



OPINION

European Economic and Social Committee

Space package

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

and the

Joint Communication to the European Parliament and the Council: An EU Approach for
Space Traffic Management – An EU contribution addressing a global challenge

[COM(2022) 57 final – 2022/0039 (COD); JOIN(2022) 4 final]

TEN/775

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Section responsible	Transport, Energy, Infrastructure and the Information Society
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1. Conclusions and recommendations

- 1.1 The EESC considers that the communication and the proposal, which mark the beginning of the development of a European space package, are necessary and crucial at this moment in time. It recommends that the joint communication, through active diplomacy, should strongly promote multilateral governance of space traffic within the UN framework, particularly within the Committee on the Peaceful Uses of Outer Space (COPUOS) and the Conference on Disarmament, since we do not have enough rules on this subject.
- 1.2 The highest priority – management of space traffic, including debris – requires that all actors are taken into account at European level. As stated in the joint communication, and as this opinion shows, the main problem concerning the patchwork of space traffic management (STM) programmes is the lack of international standardisation. It is therefore clear that standards, guidelines and international best practices need to be developed.
- 1.3 The EESC calls for the practical implementation of a space situational awareness system to ensure the long-term sustainability of space for all Member States.

Indeed, the second key principle of space law is the responsibility of various actors for their space activities. This principle consists of an international responsibility for monitoring activities, and liability for damages caused by these activities in outer space. The joint communication frames itself in the context of international responsibility for the monitoring of activities.

- 1.4 The EESC regrets the lack of international standardisation and recommends the adoption of standards, including for the management of satellite debris, and guidelines at European level involving organised civil society.

The struggle between actors in the space sector, until now mainly state actors, and those who aspire to become major actors (public or private) calls for a thorough reform of the international standards that were adopted when space was a matter for a limited group of technological and industrial powers.

- 1.5 As highlighted in supplementary opinion CCMI/196 on *New Space*:
 - synergies should be developed with the European Defence Fund, increasing interactions between the civil, space and defence industries;
 - the Horizon Europe framework programme should be used to stimulate the space market, supporting the creation of innovative commercial solutions for the EU downstream and upstream space sectors and accelerating the availability of the key technologies needed;
 - education and training activities are key for the development of advanced skills in space-related fields, while the experience gained during previous constellation projects such as Galileo and Copernicus could be used to improve the space-based connectivity system;
 - as for governance, assigning responsibilities to the best actors on the basis of demonstrated competence, in compliance with the rules on public procurement, would ensure effective programme delivery while fostering the emergence of New Space;

- moreover, encouraging scientific and technical progress is at the basis of competitiveness and innovation capacity, for the benefit of SMEs, start-ups and innovative businesses.

2. Background

- 2.1 In many respects, space is now an additional economic territory. The acceleration of public and private investment is leading to an increase in space activities, and is transforming space into a major geo-strategic issue. Technological competition, the development of start-ups dedicated to the space sector, the opening of new markets and services and the willingness of States and private operators to strengthen in-orbit activities mean that space is being used more and more.
- 2.2 Despite the strategic magnitude of space, there is no overarching authority or any binding laws applicable to low and geostationary orbits, and there is no space traffic regulation or management system, despite an increase in the number of satellites in orbit.
- 2.3 Currently, the management of space traffic relies solely on voluntary and non-binding good practices that are not always well managed or applied, and that aim to reduce the statistical risks of collision between satellites and debris. According to these practices, debris in orbit should not be produced intentionally, satellites should be "passivated" at the end of their lives by using leftover fuel, the "25-year rule" for satellites in low orbit (satellites at the end of their operational life must re-enter Earth's atmosphere within 25 years) should be complied with, and unused geostationary satellites should be placed in "graveyard orbit". However, these rules are no longer sufficient for reducing collision risks.
- 2.4 In addition to this, new operational concepts are emerging such as Space Surveillance and Tracking (SST), Space Traffic Coordination (STC), and Space Traffic Coordination and Management (STCM)¹.
- 2.5 Proper legislation on space activities and satellite traffic to ensure the long-term sustainability of space is urgent as well as strategic, as is the use of artificial intelligence to avoid collision risks.
- 2.6 At the start of the year, the European Commission launched the *Spaceways* project, the aim of which is to design a Space Traffic Management system in order to "adopt a highway code and [to] determine the conditions under which licences and flight permits could be issued".
- 2.7 The aim of the *Spaceways* projects and the EUSTM, which was launched in January 2021, is to provide, by June and August 2022 respectively, recommendations and guidelines to the European Commission on "Space Traffic Management, as well as a policy, legal and economic assessment of this domain, finally leading to recommendations and guidelines"².

