured between the 1960s-1970s and created an industrial policy where none existed before, but it also generated distortions

and duplications. The ongoing revision of this mechanism towards more open modalities should be carefully monitored by Italy's institutional-industrial space complex, by reflecting on its inevitable political implications in terms of national influence at the European level. The 2025 ESA Council will decide on crucial issues, and this requires a swift definition of a national strategy to promote Italy's priorities, and avoiding delays due to the parallel process of approving the newly drafted national space law. This is even more important given that ESA is lagging behind in several procurement projects whose funds were allocated during the latest ESA summit in Seville, and some countries are considering reducing its budget in 2025. During the press briefing after the ESA Council on 19 June 2024, a resolution to increase the geo-return policy's flexibility and streamlining processes was announced.¹ Although no further details have been provided so far, this is an important first step towards a change in the Agency's industrial policy, in what looks like an attempt to adapt to the ever-evolving space sector.

In addition to the ESA-EUSPA relation, the Commission has a role in managing the European Defence Fund (EDF) projects dedicated to space for defence and security.² The Directorate General for Defence, Industry and Space (DG DEFIS), besides being responsible for managing the EDF grants, also has a say in the definition of the EU Space Law envisaged by the EUSSSD. The two units of DG DEFIS actively working on this dossier were B1 (Secure Connectivity and Space Surveillance) and B2 (Innovation and New Space – Space Defence), both under French leadership during the term of the former Commissioner for the Internal Market Thierry Breton, who was in charge of DG DEFIS. With the appointment of the new Commission in September 2024, DG DEFIS responsibility was assigned to the former Lithuanian Prime Minister, Andrius Kubilius.³

1.2 European space sector facing global challenges

During the European Space Conference held in January 2024, Ekaterini Kavvada, head of the DG DEFIS B Secure and Connected Space unit, spoke about the EU as a space power that needs to be more assertive.

To this end, the emerging European space governance should aim to:

- build more European autonomy in a context of increasing international competition, with prominent roles played by China and the United States, as well as India, Russia and Japan, along with emerging space powers such as South Korea, the United Arab Emirates and Saudi Arabia. This also means seeking synergies and opportunities for cooperation even in the more challenging

¹ Jeff Foust, "ESA Takes First Step to Modify Georeturn Policies", in *Space News*, 19 June 2024, <https://spacenews.com/?p=444690>.

² EDF space related projects include ODIN'S EYE II, REACTS, HYDIS, NAVGUARD, SPIDER, EPW, EMISSARY. For the complete list of EDF projects see DG DEFIS website: *EDF | Developing Tomorrow's Defence Capabilities*, https://defence-industry-space.ec.europa.eu/node/159_en.

³ Łukasz Maślanka, "The New European Commission: Security and Defence in the Hands of a Baltic Duo", in *OSW Analyses*, 18 September 2024, <https://www.osw.waw.pl/en/node/32670>.

markets, where European and national agencies play a crucial role thanks to their diplomatic ties;

- ensure the security and defence of the EU space systems;
- address environmental challenges, such as orbit congestion and climate change: the former can put space activities at risk, the latter can have a negative impact on access to space;
- contributing to the EU Common Security and Defence Policy (CSDP), for the benefit of both civilian and military European CSDP missions.

Achieving these goals would require, however, an adaptation of certain elements of the EU decision-making and functioning. The seven-year planning cycle, a cornerstone of the Commission's budgeting process, poorly cope with the need for responsiveness and flexibility, thus structurally limiting the European potential to address the rapid and unpredictable global evolution of the sector within acceptable timeframes. Albeit not easy to implement, parallel processes for advancing and revising plans with tighter timelines could be developed, to ensure more frequent discussions, particularly regarding long-term space programmes.

The resistance to creating European industrial champions capable of competing with non-European national industrial champions (which in some cases may rely on a domestic market vastly larger than the fragmented European one) is an example of a self-limiting approach. The legitimate antitrust concerns should be considered by taking into account all factors at play, including the necessity not to damage Europe's global position in the space market. Within this context, a purely commercial approach that allocates Commission programmes on a competitive market basis must be balanced with the needs of the European industry, which must maintain critical competencies and technologies to be successful in a highly competitive global space market, where innovation is key. Innovation particularly characterises the landscape of small and medium-sized enterprises (SMEs) that make up a significant portion of the Italian space sector. Accordingly, the EU should promote the achievement of a high level of systemic innovation.

