

# EU secure connectivity programme 2023-2027

## Building a multi-orbital satellite constellation

### OVERVIEW

Satellite communication is a strategic asset for governments and civil society alike. Complementary to terrestrial networks, it can contribute to seamless digital communication, even when such networks are absent or disrupted.

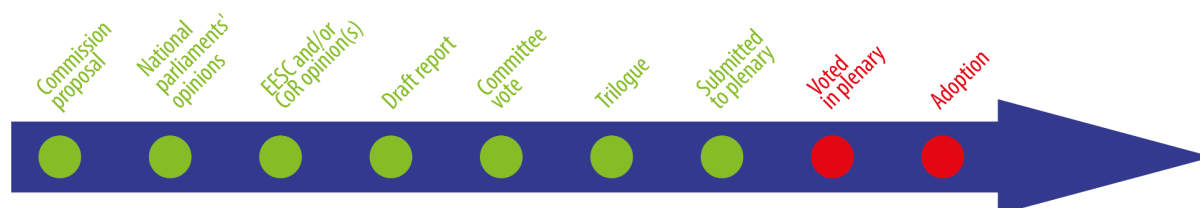
Today, the EU does not have a dedicated infrastructure (including space and ground segments) to offer satellite communication services to governments, the economy or civil society. Several EU global partners and competitors are investing in parallel in such capabilities.

On 15 February 2022, the European Commission presented a proposal to improve the resilience of EU communication services by developing and operating a multi-orbital connectivity infrastructure (with both space and ground segments), based on a public-partnership model. **Governmental services would be operational from 2025, and private services at a later stage.**

The European Parliament and the Council reached a provisional agreement on the proposal on 22 November 2022. Parliament must now vote on the draft legislative act as modified by that agreement before the regulation can become law.

#### **Proposal for a regulation of the European Parliament and of the Council establishing the Union Secure Connectivity Programme for the period 2023-2027**

<i>Committee responsible:</i>	Industry, Research and Energy (ITRE)	COM(2022) 57 15.2.2022
<i>Rapporteur:</i>	Christophe Grudler (Renew, France)	2022/0039(COD)
<i>Shadow rapporteurs:</i>	Massimiliano Salini (EPP, Italy) Ivo Hristov (S&D, Bulgaria) Niklas Nienass (Greens/EFA, Germany) Matteo Adinolfi (ID, Italy) Evžen Tošenovský (ECR, Czechia) Marc Botenga (The Left, Belgium)	Ordinary legislative procedure (COD) (Parliament and Council on equal footing – formerly 'co-decision')
<i>Next steps expected:</i>	Final first-reading vote in plenary.	



## Introduction

In the twin [digital](#) and [ecological](#) transition, connectivity is gaining importance as a key element of societal resilience. Satellite communication connectivity, in particular, is becoming a strategic asset that enables the continuity of critical infrastructure operations, crisis management, and surveillance and security activities such as border control.

However, satellite communication is a finite resource: only a limited number of orbits are available to operate communications constellations composed of satellites orbiting at different levels (low earth orbit, medium earth orbit, geostationary orbit). While the EU and its Member States currently rely on a limited number of geostationary satellites for governmental communications services, other spacefaring nations have already launched satellite constellations. This allows for a wider geographical coverage but reduces the orbits available for other similar constellations.

In February 2022, the European Commission submitted a [proposal](#) with the aim to develop and deploy an EU-owned multi-orbital satellite constellation, to provide uninterrupted worldwide access to secure satellite communication services – primarily for the EU institutions and Member State governments, but also for commercial purposes.

## Context

This initiative builds on the latest technological developments to set up and operate a space-based infrastructure. Embedded in EU industrial policy, it faces specific risks linked to the growing use of space, as well as security [risks](#).

The technological state of play allows for the deployment of a space communication infrastructure to ensure connectivity continuity both in space (e.g. ensuring broadband connection to remote places) and time (e.g. as substitute in the case of a disruption of the terrestrial networks due to an environmental or human-made emergency). Medium earth orbit (MEO) and low earth orbit (LEO) satellites ensure [low latency](#) communication services, including for high-speed internet.<sup>1</sup> The capacity to manufacture and operate these satellites also facilitates [global coverage](#) of communication services. Moreover, a space communication infrastructure is an opportunity for deploying emerging technological systems to strengthen cyber-security, such as [quantum key distribution](#) (a cryptographic protocol enabling two parties to produce a shared random secret key known only to them). This makes it possible to build a certified end-to-end quantum communication infrastructure, including its space-based infrastructure, as outlined in the [declaration](#) on the European quantum communication infrastructure (EuroQCI).