¹ [JOIN\(2022\) 4 final](#).

² The *Spaceways* project, funded by the European Union's Framework Programme for Research and Innovation 'Horizon 2020', comprises [13 major European operators](#): satellite manufacturers and launchers, operators and service providers, and policy and legal research centres and institutes.
The EUSTM comprises [20 major European operators](#).

- 2.8 The Joint Communication from the Commission and the High Representative recognises the need for an EU approach and provides for regular consultation, discussions and dialogues with all relevant civil and military stakeholders in the EU in the field of transport, in particular aviation and the European space industry, while taking into account defence and security needs, with the support of the European Defence Agency. The EESC would like the whole social community, and not just industry, to take part in this process.
- 2.9 The communication envisages using the EU SST consortium³ to develop the operational capacity essential for future EU Space Traffic Management. This involves improving its performance, developing space surveillance and tracking (SST) services and new technologies using artificial intelligence and quantum technologies, supporting debris reduction and in-orbit servicing operations, and establishing funding synergies between the EU, national funds, the European Space Agency (ESA), Horizon Europe and the European Defence Industrial Development Programme (EDIDP).
- 2.10 Enhancing space coverage outside the European continent is a key point of the Union Secure Connectivity Programme for the period 2023-2027. The EU will have to rely in particular on the United Nations Office for Outer Space Affairs (UNOOSA), as well as national bodies to draft standards applicable to the management of space territory, while encouraging the development of common standards within a dedicated forum, and to promote an integrated approach within international standardisation organisations.
- 2.11 The ambitions set out require, in the short term, that the industry undertakes certain obligations, and, in the medium term, that the Member States draw up a legislative proposal to address the fragmentation of national approaches and avoid distortions of competition with operators established outside the EU, by imposing the principle of equal treatment for operators. Non-binding measures, such as guidelines, are also envisaged.

The legislative proposal would be the first step; European organisations must then adopt technical requirements, such as universally applicable standards or guidelines.

- 2.12 The communication states that the EU will favour a multilateral approach in the framework of the United Nations, by fostering the discussion with the Committee on the Peaceful Use of Outer Space (COPUOS) and the Conference of Disarmament. Given that the future of humanity is at stake, the EU must therefore identify the relevant UN bodies to carry out these activities, including the International Civil Aviation Organization (ICAO).

The communication envisages a bottom-up method, starting with national and regional contributions, by seeking a consensus on the rules and standards described; regional components will then form part of the global management, the governance of which still needs to be determined.

³ France, Germany, Italy, Poland, Portugal, Romania and Spain.

3. **General comments**

- 3.1 The Commission's communication assesses space traffic management needs and proposes a European approach to the use, including civil use, of space, applicable at global level. The development of space activities, the higher number and variety of actors involved in the exploitation of outer space, as well the dependence of all sectors of activities on satellite technologies and services, have led to the gradual overexploitation of orbits and saturation of the frequency spectrum, which is in need of rationalisation.
- 3.2 Under international law (International Telecommunication Union – ITU), earth orbits are considered limited natural resources. The principles of freedom and non-appropriation that govern the use of earth orbits are facing frequency allocation requests and the proliferation of satellite systems from countries and businesses that sometimes disregard ITU rules.
- 3.3 The struggle between actors in the space sector, until now mainly state actors, and those who aspire to become actors in this sector, including private actors, calls for a thorough reform of international standards that were adopted when space was a matter for a limited group of technological and industrial powers.
- 3.4 In addition to legal issues, the use of space territory takes place in a context marked by the return of international geopolitical tension, as recently shown; this is the case in particular for co-orbital operations of intimidation, demonstrations of technological one-upmanship and anti-satellite weapons testing, which have created an atmosphere of mistrust among countries.
- 3.5 The challenges posed by orbit and frequency spectrum saturation, as well as the threat posed by the increase in space debris, have led the Member States, the ESA and the EU SST consortium⁴ to consider better coordination of surveillance tools and technologies. The EESC calls for strict regulations in the face of an increasing number of private constellations and possible no-go zones.
- 3.6 The joint communication highlights the careful relaunching of the international dialogue in favour of a code of conduct and measures, including legislative ones, designed to ensure the sustainable use of outer space.