The complexity of the EU tools supporting European SMEs, from assessment mechanisms to implementation and reporting, although necessary, sometimes appears to discourage and even hinder the real intention of supporting SMEs, by imposing bureaucratic burdens SMEs are often not equipped to handle. Simplifying procurement procedures is, therefore, an important element, as much for the EU as for Italy, also to ensure timely access to capital for the most successful industrial and technological actors. In particular, the US model should be carefully studied to identify which elements could apply to European space governance, industrial policy and markets – bearing in mind that such a model, as a whole, cannot be simply replicated by the EU. Studying the American reality would help in better adapting the military dimension of space and its implications in operational, capability and industrial terms.

1.3 Italy's positioning in the European space sector

Italy should identify which are its priorities in terms of space programmes, activities, industrial returns and overall positioning in Europe, and how to pursue them. This should be done both at the EU level, in all its declinations,⁴ and at the level of European agencies which are involved,⁵ albeit with varying degrees of intensity, in the space, defence and security sectors. Italy actively participates in shaping and managing European space policy, sharing its capabilities and human resources built over more than fifty years of space experience. Against this backdrop, Rome should identify well in advance qualified personnel to candidate within relevant institutions and agencies. Moreover, Italy should establish effective coordination within the national space ecosystem to support the best candidates through an adequate strategy and concrete efforts, and to foster the maintenance of a network. Achieving this requires political long-term vision as well as continuous and systematic attention by national representatives at the highest institutional levels.

When it comes to Italy's capabilities and collaborations, Rome has to decide which assets it wants to be developed by the EU, which ones at the national level, and which should be interoperable with the US or other non-EU partners. For instance, complex capabilities such as PNT, which require significant ground infrastructure and a substantial satellite constellation, are only feasible at the European level due to their complexity and unsustainable costs at the national level.

Conversely, Earth observation, especially when carried out with specific techniques, such as SAR (COSMO SkyMed), can be developed at a national level to tailor requirements and keep them appropriately confidential. The same applies, for instance, to electromagnetic spectrum surveillance. Notably, national programmes are not necessarily less complex than others, especially dual-use ones that have characterised the Italian "space identity", like COSMO SkyMed.

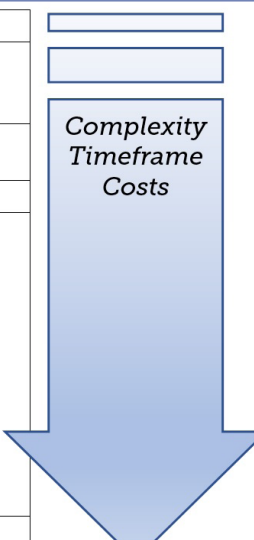
Last but not least, examples like the PRS highlight how certain specific needs and capabilities (precision positioning and independence target engagement, even in case of high electromagnetic interference) can be better managed at the European level to share the high implementation costs.

As a result, for Italy, it is crucial to implement a systemic management that oversees all programmes - national, bilateral and multinational - and makes sure that the latter, given the substantial investments in common funds, reflects national interests by involving the domestic industry in future technological developments.

⁴ EUSPA, DG DEFIS, and EEAS.

⁵ European Union Satellite Centre (EUSATCEN), European Defence Agency (EDA) and ESA. Two European organisations should also be mentioned for the sake of completeness: the European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT) and the European Centre for Medium-Range Weather Forecasts (ECMWF).

Framework	Programme / Services	Capacity
National	COSMO SkyMed; IRIDE	EO
	SICRAL	SATCOM
Bilateral / Multilateral	EU SST	SDA STM
NATO	Allied Persistent Surveillance from Space (APSS)	EO
EU	Copernicus: earth monitoring, atmosphere, sea, climate change, emergencies, security	EO
	EGNOS: Augment. GPS, OS, SoL	PNT
	Galileo: OS, PRS, SAR, HAS, OSNMA	PNT
	GovSatCom	SATCOM
	Space projects in EDF ⁶	
	Space projects in Horizon Europe (Cluster 4)	
ESA	ESA Technology Programmes (e.g., GSPT, Artes, etc.)	