The deployment of an EU space communication infrastructure calls for reducing the risks associated with the growing activity in space. According to the [joint communication](#) by the Commission and the High Representative of the Union for Foreign Affairs and Security Policy on an EU approach for space traffic management, more than 20 000 additional satellites are expected to be launched over the next decade. Nevertheless, this raises issues relating to the allocation of specific radio-frequency bands and services; the relevant United Nations agency – the International Telecommunication Union (ITU) – is currently tightening the [requirements](#) for these allocations to the agency's member states. Furthermore, beyond active satellites, the increase of [space debris](#), particularly in LEO, poses a specific challenge in terms of the continuity of operation of these constellations.

The Commission proposal is set in the context of a dynamic global space market, and the renewed EU industrial policy towards space. Public spending still represents the [bulk](#) of global investment in space; however, over the past two decades, there has been a surge in private investment, corresponding to new business models: the '[new space](#)'. Globally, space ventures have attracted over [€14.8 billion](#) of investment, including €3.3 billion in debt financing, between 2000 and 2017. In order for EU innovation and industrial space ecosystems to reap the full benefits of the 'new space', in early 2021 the Commission adopted an [action plan](#) on synergies between civil, defence and space industries. The proposal puts forward a holistic, '[capability driven](#)' approach, which intends to

ensure the continuous dialogue between industry and users, and facilitate technological dissemination across both the EU Member States and the economy. It also aims to contribute to the inclusion of newcomers, such as small and medium-sized enterprises (SMEs), in the EU space market.

## Existing situation

The Treaty of Lisbon established EU space policy as a shared competence of the EU and its Member States. In 2013, following the entry into force of the Treaty, the European Council [welcomed](#) the preparation for the next generation of governmental satellite communications through cooperation between the Member States, the Commission and the European Space Agency (ESA). At the same time, the European Defence Agency (EDA) carried out a demonstration project (the '[GSC demo](#)'), which established a governmental pooled capability to provide [satellite communications services](#) that cannot be obtained on the commercial market with a sufficient level of guaranteed access and security. The 15 Member States<sup>2</sup> contributing to the GSC demo accepted the project arrangement as a baseline for mutual support and collaboration; Norway was associated to the initiative. The main [outcomes](#) notably include specific recommendations on infrastructure security and an outline of user requirements to facilitate uptake.

These first initiatives fed into an initiative to establish an EU governmental satellite communications policy, funded under the 2021-2027 multiannual financial framework (MFF). In [2017](#), the Commission noted that, while an EU governmental satellite communications policy did not exist, more and more EU initiatives (such as on the [Arctic](#)) were referring to governmental satellite communications as a key asset for crisis management, disaster response, and police, border and coastal surveillance.

The growing importance of this policy was reflected in the inclusion of a specific component for EU governmental satellite communications (GOVSATCOM) in the 2021-2027 EU space programme ([Regulation \(EU\) 2021/696](#)). GOVSATCOM aims to provide a satellite communication service under civil and governmental control, enabling the provision of satellite communication capacities and services for the EU and Member State authorities managing security-critical missions and infrastructures. It includes the development, construction and operations of the ground segment infrastructure; the procurement of governmental and commercial satellite communication capacities and services; and the measures necessary to further interoperability and standardisation of GOVSATCOM user equipment.

Other EU programmes also help support GOVSATCOM infrastructures and services, not least the EU research and innovation framework programmes, Horizon 2020, which is supporting '[Entrusted](#)', a collaborative project with [18](#) participants, from 2020 to 2023. The project is expected to provide insight into current and evolving user needs, which will be translated into a set of consolidated and prioritised user requirements for future GOVSATCOM services. It will also define a roadmap for research and innovation on the future GOVSATCOM user technology. Horizon Europe, the new EU framework programme for research and innovation, is supporting the further development of GOVSATCOM services. More specifically, under the digital-industry-space cluster, the [2021-2022 Horizon Europe work programme](#) has published two topics for an overall investment of up to €17 million to support the development of quantum technologies for [space gravimetry](#).<sup>3</sup>

Today, EU satellite communication capacities for governmental services rely on a limited number of geostationary (GEO) satellites.<sup>4</sup> This communication infrastructure, which differs from the satellites providing navigation and position services, such as Galileo, or earth observation services, such as Copernicus, is under the control of only a few Member States<sup>5</sup> that either own or control the infrastructure through public-private arrangements. However, the current infrastructure has two limitations: on the one hand, it covers mostly only the European continent, leaving the rest of the world uncovered. In addition, most of it is used for military purposes, which are not always compatible with another complementary service. On the other, current EU capacities are not matching the pace

of technological development. More specifically, no LEO or MEO satellite would respond to evolving user needs, such as the capacity to have worldwide service.