Legal and political considerations

- 3.7 The EESC supports the operational objectives set out in the communication and the proposal for a Regulation, and wishes to draw attention to some legal and political considerations that cannot be overlooked, given the issues at stake.
- 3.8 The concept of "space law" is not easy to define. No consensus has been reached on the delimitation of space; however, it is recognised that space law is characterised in particular by its guiding principles.

⁴ <https://www.eusst.eu>.

3.9 While main principles have been adopted following five international treaties and eight international resolutions⁵, the issue of defining space law is still up in the air, since concerns at the start of space exploration had mostly been about preventing leading space powers from appropriating celestial bodies, rather than explicitly defining the subject matter of this law.

3.10 The principles of space law were first established by United Nations Resolution 1962 (XVIII) of 13 December 1963, and repeated in the first Outer Space Treaty of 1967.

These principles include:

- the exploration and use of outer space for the benefit of all humankind;
- freedom of use and exploration;
- non-appropriation;
- peaceful use;
- States being responsible for their space activities;
- cooperation and mutual assistance;
- national jurisdiction and control over space objects;
- States being liable for damage;
- astronauts being regarded as the envoys of humankind.

3.11 Two other principles of space law reflect its peaceful objective.

The first is the obligation of cooperation and mutual assistance imposed on all States participating in the exploration and use of outer space. This involves an effective and transparent dialogue between space powers in order to ensure the sustainability and safety of the activities carried out. This dialogue is currently oriented towards the issue of space debris, as reflected in the communication.

3.12 The second key principle of space law is the responsibility of States and new actors for their space activities. This principle consists of an international responsibility for monitoring activities, and liability for damages caused by these activities in outer space. The joint communication seeks to frame itself in the context of international responsibility for the monitoring of activities.

3.13 During the drafting of the main space treaties, the issue of space debris, and the saturation of orbits and frequencies, was not on the agenda; today, however, the dependence of our societies on satellite resources has led to a sharp increase in the launching of objects into space, to the extent that the issue of orbits and frequency distribution has become a real strategic challenge.

3.14 After sixty years of space exploitation, we have therefore witnessed an unprecedented increase in the security challenges concerning orbits. Since the Chinese ASAT test in January 2007, displays of force of various forms have multiplied in space. The issue of the weaponisation of space has also been raised.

⁵ I. Chalaye, *Le statut des orbites terrestres et leur utilisation à la lumière des principes du droit spatial*, Institute for Applied Geopolitical Studies (IEGA), Paris, October 2021.

In international law, this issue is a grey area given that no definition exists yet as to what constitutes a means of attack in space, or what constitutes an attack itself, since methods of attack in space are diverse and varied; these include missile strikes, laser beams, cyberattacks on communication channels, co-orbital manoeuvres, etc.

- 3.15 The geostationary orbit faces a problem of a different kind – frequency congestion and the risk of interference. The geostationary orbit is crucial for ensuring the continuity of telecommunications services for every State in the world. This poses a certain number of legal difficulties since the development of the geostationary orbit has led to the creation of a financial market, and has even given rise to speculation.
- 3.16 In light of the above, the EESC therefore considers that the joint communication, through active diplomacy, should strongly promote multilateral governance of space traffic within the UN framework, particularly within the Committee on the Peaceful Uses of Outer Space (COPUOS) and the Conference on Disarmament, since we do not have enough rules on this subject.

Space Traffic Management – a European governance challenge

- 3.17 Space Traffic Management is not a new concept. Nevertheless, due to the nature and significance of the security, safety and sustainability challenges concerning space activities, Space Traffic Management (STM) has gained an unprecedented level of priority for space actors and States that are aware of their dependence on space assets. However, only countries that have the relevant technological capacities are already equipped with Space Surveillance and Tracking (SST) and Space Situational Awareness (SSA) programmes.
- 3.18 The US Department of Defense is currently using the most advanced system. Its Space Surveillance Network (SSN), which uses earth and space radars, provides the US with a unique detection and identification capacity, which it also uses as a tool of influence among its allies and partners.

Other countries such as Russia, China, Japan, India and some European countries (France, Germany) have also developed space surveillance programmes. Given their strategic function, the vast majority of these programmes are controlled by the military, with the support of space agencies.