Concerning defence-related space initiatives, Italy should establish a Defence-Industry Working Group to contribute to the identification of strategic objectives, technological priorities to be safeguarded, and critical Italian infrastructures to manage services and/or developments within the framework of planned EU initiatives. Italian space governance should be further rationalised to enhance its effectiveness by clearly identifying the entities that shape national space policy. The Ministry of Defence should continue to strengthen contacts with international institutions, particularly in light of the evolving international security environment and threats. The framework agreement signed between the Italian Space Agency (*Agenzia spaziale italiana* – ASI) and the Ministry of Defence at the end of 2022 has been a positive step, but it is still insufficient for the integration, where appropriate, of a real security and defence perspective in relevant space activities. A review of ASI’s legal framework, particularly of its nature as a scientific institution, should be considered, introducing a security and defence component into ASI’s governance, as is the case with other space agencies in key countries in the Euro-Atlantic area.

2. The Council Conclusions on the Space Strategy for Security and Defence (EUSSSD): Relevant topics and food for thought

At the end of 2023, the Council Conclusions on the EUSSSD largely reiterated what had already been proposed within the Strategy. The Conclusions emphasised that the Commission will need to act in coordination with EU member states and leverage their expertise in space related matters. The Conclusions also highlight the central role of the High Representative/Vice President of the European Commission as a decision-making figure.⁷

⁶ See footnote 2.

⁷ Council of the EU, *Council Conclusions on the EU Space Strategy for Security and Defence*, 13 November 2024, <https://data.consilium.europa.eu/doc/document/ST-14512-2023-INIT/en/pdf>.

2.1 Autonomous access to space and Italy

The Conclusions refer to autonomous, reliable, competitive, safe and secure as well as cost-effective access to space. They also advocate for advancing the development of “innovative, reliable, and versatile” launch systems in close cooperation with ESA, without prejudice to its activities in the field of launchers. Notably, the agreement and security validation for the two Galileo satellites launched with the SpaceX Falcon-9 rocket in September 2024, were developed by EUSPA. In 2024, SpaceX launched four Galileo satellites.⁸ Arianespace was supposed to launch the Galileo satellites in 2024 but will most likely only be able to do so in 2026 with Ariane 6, whose inaugural launch successfully took place on 9 July 2024.⁹ The Commission therefore approved an ESA agreement to conduct the Galileo launches using the Falcon 9.¹⁰ The two satellites from Galileo’s First Generation were launched on 2 April 2024 on a Falcon 9 launcher, while Galileo’s Second Generation satellites are projected to be launched with Ariane 6 in 2026.

Autonomous access to space was a central topic of the 2023 Space Summit in Seville, marking the opportunity for Avio to become a launch service provider and operator of Vega C, alongside Arianespace, which is currently the only European launch service provider. The summit also identified launch pads in the Kourou spaceport in French Guyana, dedicated to Vega E and integration facilities for Vega C. In this context, it is worth mentioning the agreement reached in 2023 between France, Germany and Italy on launchers.¹¹ During the 2024 Space Conference 2024, Commissioner Breton included the definition of a European launcher policy within an EU framework as the second point of his five priorities for European space.¹²

According to the Commissioner, such a policy should include:

- the aggregation of European institutional demand for launch services from public actors such as the EU, ESA and member states, to be implemented before the next Multiannual Financial Framework (MFF);
- Strengthening innovation in the launch services sector;
- investments in critical ground infrastructures, including testing facilities.

⁸ “SpaceX Falcon 9 Launches 2 Galileo Satellites”, in *Inside GNSS*, 24 September 2024, <https://insidegnss.com/?p=193971>.

⁹ “Ariane 6 Launches: Impacts for Galileo G2”, in *Inside GNSS*, 11 July 2024, <https://insidegnss.com/?p=193548>.

¹⁰ Jesse Khalil, “EU, SpaceX Finalizing Plan to Launch Galileo Satellites”, in *GPS World*, 14 November 2023, <https://www.gpsworld.com/?p=104599>.

¹¹ Patrizia Di Micco, “Italy, France and Germany Sign Deal to Boost EU Space Sector”, in *Decode39*, 6 November 2023, <https://decode39.com/?p=8181>.

¹² European Commission, *Speech by Commissioner Breton - EU Space: the Top 5 Priorities for 2024 and beyond*, 23 January 2024, https://ec.europa.eu/commission/presscorner/detail/en/speech_24_368.