Following its above-mentioned 2012 conclusions on governmental satellite communications, the European Council updated its political guidance on space-based connectivity. On 10 March 2022, it issued the [Versailles Declaration](#), in which it agreed to invest further in cybersecurity and space-based connectivity.

## Comparative elements

In the United States (US), several private initiatives, at different conception and deployment stages, aim to ensure broadband connectivity through a LEO constellation. A 2021 [report](#) by the Congressional Research Service shows that, with more than 1 730 satellites already launched (out of a total of 42 000 planned), [SpaceX](#) is the largest constellation active so far, also in [governmental services](#). SpaceX has been supported by public investment, mostly through auctions ([auction 904](#)) organised by the US Federal Communication Commission. In 2020, SpaceX [won](#) a total of US\$885.5 million (around €837.4 million) over 10 years for the delivery of broadband service spread throughout 35 states. This decision is [challenged](#) by several SpaceX competitors, hinting at the legal and economic uncertainties associated with the bottom-up logic of the public investment. China also considers developing and deploying a [constellation](#) of up to 13 000 satellites as part of its 14th five-year plan. Based on spectrum allocation filings submitted to the ITU by China, the initiative would consist of sub-constellations ranging from 500 to 1 145 kilometres (km) in altitude, with inclinations of between 30 and 85 degrees. The satellites would operate across a range of frequency bands.

## Parliament's starting position

In its [resolution](#) of 25 November 2020 on a new industrial strategy for Europe, the European Parliament recalled the importance of connectivity infrastructures for the deployment of the digital transition. It also highlighted the importance of EU space policy as a lever in support of technological development to harness industrial transformation for advancing the twin transition.

In its [resolution](#) of 10 June 2021 on the EU's cybersecurity strategy for the Digital Decade, the Parliament stressed the necessity of relying on an ultra-secure connectivity infrastructure to ensure the security of digital communications. It therefore welcomed the launch of an EU space-based global secure communications initiative integrating quantum encryption technologies. It also recalled the need for continuous efforts to secure European space activities, also in cooperation with the EU Agency for the Space Programme (EUSPA) and ESA.

In its [resolution](#) of 6 October 2021 on the future of EU–US relations, the Parliament reiterated the importance of EU–US space cooperation and welcomed the two sides' commitment to strengthen that cooperation. Parliament went even further, calling for enhanced EU–US cooperation in the core field of connectivity diversification through all possible mechanisms.

In its [resolution](#) of 17 February 2022 on the implementation of the common security and defence policy, the Parliament welcomed the proposal on an EU secure connectivity programme, calling for the rapid completion of this project to improve the level of telecommunications security in the EU. It also underlined the growing risk of cyber- and physical attacks on European and Member State satellites, and insisted on the need to prevent such attacks, and to put in place defensive mechanisms against them.

In its [resolution](#) of 6 October 2022 on an EU approach for space traffic management, the Parliament notes that the development of space operations increases risks for the safety of in-orbit space operations. For the first time, it highlights the need for a clear regulatory framework to ensure an EU-wide level playing field for space activities. It calls on the European Commission to propose a legislative initiative on space traffic management before 2024.

## Council and European Council starting position

The Council of the EU has been supporting and promoting EU space-based connectivity in several configurations, mainly competitiveness and foreign affairs. On 29 November 2019, the Competitiveness Council adopted [conclusions](#) on space solutions for the Arctic, which mentioned the relevance of satellite communication. The Council noted that in the future, the EU space programme's governmental satellite communications component 'could provide solutions for the needs for secure communication for public authorities in the region, in particular as regards communication associated with search and rescue'. With a set of [conclusions](#) of 28 May 2021 on 'new space' for people, the Competitiveness Council took note of the ongoing work on the EU secure connectivity programme. It also emphasised the need to reinforce the EU's strength in achieving a more innovative, resilient and competitive Union space sector especially in areas such as space-based secure connectivity. On 21 March 2022, the Foreign Affairs Council [adopted](#) the Strategic Compass for Security and Defence. The document regards outer space and cyber-space as global commons, just like the ocean, and looks upon satellite communication as one of the assets on which the compass is to be deployed through the launch of the forthcoming EU secure connectivity programme.