In the EU, France, Germany, Italy, Poland, Portugal, Romania and Spain have set up the EU SST consortium to assess, free of charge, the risk of collision in orbit and the risk of uncontrolled re-entry of space debris into the Earth's atmosphere, and detect in-orbit fragmentations. In 2023, the EU SST will become a partnership incorporating more Member States to provide a collision risk assessment service to European and global satellite operators.

Some private companies have also set up their own SST/SSA systems in order to provide commercial data and services.

- 3.19 As stated in the joint communication, and as this opinion shows, the main problem concerning the patchwork of STM programmes is the lack of international standardisation. Yet it is clear that standards, guidelines and international best practices need to be developed.
- 3.20 Global initiatives and decisions on STM could create a challenging environment for Europe and its space actors. US policy has taken the lead by stating that the US must lead way for the rest of the world in developing better space data and situational awareness standards, develop a set of standardised techniques to mitigate collision risks, and promote a range of technical standards, practices and standards on the security of space operations, on an international level.
- 3.21 The EU has addressed the strategic, commercial and geopolitical aspects of Space Traffic Management, which not only involves the sustainability of outer space, but also addresses the future of Europe's independence in terms of its access to and use of space.

European space actors have already developed some policies and initiatives aimed at directly or indirectly addressing concerns about Space Traffic Management. However, Europe's delay in addressing the issue through joint projects has consequences.

- 3.22 Indeed, the future competitiveness of European satellite manufacturing could be jeopardised if companies are forced to use US STM data, or present a licence issued by the US STM, given that they might have it refused. There are also considerable risks for European launch service providers.

Many European actors rely heavily on the data sharing agreements signed with the US in relation to the new 2021 European Space Situational Awareness (SSA) system. These include ministries and armies⁶, European intergovernmental organisations (ESA, EUMETSAT), commercial satellite operators and launch service providers.

- 3.23 In the EESC's view, the EU must adopt provisions aimed at ensuring not only a certified level of performance, but also the long-term availability of space-based services. Moreover, as it strives to implement a credible common security and defence policy, to which space assets provide a key, or even vital, contribution, Europe must meet the strictest requirements in terms of security and safety for governmental users and defence.
- 3.24 The EESC notes that although, in the past, the EU's approach was mainly geared towards the physical protection of space assets – based on a rigid and costly strategy – recent EU initiatives suggest a transition to a more resilience-based approach. The EU is now calling for an anticipatory approach to the security of space infrastructure. To this end, it has launched two major initiatives: the proposal to draw up an international code of conduct for outer space activities and the Space Situational Awareness Programme.

⁶ https://www.esa.int/Safety_Security/SSA_Programme_overview.

- 3.25 Nevertheless, the EESC regrets that there is an initial shortcoming in coordinating the capacities of certain Member States that have their own surveillance and monitoring means. It is currently difficult to agree on the objectives of a European STM programme. The issue of Space Traffic Management is, to a large extent, a perfect example of the challenge in creating real European governance in the space sector, despite the fact that issues concerning the sustainability of space and the security of outer space are common to all Member States either because they deploy space capabilities, or because they use space resources.
- 3.26 These challenges are all barriers to the competitiveness of the European space industry at international level. In the long term, the lack of standards developed by the EU and of compatibility with other standards could compromise freedom of access to space. Having one's own launch capability is not enough. It is also necessary to be able to deploy satellites independently from non-European standards in order to maintain European space competitiveness, as demonstrated by the success, on 22 June 2022, of Ariane 5's first mission of the year, the purpose of which was to launch two satellites into orbit – one Malaysian and one Indian. Moreover, the next phase, Ariane 6, will soon become a reality; it is more flexible and less costly than Ariane 5 (and therefore better placed to compete against the United States' SpaceX) and its first launch is planned for 2023.
- 3.27 In response to this communication, the EESC would like to reiterate:
- its commitment to the civil applications of Galileo in relation to rail, maritime and road transport;
 - its desire for the swift implementation of the critical infrastructure proposed by Commissioner Thierry Breton.
- 3.28 While rules and standards drawn up at national level by certain Member States may prove useful for the development of common provisions, it will nevertheless be imperative for the EU to become the final arbiter for standardisation measures. This means that the EU Member States and the ESA will have to agree on the objectives and principles of European efforts in the area of STM, set up consultation and coordination mechanisms, and establish a clear distinction of roles, the unequivocal sharing of responsibilities and the transparent distribution of activities among the Member States and European stakeholders, without contradicting existing systems in other countries.
- 3.29 In the EESC's view, the joint communication is a late, but nevertheless welcome, acknowledgement of the importance of addressing the multilevel challenges that will arise from an increase in space activities, the lack of a binding framework for which could jeopardise global balance.