In light of the commitments made through the National Recovery and Resilience Plan (NRRP), Italy should make a mid-term assessment of its national investments in engines and vehicles, as well as of the support given to national stakeholders, in order to strengthen a whole-of-country approach in the access to space and launchers sector. Such assessment should consider also activities at the military test and training site of Salto di Quirra (*Poligono Sperimentale e di Addestramento Interforze di Salto di Quirra – PISQ*) in Sardinia¹³ and the potential of air-launch thanks to the Grottaglie spaceport in Puglia. In the coming years, the national and institutional demand for access to space solutions is expected to grow to meet security and defence needs. Consequently, it should be adequately funded. This issue needs to be addressed with the highest priority in terms of timing and quality, given its strategic nature. The European landscape has indeed become highly competitive, with Germany focusing on micro-launchers, similarly to Spain, the latter actively promoting its startups in this sub-sector. France is positioning itself in the sector through Maia Space, and Sweden and Norway are engaging the most dynamic and promising startups as well. Therefore, a high level of priority should be given to this challenge at national level because if no adequate national solution emerges in terms of timing and cost, Italy will have to look beyond its borders to ensure it has access to space.

2.2 The defence dimension and civil-military relationship

The Council Conclusions urge the European Defence Agency (EDA) to identify the defence needs and requirements related to space expressed by EU member states. The Conclusions also encourage EU member states, together with the Agency, to seize the opportunity offered by the periodic review of the Capability Development Plan (CDP) to set a high level of ambition for the collaborative development of space defence capabilities. The EU Capability Development Priorities 2023 identified two main areas in the space sector: space operations and space services.¹⁴ For space operations, the document lists capabilities in the fields of SSA, access to space and protection of space assets. For space services, the focus is on EO, satellite communication (SatCom) and PNT. It is also worth mentioning that the CDP identifies cyber defence capabilities as a priority in the cyber domain, and Electro Magnetic Spectrum Operations Dominance as a strategic enabler and force multiplier.

These priorities should lay the ground for a capability-based approach to balance the rather industrial approach currently applied for instance to the EDF. Indeed, for some observers the latter is too focused on financing industries rather than fostering EU's security, defence and space competencies and capabilities. On the

¹³ Italian Air Force, *Spazio: lanciato dal Poligono del Salto di Quirra il primo razzo a propulsione ibrida*, 10 March 2022, <https://www.aeronautica.difesa.it/2022/03/10/spazio-lanciato-dal-poligono-del-salto-di-quirra-il-primo-razzo-a-propulsione-ibrida>.

¹⁴ EDA, *2023 EU Capability Development Priorities*, 14 November 2023, <https://eda.europa.eu/publications-and-data/factsheets/factsheet-the-2023-eu-capability-development-priorities>.

other hand, the need to strengthen and consolidate the fragmented industrial and technological base of the EU is a strong argument in favour of the industrial approach. The two approaches are likely to continue to coexist and balance each other.

The macro-areas outlined in the CDP are quite generic, but additional emerging needs in the space sector include:

- the maintenance and resupply of space assets;
- manoeuvrability of satellites;
- new infrastructures to be placed in orbit;
- new integrated ground/space networks.

The EUSSSD contains a greater emphasis on security aspects, but a lesser focus on specific defence concerns, such as those related to military operations in space and the potential response options that the EU should develop. The threat response architecture outlined by the EUSSSD revolves around the roles of the European External Action Service (EEAS), EUSPA and the EU Single Intelligence and Analysis Capacity (SIAC). From an operational point of view, doubts remain as to the posture and role that the EU intends to assume in space in the security and defence sector, also due to an underlying ambiguity on the relationship between the civilian and military dimensions. The latter is a point that goes beyond the EUSSSD. Even though this ambiguity is somewhat typical of the space field, the specificities of both space and defence sectors should be more thoroughly considered within the EU. Indeed, their neglect carries profound implications, for example on the Commission's approach to space. Similarly, it should be better clarified from the outset which programmes have to be considered dual-use and which are intended purely for military purposes.

In the EUSSSD's implementation phase, it should be clarified, among other things, whether the EU intends to adopt a posture focused on deterrence, active protection, space superiority or space dominance. If one of these postures is to be adopted, the EU should clarify how to implement it. The ambition to defend against and respond to space threats within the EUSSSD should, therefore, be more precisely defined, clarifying the respective roles between dedicated EU institutions and member states, and considering the current lack of a command and control structure. This implies further reflection on the capability end state, and thus on the EU's position regarding the development of passive and active defences.