## Preparation of the proposal

Recital 104 of Regulation (EU) 2021/696 establishing the 2021-2027 EU space programme mentions that, until 2025, the Commission should procure GOVSATCOM capacities from Member States with national systems and space capacities, and from commercial satellite communication or service providers, taking into account the EU's essential security interests. If a detailed analysis of future supply and demand were to reveal that this approach is insufficient to cover the evolving demand, it should be possible to move to a second phase and develop additional bespoke space infrastructure or capacities through one or several public-private partnerships, e.g. with EU satellite operators.

Since 2020, the Commission has procured two studies to prepare the initiative. First, following the [action plan](#) on synergies among civil, defence and space industries, the Commission issued a [tender](#) to outline the space infrastructure's possible architecture and its exploitation model. The study was awarded to a consortium of eight main players<sup>6</sup> from the European space upstream sector. The conclusions have not been made public; however, the study has been discussed several times in 2021 with Member State representatives, including during a meeting of the Council working party on space on 26 October 2021. From the published [information](#) available, it is possible to conclude that the study methodology follows a capability-driven approach. This means that both the most recent technological developments in the field and the user requirements define the operational objectives and the architecture of the systems outlined. Following the launch of the first study in 2021, the Commission issued a second [tender](#), to assess innovative approaches towards a secure space connectivity system and explore ways in which the initiative could also support commercial activities.

Between 31 August and 23 September 2021, the Commission organised a [public consultation](#) to gather stakeholder views, in particular regarding six policy options: no additional EU action; EU fully owned space infrastructure; fully private infrastructure; concession; availability model; and minority stake in a non-EU constellation. Among the 13 answers received, the public-private options (concession and availability model) gathered the strongest support.

## The changes the proposal would bring

The proposal aims to develop a multi-orbital infrastructure ensuring the long-term availability of worldwide and uninterrupted access to secure and cost-effective satellite communication services, and the provision of commercial services by the private sector. The infrastructure is to be composed of a ground segment and a space segment that may include the construction and launch of up to

170 LEO satellites between 2025 and 2027. To ensure the initiative's efficiency, a public-private partnership under the concession model is expected to allow for the provision of governmental and commercial services. The concessionaire would be tasked with the operations, maintenance and necessary upgrades of the system (except for security assets such as the quantum encryption part, or the security monitoring services directly operated by the EU). In turn, the EU could commit to appropriate long-term service payments to cover provision of services for EU institutions and Member States. The concessionaire would also bear all costs related to the provision of commercial services and any additional infrastructure cost. Beyond the provision of secure communication services, the proposal is also intended to support space industry players across the EU and the components of the 2021-2027 EU space programme.

Article 3(2) of the proposal spells out five specific objectives:

**Improving the resilience of EU communication services by developing and operating a multi-orbital connectivity infrastructure.** Articles 5 (infrastructure of the secure connectivity system), 15 (implementation model) and 16 (ownership and use of assets) set the main rules for building and operating the infrastructure segments both in space and on the ground. Article 5 defines the infrastructure's overall, modular architecture, which consists of a governmental and a complementary commercial part. Both parts include ground and space assets. The governmental infrastructure's (ground asset) centres should be located inside the EU. A centre located outside of the EU would be subject to a hosting agreement in accordance with Article 218 of the Treaty on the Functioning for the EU (TFEU). While article 15 of the proposal provides for an implementation model based on contracts, including a concession contract, article 16 establishes that the EU must be the owner of all tangible and intangible assets corresponding to the governmental infrastructure.

**Contributing to cyber resilience and operational cybersecurity, including by integrating the EuroQCI's space and ground segments.** Security is a cross-cutting theme in the proposal (as suggested by the inclusion of the adjective 'secure' in its title). Given the proposal's objective of ensuring the availability of worldwide uninterrupted communication services, there are two security aspects at stake. First, the security of the infrastructure as a whole (space and ground segments). Chapter VI (articles 26 to 35) mirrors the security framework enshrined in Article 33 of Regulation (EU) 2021/696. Second, the security of the provision of governmental communications services, which is specifically addressed through several rules.

**Improving the EU space programme's other capabilities and services.** The programme is structured around five components, delivering also positioning and timing data (Galileo), earth observation data (Copernicus), and satellite communication capacities and services. The GOVSATCOM component pools these capacities and services, and provides them free of charge for governmental and institutional users. The proposal includes several rules to ensure the linkage with the services established under the EU space programme. Article 7 (definition of services portfolio) specifies that operational requirements for governmental services should take into account those laid down under the GOVSATCOM component services. Article 8 (governmental services) states that the access to governmental services is free of charge, ensuring the alignment with GOVSATCOM.