Brussels, 21 September 2022

Christa Schweng
The president of the European Economic and Social Committee

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N.B.: The appendix to this document (the Supplementary Opinion of the Consultative Commission on Industrial Change – CCMI/196 – New Space – EESC-2022-01498-00-00-AS-TRA) can be found on the following pages.



CCMI/196
New Space

OPINION

Consultative Commission on Industrial Change

**Space-based secure connectivity and new space:
a European industrial path towards sovereignty and innovation**

(supplementary opinion to TEN/775)

Rapporteur: **Maurizio MENSI**
Co-rapporteur: **Franck UHLIG**

Plenary Assembly decision	22/2/2022
Legal basis	Rule 56(1) of the Rules of Procedure Supplementary opinion
Section responsible	Consultative Commission on Industrial Change
Adopted in section	24/06/2022
Outcome of vote (for/against/abstentions)	21/0/1

1. Conclusions and recommendations

- 1.1 The EESC supports the European Commission initiatives on space-based secure connectivity and "new space" to strengthen the industrial and operational sovereignty of the Member States. Ensuring autonomy is crucial not only for future industrial competitiveness, but also for ensuring strategic non-dependence and resilience¹, as recently shown by the shortage of electronic components, in particular following the COVID-19 crisis and the war in Ukraine, which have severely affected the European space industry.
- 1.2 The EESC believes that secure, accessible and affordable connectivity is not only an essential tool for the functioning of participatory democracy but also a prerequisite for the proper implementation of fundamental rights and an opportunity for increased empowerment of citizens and civil society.
- 1.3 The EESC recognises the importance of space for our economy and society, as well as its strategic relevance from a security and defence perspective, as shown by the Russian-Ukrainian war. Moreover, the physical security and cybersecurity of both ground and space infrastructures, together with the related data, are key to ensuring service continuity and the proper functioning of the systems.
- 1.4 The EESC believes that stimulating the European space ecosystem is key to advancing the twin transitions and tackling major global challenges such as climate change. It also recognises the potential advantages of involving space start-ups and SMEs in EU space programmes, including their contribution to the EU's resilience and strategic autonomy.
- 1.5 The EESC firmly believes that as the governance of a secure and autonomous space-based connectivity system ("the Programme") requires various bodies to work together, an efficient and appropriate degree of coordination has to be guaranteed.
- 1.6 The EESC considers that the Horizon Europe framework programme, already in place, should be used to stimulate the space market, support the creation of innovative commercial solutions for the EU's downstream and upstream space sectors and accelerate the availability of the key technologies needed for the Programme in conjunction with the Euro²QCI and ENTRUSTED³ initiatives. In particular, a European-based system of components, systems and subsystems would require massive, long-term efforts to restore a strong European industry.
- 1.7 The EESC recommends that synergies be developed with the European Defence Fund and through the Commission's action plan on interactions between the civil, space and defence industries.

¹ Europe has the second-largest space industry in the world, which employs over 231 000 professionals and is estimated to be worth EUR 53-62 billion, Study on the "Space Market", European Parliament, November 2021.

² The European Quantum Communication Infrastructure (EuroQCI) Initiative.

³ A research project in the area of secure satellite communications (SatCom) for EU governmental actors. ENTRUSTED: "European Networking for satellite Telecommunication Roadmap for the governmental Users requiring Secure, inTeroperable, innovativE and standardised services".

- 1.8 The EESC believes that in order to ensure the competitiveness of the European space industry, the Commission's initiatives should contribute to the development of advanced skills in space-related fields and should support education and training activities, in order to realise the full potential of Union citizens in that area. This would improve the important social dimension of the Programme.
- 1.9 The EESC stresses the need to take into account all space capabilities for the modernisation of existing space assets (Galileo⁴, Copernicus⁵) as well as for the development of future constellations and services. This will enhance the resilience of the EU's space assets and foster the competitiveness of its industry. Assigning responsibilities on the basis of demonstrated competence should ensure effective programme delivery.
- 1.10 The EESC believes that the EU needs to encourage scientific and technical progress and support the space sector's competitiveness and innovation capacity, in particular with regard to SMEs, start-ups and innovative businesses, thereby stimulating upstream and downstream economic activities. In fact, research and innovation programmes play a fundamental role in increasing the technological capabilities of the Union and its members.