2.3 The relationship with the United States

The Council Conclusions on the EUSSSD identify the United States as a strategic partner of the EU. For Rome, the Artemis Accords are a prominent example of the partnership with Washington, together with other bilateral agreements undertaken by the MoD and the Pentagon. These agreements entail the presence of an Italian liaison officer at the US Space Command in Vandenberg and another officer at the US Space Force. Such ties facilitate more direct access to United States' expertise, ensuring a better understanding of future space scenarios and fostering greater

coordination and synergies. The entry of Italy (alongside Norway and Japan) into the exclusive Combined Space Operations (CSO) Initiative (previously comprised solely of the United States, United Kingdom, Australia, Canada, New Zealand, France and Germany), further consolidates the position of the Italian MoD and the entire national space ecosystem among the leading countries in this sector. The CSO Initiative aims to enhance interoperability among allies in key capability areas, such as space domain awareness (SDA), support for military missions in space, the management of space launches and re-entries from space, and space operations. The growing bilateral defence bond between the United States and Italy in the space sector will promote the growth of expertise, doctrinal development and best practices in Italy, with positive spillovers in the industrial sector. Italy should consider placing liaison officers also in Japan, as it already happens for the post of a space attaché at the Italian embassy in Tokyo.

From a technological and industrial standpoint, when dealing with Washington, the EU and its member states should consider the influence and impact on the market of major US private players such as SpaceX, taking into account their dominant position and market distortion issues. Furthermore, US market protection regulations and dynamics (such as the “Buy American Act” and the International Traffic in Arms Regulations) heavily influence transatlantic parity and reciprocity, both of which need to be pursued and negotiated. Therefore, Italy should negotiate opportunities for the industrial growth of its space sector. Closing the technological gap that Europe suffers with respect to the US requires adequate attention to both industrial and operational aspects. Furthermore, in its approach to cooperation with Washington, the EU and Italy should focus on sectors where the EU, and particularly Italy, can leverage advantages in terms of skills, capabilities and cutting-edge regulations – for example in the space sustainability sector, which is an increasingly relevant issue in which Europe is ahead of the US.

2.4 EU-NATO relations

Despite the challenges affecting EU-NATO interactions, the 2023 Joint Declaration included space among the cooperation areas, and thus space defence could be a promising theme for a strategic dialogue between the two organisations. A mutual interest seemed to emerge concerning the NATO Alliance Persistent Surveillance from Space (APSS) initiative, aimed at enhancing NATO’s intelligence, surveillance and reconnaissance capabilities, and the US interest in the Galileo programme. The latter resulted in the signature of an agreement between the EU and the United States, establishing security procedures for the launch of Galileo satellites from the territory of the US. Italy should promote the establishment of a response mechanism to threats against European space assets that would also involve NATO. This would further enhance the Italian Armed Forces’ role within the Alliance. Indeed, Italy is already the second largest contributor to NATO missions, a major provider of SatCom, and one of the few allies holding the necessary space capabilities to carry out SSA tasks – also thanks to the Aerospace Operations Command (*Comando Operazioni Aerospaziali* – COA) in Poggio Renatico. A NATO involvement would enable greater protection of European space assets, proving more effective than

the current CD698 response mechanism,¹⁵ which lacks a proper command and control chain. Such an approach would ensure complementarity between NATO and the EU: NATO would provide the doctrine and military infrastructure while the EU would put on the table the necessary assets – bearing in mind that 23 European countries are members of both organisations. This in turn would enhance Italy's position within both the Alliance and the Union.

2.5 Relationship with non-EU countries and Italy's partnerships

The issue of engaging European partners that are not EU member states is addressed quite marginally both in the EUSSSD and in the Council Conclusions. Notably, the UK is developing significant military space systems and should be a relevant and reliable partner for the EU, but it is not mentioned in the documents.

Nor do the Conclusions or the EUSSSD mention Japan, Norway and South Korea, which are substantially enhancing technological collaboration with the EU. These like-minded global partners are particularly significant in an international context where crises often have cascading effects that do not allow any country to adopt a geographic silos mindset. These states contribute to European security through financial and military assistance to Ukraine, and Europe's security is increasingly connected with seemingly distant regions such as the Indo-Pacific. Indeed, a staff-to-staff dialogue has been activated between the EEAS and selected Commission DGs and Japan, as already happens with the US, and a similar format is planned to be proposed to Norway and Canada.