**Encouraging the deployment of innovative technologies by leveraging the 'new space' industry.** The proposal entails the building of space and ground infrastructure, the modularity of which, as presented above, allows for the provision of governmental and commercial services. The proposal supports the space industry under both the development and operation of the secure connectivity system. Article 6 (actions in support of an innovative and competitive EU space sector) lays down a general obligation to support an innovative and competitive space sector in the EU. It sets out specific support for the participation of SMEs in constructing the infrastructure, and overarching support for the participation of women innovators – also to be achieved through establishing equality and inclusion goals. Article 5 (infrastructure of the secure connectivity system) mentions in its paragraph 5 specific support for the EU space launch sector. Article 7 (definition of services portfolio) includes a specific set of obligations regarding the commercial services to be

provided with the infrastructure. More specifically, adequate safeguards will prevent distortions of competition to avoid any conflict of interest, undue discrimination, and any other hidden indirect advantages to the contractor.

**Ensuring high-speed broadband and seamless connectivity throughout the EU, removing communication dead zones, and enabling connectivity over geographical areas of strategic interest.** The objective of providing high-speed broadband throughout the EU is set out in article 3 (programme objectives). It includes the obligation to ensure the long-term availability of worldwide uninterrupted access to secure and cost-effective satellite communication services, and also applies to commercial services. The provision of worldwide access allows for areas outside of Europe, such as the Arctic and Africa, to be covered. Chapter VII (articles 36 and 37) on international relations provides the legal basis for the association of third countries to the programme according to Article 218 TFEU, and for the use of the governmental services by third countries and international organisations, under the same Treaty rule. Recital 60 notes that international partners, their governments and citizens will be recipients of the programme's array of services, with accrued benefits to the international cooperation of the EU and its Member States with these partners.

Chapter III (articles 11 to 14) on budgetary contribution and mechanisms sets out the programme **budget and governance**. Article 11 (budget) provides for the commitment of up to €1.65 billion (in current prices) from the MFF for the period from 1 January 2023 to 31 December 2027: €1.0 billion from Heading 1; €0.5 billion from Heading 5 and €0.15 billion from Heading 6. The proposal also allows up to €0.8 billion to be earmarked for investments across other MFF programmes: Horizon Europe (up to €0.43 billion), the EU space programme (up to €0.22 billion) and the Neighbourhood, Development and International Cooperation Instrument (up to €0.15 billion). Programme governance is set out in Chapter V (articles 21 to 25). It defines the roles of Member States, the Commission, EUSPA and ESA. Overall responsibility for implementation lies with the Commission, which may entrust EUSPA and ESA with tasks under indirect management. Chapter VIII on programming, monitoring, evaluation and control (articles 38 to 41) notably states that the Commission must evaluate the programme three years after the regulation's entry into force, and every four years after that.

## Advisory committees

The European Economic and Social Committee adopted two opinions on the subject in 2022: one on the [space package](#) (rapporteur J. P. Coulon, Workers – Group II, France), and another on '[new space](#)' (rapporteur Maurizio Menzi, Diversity Europe – Group III, Italy).

## National parliaments

The national parliaments were consulted on this proposal; five reasoned opinions were received. On 13 April 2022, the Czech Chamber of Deputies adopted a resolution supporting the initiative and stressing the need to explore the possibility for earmarking Czech government funds in support of the programme, given that it contributes to the Member States' national security. On 11 May 2022, the Czech Senate adopted a statement stressing the positive contribution of the programme to EU resilience and highlighting in particular its interest in ensuring connectivity in rural areas. On 9 August 2022, the French Senate adopted a resolution calling for the swift adoption and implementation of the initiative and for European launchers and spaceports to be given clear preference. The French Senate also called on the Commission to keep the European Parliament and national parliaments regularly informed on the state of implementation of the public-private partnership. On 8 July 2022, the German Federal Council adopted a statement stressing the opportunities for new business across the space sectors, from satellite technologies, to innovation solutions underpinned by satellite data. It also identified the need to address the question of frequencies as part of the preparations for the world radio communication conference in 2023. On 28 April 2022, the Spanish General Courts adopted a report on the proposal, highlighting key past EU investments incorporated in the proposal, such as EuroQCI, launched with Horizon 2020 support.

It also stressed the contribution of the programme to several EU political priorities such as the digital transition and EU resilience and security.

## Stakeholder views<sup>7</sup>

Following the adoption of the Commission proposal, stakeholders have generally reiterated support for the initiative, conveying their views on specific rules in more detail. For instance, in a March 2022 [paper](#), ASD Eurospace, for the European space manufacturing industry, reaffirms its overall appraisal of the initiative. It stresses, in particular, the relevance of an EU space-based secure communication system, to support the EU industrial and scientific sectors' competitive edge, and the EU's capacity to act in space, which is part of EU strategic autonomy. As for the proposal, ASD Eurospace raises concerns about the scope of the definition of 'new space' (article 2), which includes only SMEs and start-ups in its current version. On September 2022, ASD Eurospace published a position [paper](#) on how to mitigate the consequences of inflation on costs across the EU space supply chain. It estimates the expected overall impact of inflation to the contracts to be implemented in 2023, in a range of €500 to €750 million (in terms of increased costs). ASD suggests for example that contracts should be indexed on inflation levels and increasing prices on specific supplies.

More broadly, other stakeholders also referred to the linkages between EU space investments and other policy priorities, such as sustainability and education.

As for sustainability, it is worth mentioning that the initiative was tabled back to back with a communication on space traffic management. In 2021, following an initiative by the World Economic Forum, an international consortium including ESA developed a [space sustainability rating](#) intended to influence the behaviours of spaceflight actors, especially commercial entities, and disseminate sustainable practices. Other stakeholders have pointed to the contribution of space investment to the association and dissemination of key emerging technologies, such as artificial intelligence, machine learning, additive manufacturing, blockchain or quantum. In a March 2022 [paper](#) on space education in Europe, the European Space Policy Institute (ESPI) highlights the links between the space sector and other technological and scientific fields. The growing interactions between space and other areas, including fields such as policy, business, and law, call for the integration of new competences in space study programmes. According to ESPI, this includes not only higher education, but also professional training programmes, which are increasingly necessary to prepare the workforce for addressing emerging trends, and attracting new professional profiles to the space sector.

## Legislative process

The file was assigned to the European Parliament's Committee on Industry, Research and Energy (ITRE), which appointed Christophe Grudler (Renew Europe, France) as rapporteur. The [draft report](#) was published on 30 May 2022, and ITRE members submitted 418 amendments. The Council adopted its negotiating position on 29 June 2022. The ITRE committee adopted the report, and the decision to open interinstitutional negotiations, on 13 October 2022. On 19 October, the plenary confirmed this decision. Parliament is hoping to see the swift implementation of the programme, and its openness to European spatial ecosystems across the EU, to support all actors including small and medium-sized businesses.

## Parliament's position

The European Parliament position seeks to clarify the programme objectives and its implementing model (including funding); to optimise the impact of the programme for the EU as a whole; to enhance the contribution of the initiative to the EU's overarching political priorities, the twin digital and green transition and EU strategic autonomy. The main effort of clarification focuses on article 3 (programme objectives), article 4 (implementation activities of the programme), and on article 11 (budget) and article 13 (contributions to the programme).



Regarding the programme objectives laid down in article 3(1), the report specifies that the programme is to establish a multiservice space based system, which is to integrate and complement the capacities structure developed for the purposes of GOVSATCOM. This clarification is complemented by two further additions: first on the positive impact of the programme as a whole on the technological sovereignty of the Union (article 3(1)(a)), and second on the possibility for governmental users to use the commercial infrastructure to develop Union high-speed connectivity further. The report makes two clarifications on article 4 implementation activities: article 4(1)(a) is amended to allow for deployment of the space and ground infrastructure requested for the governmental services by 2024, whilst the first governmental services should be provided six months following this deployment. Article 4(1)(c) is modified to determine the full operational capability of the governmental services' underlying infrastructure by 2027.

The financial settings are clarified under article 11 and article 13. The report increases the EU contribution from €1.6 billion to €1.75 billion and specifies that it should be drawn either from the unallocated margins of the 2021-2027 MFF or through the non-thematic MFF special instruments (article 11(1)). It cancels the Neighbourhood, Development and International Cooperation Instrument contribution, and limits that from the Union Space programme to its GOVSATCOM component (article 11(2)). Beyond the budgetary arrangements under the MFF, the report extends the scope of the financial and/or in-kind contributions to the programme to the private sector (article 13). The report provides for a more targeted definition in article 13 of possible additional financial contributions from ESA to those in support of development and validation of the contracts awarded pursuant to article 15.

A set of amendments aims at optimising the impacts of the programme objectives and activities across the EU. An amendment to article 6 obliges the Commission to maximise the integration of new entrants, start-ups and SMEs, including through the establishment of specific quotas (article 6(2)). This new obligation is accompanied by a new specific principle of procurement, requiring a minimum number of economic operators, established in different Member States where appropriate (article 17(2)a). Amended article 18 on subcontracting creates an obligation to subcontract not less than 30% of the value of the contracts above €10 million to companies outside the group of the main tenderer, to facilitate cross-border SME activities in the space ecosystem (article 18(1)(a)). The report also aims to ensure the widest Member State participation. Under article 5 on the infrastructure, a best-effort obligation is set to achieve geographical balance in determining the location of the centres comprising the ground governmental infrastructure (article 5(3)).