In this context, the strategic cooperation between Italy and Japan is growing on several dossiers.

The Global Air Combat Programme (GCAP), involving Italy, Japan and the United Kingdom in the development of the sixth-generation combat aircraft, represents a key opportunity and a catalyst for further technological, scientific and industrial collaborations. The Italy-Japan agreement on semiconductors is another notable element. In the space sector, a cooperation between ASI and the Japan Aerospace Exploration Agency (JAXA) is active and synergies should be exploited in the field of EO, particularly regarding disaster prevention applications. Italy will also soon have a space attaché at the Tokyo embassy.

¹⁵ The Council Decision 2021/698 of 30 April 2021 on the security of systems and services deployed, operated and used within the Union Space Programme which may affect the security of the Union (<http://data.europa.eu/eli/dec/2021/698/oj>) for the first time, indicates the possibility for the EU to respond to an event, attack or threat to EU space systems, with a role for the European Council, the High Representative and EUSPA. However, the envisaged response architecture appears inadequate. For further analysis, see: Karolina Muti and Giancarlo La Rocca, "EU's Space Strategy for Security and Defence: An In-depth Analysis", in Karolina Muti, Ottavia Credi and Giancarlo La Rocca, "Italy and the Challenges of Space: Between Space Economy, International Cooperation and Cybersecurity", in *Documenti IAI*, No. 23|15en (July 2023), p. 27-34, <https://www.iai.it/en/node/17272>.

Within the G7 format, space economy has been one of the main topics addressed by Ministers in charge of space and industry stakeholders thanks to a meeting held in March 2024 in Verona, under the Italian G7 Presidency, which followed the Japanese G7 Presidency. Moreover, since 2020, a G20 Space Economy Leaders Meeting has been active, initiated during the Saudi Arabia's presidency and promoted by Italy. The meeting includes institutional sessions and meetings involving representatives from space industries of G20 countries. Both G7 and G20 formats should be adequately exploited by Rome, also in light of the consideration that other countries give to Italy in this sector. Global partnerships should also serve Italy to formulate a more assertive and impactful position in shaping European space governance.

3. EU Space Law

3.1 Rationale and context

The Commission identified several factors that make a comprehensive regulation of space activities urgent, also in order to promote the competitiveness of the European industry and to overcome regulatory disparities among national markets. Among these factors the main concern:

- the emergence of new commercial operators, requiring a clear regulatory framework to avoid market distortion risks;
- the increase in security risks;
- the challenge of long-term sustainability of outer space activities.

As mentioned before, the current regulatory landscape in Europe is rather heterogeneous, as 11 member states have their own national space laws¹⁶ and this creates fragmentation and obstacles for the EU single market.

In this context, the aforementioned EUSSSD includes a reference to the introduction of an EU Space Law as a way to ensure a consistent approach within the EU towards space activities. The Strategy also acknowledges the intrinsic link between space operations and cybersecurity, and aims to establish a comprehensive regulatory framework addressing the cross-cutting challenges of space operations. The Council's Conclusions consider the EU Space Law as complementary with the Network and Information Security (NIS2) and critical entities' resilience (CER) directives,¹⁷ respectively on cybersecurity and resilience of critical entities (i.e. infrastructures). The EU Space Law was a priority for Commissioner Breton, who, during his speech at the Space Conference 2024, clarified that the law will

¹⁶ Austria, Belgium, Denmark, Finland, France, Greece, Luxembourg, Netherlands, Portugal, Slovenia, Sweden.

¹⁷ European Parliament and Council of the EU, *Directive (EU) 2022/2555 of 14 December 2022 on Measures for a High Common Level of Cybersecurity across the Union (NIS 2 Directive)*, <http://data.europa.eu/eli/dir/2022/2555/2022-12-27>; and *Directive (EU) 2022/2557 of 14 December 2022 on the Resilience of Critical Entities*, <http://data.europa.eu/eli/dir/2022/2557/oj>.

be designed in a way not to hamper innovation in Europe nor the potential of European startups.