The contribution of the secure connectivity programme to the twin transition, and EU strategic autonomy is emphasised across the text. With a new article 6a on environmental and space sustainability, the report aims at ensuring the sustainability of terrestrial and orbit programme activities. Five criteria apply to all the programme activities:

- minimisation of greenhouse gas emissions; offsetting the remaining emissions,
- reduction of visible and invisible radiation hampering research and observation,
- use of appropriate collision avoidance technologies, and
- design and implementation of a comprehensive debris mitigation plan (article 6a(2)).

As for the digital dimension of the twin transition, the report has strengthened several specific objectives laid down under article 3(2), aiming for innovative services at EU level, such as the inclusion of the development and integration of the space and ground segment of EuroQCI, which will allow for the creation of an EU quantum communication infrastructure (article 3(2)(b)(a)).

Regarding strategic autonomy, the report includes new provisions to reinforce EU preparedness and resilience in space and through space-based connectivity. On preparedness, the report provides specific obligations to ensure the technological and other framework conditions to harness the full potential of the activities and the infrastructure. While article 3(1) mentioned above includes technological sovereignty under the general objective of the programme, as well as the need to

avoid excessive reliance on non-EU based solutions, article 6 includes the obligation to set specific measures to promote the development and production in the Union of reception antennae and user terminals (article 6(2)(c)(b)). The report complements this technological agenda, with broader framework conditions, such as the development of skills in space-related fields (article 6(2)(d)(a)). On resilience, the implementation model established under article 15 is amended to strengthen the safeguards of the Union's essential interests. The report introduces the principle of diversification of products, components and services supplies into the procurement framework to ensure continuity of operations, (article 17(2)(d)(a)). The report further introduces a specific objective to increase the cyber-resilience of the Union, passive and reactive cyberprotection and operational cybersecurity (article 3(2)(b)).

The report also provides specifications on the role of the EU space agency in the governance scheme. This includes:

- an additional own task consisting of ensuring the operational security of the governmental infrastructure (article 24(1)(b),
- upgrade of the optional delegated tasks to mandatory delegated ones (article 24(2)), and
- creation of an open category of additional delegated tasks (article 24(2)(a)).

Evaluation and review of the programme should also include the option for the integration of the programme in the future EU space programme (article 39(3)).

## The Council of the European Union

On 29 June 2022, the Council's Permanent Representatives Committee (Coreper) agreed the Council's negotiating mandate for negotiations on the proposal with the European Parliament. The mandate includes amendments, concerning in particular the provisions on:

- **programme objectives:** in article 3(1), the Council further details the general objectives, notably to point out that the provision of access to satellite governmental communication services should be autonomous. It also includes the possibility for additional services to be offered to governmental users based on the commercial infrastructure;
- **service portfolio:** in article 7(1), the Council stipulates that the governmental services should be complementary to the relevant GOVSATCOM services referred to in the future EU space regulation. They should at least encompass robust worldwide low-latency service or robust space data relay, and quantum communication services;
- **implementation model:** in article 4, renamed by the Council as Programme activities, whilst the substance and timetable of such activities are kept, they are qualified as 'phased', and re-enumerated consequently. In article 15 on the Implementation model, the Council introduces a new obligation for the Commission: to ensure that the procurement approach allows for the widest competition possible. The Council also puts in place competition safeguards, consisting notably of establishing accounting and legal separation between the operators in charge of providing governmental services and those in charge of providing commercial services;
- **governance:** in article 22(1) on the role of the Member States, the Council specifies that the contributions mentioned are to be considered additional to the programme. In article 22(3), the Council introduces another obligation for the Member States: to aim at achieving interoperability between the relevant activities under their recovery and resilience plans and the programme. The newly introduced article 22(7) allows the Commission to entrust specific tasks to Member State organisations. In article 24 on the role of EUSPA, the Council specifies that the provision of the governmental services should be ensured in particular through the GOVSATCOM hubs. In article 25

on the role of ESA, the Council includes the tasks related to the space and related ground segment of the EuroQCI among those to be entrusted by the EU to ESA;

- **budget:** In article 11(2), the Council keeps the complementary funding of €800 million from Horizon Europe, the EU Space programme and the Neighbourhood Development and International Cooperation Instrument (NDICI), however cancelling the breakdown among those three EU funds.