3.2 Decision-making process and vision

The EU Space Law represented a stated priority of the 2024 State of the Union Report and of the first von der Leyen Commission. The initial goal was to present a draft of the law, supported by consultation processes promoted by the Commission to gather relevant inputs, to the European Council and to the European Parliament by the end of 2024. European Parliament's elections in June 2024 and the establishment of a new EU Commission in November 2024 put on hold the approval process, which needs to be addressed by the EU institutions in the next months.

The political vision behind it was to safeguard the EU domestic market for space activities. On this basis, the Commission engaged in a dialogue with member states for over a year.

The legislative package will consist of binding regulatory measures based on Article 114 of the Treaty on the Functioning of the European Union (TFEU) as well as support and incentive measures based on Article 189 of the TFEU, such as the creation of a "Space Safe Label". Additionally, the law is expected to determine uniform and binding measures on cybersecurity and the protection of space infrastructures.

The previous Commission has ensured compliance with Article 4 of the TFEU, respecting the prerogatives of the member states. The proposal shall uphold the principles of proportionality and technological neutrality. It remains to be seen how the recently established second von der Leyen Commission will address the EU Space Law, and with what speed will the approval process proceed.

3.3 Challenges

The proposal for an EU Space Law represents a significant step towards the development of coherent and consistent European space legislation. However, its implementation will have to tackle a series of challenges, including reconciling the needs for innovation and security, ensuring compatibility with existing regimes and defining its scope of action. The fact that the latter is not currently clear does not help enhancing its effectiveness. This also applies to defence aspects, such as in the case of a potential military response to malicious actions against European and national space assets and infrastructures.

It will be important to ensure that the regulatory framework does not hinder the innovation capabilities of the European and national space sectors, considering that the EU is already lagging behind other players such as the US, and that regulation and innovation are not always easy to reconcile. It will be crucial for the EU Space Law to find a way to harmonise with existing regimes and be compatible with those in the making. At the time of writing, the scope of action of the EU Space Law

remains uncertain concerning various orbital regimes and space environments (e.g., Earth and cis-lunar orbits, lunar surface, deep space).

If clear guidelines are not established, the EU Space Law risks following the path of EU digital and AI regulations, reflecting an EU approach that struggles to find a balance between a regulatory framework that is not too restrictive and that allows at the same time a degree of flexibility, yet provides a form of control and monitoring over technology and products. Such technologies and products move fast outside the EU's jurisdiction disregarding European regulations.

3.4 Italy's situation and national interests

For Italy, coherence and compatibility of the prospected EU Space Law with the ongoing process of defining a national space law is a pressing issue. The domestic debate should not slow down or damage Rome's participation in the European reflection on the reorganisation of European space governance, nor jeopardise the Italian contribution to the EU Space Law. In light of the increasing influence of the Commission in the space and defence sectors, the upcoming legislation could lean towards centralising at the Commission level control functions over this industrial sector. In Italy, despite the fact that, as of December 2024, the process of approval by the Parliament of the national space law begun, the current absence of a national law in place risks hampering the harmonisation with the European space legislation, creating a vicious circle. Indeed, the EU Space Law will likely require identifying national authorities trusted with authorisation and control functions, on the basis of a national regulatory framework that is currently missing in Italy. This is also one of the reasons why Italy has expressed a strong preference for a non-binding approach to the EU Space Law that could e.g. take the form of a directive, as already occurred for the NIS2 and CER directives. This is particularly important to avoid creating excessive constraints and thus exposing Europeans to an asymmetric relationship with other players such as the US or China.

Against this backdrop, Italy should focus on four elements of utmost importance for its national interests:

- harmonisation of regulations through a clear regulatory framework and simplified administrative processes;
- promotion of safe, secure and sustainable European space standards worldwide;
- facilitation of international collaborations and establishment of a common framework for cooperation with non-EU partners;
- support for research and innovation.

Additionally, five further issues need to be addressed:

- The EU Space Law should not impose compliance burdens or obligations that increase costs for space companies.
- Adhering to the new regulatory framework will require space companies to manage a transition period. This might entail revising current procedures and ensuring compliance with specific standards set by the new regulations. Hence, industry involvement in the consultation process is crucial.

- The potential loss of competitiveness versus international competitors: European space companies could be disadvantaged compared to non-EU entities not subject to the same regulatory framework.
- Should regulations on satellite production or operations be overly restrictive for EU firms, some may opt to relocate their activities to countries with less stringent regulatory frameworks. Hence, the law should apply to any entity providing space services/products to the EU market, regardless of whether they are developed in Europe or not.
- There may be a need for some technological solutions to undergo a possible increase in Technology Readiness Level (TRL) to comply with the law, which may currently be low.

4. Infrastructure for Resilience, Interconnectivity and Security by Satellite – IRIS²

4.1 IRIS² and GovSatCom

The IRIS² Secure Connectivity Programme focuses on establishing a satellite infrastructure capable of meeting the EU and member states' demand for resilient secure connectivity. The former Commission has allocated a budget of 2.4 billion euros within the current MFF, with plans to increase it to 6 billion euros in the next MFF. The IRIS² infrastructure is open to private investments from satellite operators and is intended by the Commission to serve as a catalyst for the European space industry. The programme has gathered extensive political consensus, its Regulation was approved in record time and almost unanimously by the European Parliament. The initiative aims to provide highly secure connectivity for institutional and defence purposes, to support the development and use of innovative technologies such as quantum communication for secure encryption. It is thus a strategic project in infrastructural, technological and commercial terms.

The former Commission has imposed extremely tight deadlines even in the definition and procurement phase of the infrastructure, simultaneously imposing very stringent constraints on the public budget available. This has resulted in a complex management of the system architecture, of the operational concept and of the underlying business and corporate model.

In the former Commission's vision, IRIS² was expected to be very close and integrated with the EU Governmental Satellite Communications (GovSatCom), which should de facto serve as the initial element for the launch of European secure communication services. However, some concerns have arisen from various actors regarding a perceived French dominance in IRIS² vision and implementation.

At the institutional level, the previous Commission finalised a Cooperation Agreement with ESA to receive support for managing technical and programme activities. An important role is also expected for EUSPA, starting from accreditation aspects. Notably, EUSPA has recently made significant progress with the GovSatCom

project, aiming to provide initial GovSatCom services by the end of 2024.

4.2 Italy's positioning

The national priority was to secure a central role for Italy in the development, implementation, operation and service provision of IRIS² and of the GovSatCom Hub.

To this end, political authorities, institutions and industry took a number of coordinated actions. First, Italy will host one of the IRIS² Control Centres at the Fucino Space Centre, which already hosts the Galileo system control centre. The agreement between the Italian and German government has also led to a coordinated application, aiming to allocate the IRIS² Control Centre in Italy and one of the GovSatCom hubs in Germany.

Italy applied for a central role in managing the constellation. Service provision and participation in operations was Rome's priority as well. Further opportunities may arise in the ground segment as well as in sectors such as constellation security and, in the long term, quantum computing.

With regard to dual-use, Italy leads ESA's developments in the use of quantum and optical technologies for secure and broadband communications (Security and Cryptographic mission – SAGA; and High Throughput Optical – Hydron). A major Italian role in the on-board component (communications security) of the IRIS² constellation would support the capabilities of the domestic electronics industry and supply chain in secure telecommunications. In addition, Italy aims to identify opportunities for dual-use payloads both for secure communications (in particular in UHF band where Italy is a leader), and in SSA for data relay, navigation in low Earth orbit (LEO) and possible environmental protection missions (i.e. related to the reduction of CO₂ and greenhouse gases). The IRIS² architectural solution should be open, giving different communication systems the possibility to interact with IRIS² without any particular restrictions, while at the same time fulfilling security requirements. The programme therefore offers potentially important opportunities for Italy, in both operational and industrial terms. Such opportunities refer in particular to (i) the construction of ground infrastructure, including the manufacturing part of the components (user terminals), and (ii) to the space segment, in particular its operational management and service provision.

Other important elements are (i) the risk of insufficient industrial return compared to national investments made and (ii) the opportunity for a greater role of the domestic industry in areas where Italian skills and capabilities can effectively contribute. The management of the IRIS² procurement process seemed to have relatively favoured French companies so far to the detriment of Italian ones. In this regard, the assignment of the IRIS² Control Centre at the Fucino Space Centre is good news and a positive signal for the national space ecosystem. However, it should represent the starting point and not the end state for Italy.

Finally, IRIS² also presents potential for projection towards the African continent, which aligns well with national interests, particularly in light of the “Mattei Plan for Africa” launched by Giorgia Meloni’s government. Therefore, Italy should take a leading role in this process, thus strengthening this European role in synergy with its national policies.

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