## Outcome of the trilogue negotiations

Two trilogue meetings were held, on 27 October 2022 and 17 November 2022. A provisional political agreement was found during the second meeting. The programme's two general objectives (article 3(1)) are maintained, with a reformulation of the second to ensure competition safeguards in the 'provision of commercial services offered to governmental users based on commercial infrastructure at market conditions by the private sector'. The discussion centred on four main issues:

- **budget:** Parliament's negotiators paid particular attention to the allocation of appropriate commitments, evident in the agreed text. Article 13(1) includes a budget increase to €1.65 billion from 2023 to 2027. Article 13(2) provides an additional €0.75 billion for specific earmarking in Horizon Europe (cluster 4, digital-industry-space), the Union Space programme (GOVSATCOM component), and the Neighbourhood, Development and International Cooperation instrument. Beyond financial commitments, article 15 allows for in-kind contribution from EU agencies and bodies, Member States, international organisations and third countries participating in the programme.
- **governance:** Chapter V on governance (articles 24-28) allows for the distribution of tasks between the Member States, the Commission and ESA. Article 26 ascribes the overall responsibility for implementation, including security, to the Commission and for informing the Parliament of any procurement procedures. Article 27 entrusts ESA with six tasks, including operational management of the infrastructure, provision of the governmental services, and management of the contracts necessary to implement the programme. Article 28 entrusts ESA with five tasks, mainly the supervision of the development, validation and deployment of the space and ground infrastructure. Member States should ensure the interoperability of their capacities, funded through their respective recovery and resilience plans (article 25). The framework for third-country participation in the programme, and/or the use of governmental services, and/or international cooperation is unchanged.
- **sustainability:** the new article 8 on environmental and space sustainability includes the five criteria included in the Parliament's report and mentioned above. It also entrusts the Commission with the design and operation of a comprehensive database of the programme's space assets. The Commission shall adopt a delegated act to specify the characteristics and processes of the database (article 46).
- **support for EU space ecosystems and innovation:** the new article 7 on the actions in support of an innovative and competitive Union space ecosystem, bundles the schemes to promote maximum participation of new entrants across the whole EU, through specific mandatory criteria for procurement. It also includes similar criteria to accelerate gender equality in the EU space sector, as well as directionality for the research and innovation investments to be funded through Horizon Europe (see the point on budget).

## EUROPEAN PARLIAMENT SUPPORTING ANALYSIS

Evroux C., [EU space policy: Boosting EU competitiveness and accelerating the twin ecological and digital transition](#), EPRS, European Parliament, February 2022.

[The European space sector as an enabler of EU strategic autonomy](#), Policy Department for External Policies, European Parliament, December 2020.

## OTHER SOURCES

[Union secure connectivity programme for the period 2023-2027](#), Legislative Observatory (OEIL), European Parliament.

## ENDNOTES

- <sup>1</sup> A [medium](#) earth orbit satellite is an earth-orbiting satellite located at a lower altitude than a geostationary satellite, usually occupying the space between 5 000 and 12 000 km. A [low](#) earth orbit satellite is an earth-orbiting satellite located at an altitude comprised between 800 and 1 600 km above the surface.
- <sup>2</sup> Belgium, Germany, Estonia, Greece, Spain, France, Italy, Latvia, Lithuania, Luxembourg, Austria, Poland, Portugal, Sweden and the United Kingdom (until 31 December 2020).
- <sup>3</sup> A [gravimeter](#) is an instrument measuring variations in the earth's gravitational field by detecting differences in weight of an object of constant mass at different points on the earth's surface.
- <sup>4</sup> A [geostationary satellite](#) is an earth-orbiting satellite located at an altitude of approximately 35 800 km over the equator that revolves in the same direction the earth rotates (west to east).
- <sup>5</sup> In 2013, according to [ESA](#), only five Member States were operating such an infrastructure (Germany, Spain, France, Italy and the United Kingdom). Since then, other Member States have been investing and launching similar infrastructure, such as [Belgium](#) and [Luxembourg](#).
- <sup>6</sup> Airbus, Arianespace, Eutelsat, Hispasat, OHB, Orange, SES, Telespazio and Thales Alenia Space.
- <sup>7</sup> This section aims to provide a flavour of the debate and is not intended to be an exhaustive account of all different views on the proposal. Additional information can be found in related publications listed under 'European Parliament supporting analysis'.

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[eprs@ep.europa.eu](mailto:eprs@ep.europa.eu) (contact)

[www.eprs.ep.parl.union.eu](http://www.eprs.ep.parl.union.eu) (intranet)

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