2. **Background to the opinion, including the legislative proposal concerned**

- 2.1 The European Commission's proposal aims to develop a programme for the provision of guaranteed and resilient satellite communications. The Commission is committed to fostering innovation in the space sector and further contributing to the development of a thriving EU "New Space" ecosystem, having included this among the key priorities of its Space Programme. To this end, the Commission has launched the CASSINI initiative⁶. In particular, it would ensure the long-term availability to governmental users of worldwide reliable, secure and cost-effective satellite communications services that support protection of critical infrastructures, surveillance, external actions and crisis management, thereby increasing the resilience of Member States.
- 2.2 The initiative is supposed to benefit from the expertise of the European industrial space industry, both from the well-established industrial players and from the New Space ecosystem. Thus, global satellite connectivity has now become a strategic asset for the security, safety and resilience of the EU and its Member States. The proposal also aims to allow commercial high-speed broadband availability throughout Europe, removing dead zones and ensuring cohesion across Member State territories, and provide connectivity over geographical areas of strategic interest, such as Africa and the Arctic region. After Galileo and Copernicus, the proposed third constellation will rely on three new differentiators: security by design (through the use of new technologies, such as quantum) for sensitive communications (defence), a multi-orbital

⁴ The European global satellite-based navigation system, operational since December 2016, when it started offering services to public authorities, businesses and citizens.

⁵ The European Union's Earth Observation Programme, provider of Earth observation data, which is used for service providers, public authorities and international organisations.

⁶ Competitive Space Start-ups for Innovation is the European Commission's space entrepreneurship initiative whose main objective is to support start-ups and SMEs at different stages of their growth with a set of tools and fundings.

constellation and an architecture based on public-private partnerships (to further boost the commercial dimension).

- 2.3 The proposal is consistent with a number of other EU policies and ongoing legislative initiatives concerning data (such as the Inspire Directive⁷ and the Open Data Directive⁸), cloud computing and cybersecurity. In particular, the provision of governmental services would ensure further cohesion in line with the EU's digital and cybersecurity strategies by ensuring the integrity and resilience of the European infrastructures, networks, communications and data. The proposal will also support the competitiveness and innovation capacity of space sector industries within the Union and greatly contribute to ensuring Europe's autonomous and affordable access to space in the coming years, while having a critical and profound positive impact on the competitiveness of European launchers' exploitation models⁹.
- 2.4 The conclusions of the European Council of 21-22 March 2019 stressed that the Union needs to go further in developing a competitive, secure, inclusive and ethical digital economy with world-class connectivity¹⁰. In particular, the Commission's *action plan on synergies between civil, defence and space industries* of 22 February 2021 states that it aims to 'enable access to high-speed connectivity for everyone in Europe, and provide a resilient connectivity system allowing Europe to remain connected, whatever happens'¹¹.
- 2.5 The Programme would complement the existing EU GOVSATCOM¹² arrangements on pooling and sharing the existing governmental satellite communication capacity. Due to the limited lifespan of a satellite, several of the governmentally-owned infrastructures that will constitute part of the GOVSATCOM pooling and sharing will need to be replenished in the coming decade¹³.

⁷ Directive 2007/2/EC of the European Parliament and of the Council of 14 March 2007 establishing an Infrastructure for Spatial Information in the European Community (INSPIRE), in [OJ L 108, 25.4.2007](#).

⁸ Directive (EU) 2019/1024 of the European Parliament and of the Council of 20 June 2019 on open data and the re-use of public sector information, in [OJ L 172, 26.6.2019](#).

⁹ With 18 satellites currently in orbit and over 30 planned in the next 10-15 years, the EU is also the largest institutional customer for launch services in Europe. Launchers are the second largest area of space-manufacturing activity in Europe after commercial satellites, boosting European industry. The Commission will aggregate the launch service needs of EU programmes and act as a smart customer of European reliable and cost-effective launch solutions. It is crucial that Europe continues to have modern, efficient and flexible launch infrastructure facilities.

¹⁰ Since June 2019, Member States have signed the European Quantum Communication Infrastructure (EuroQCI) Declaration, agreeing to work together, with the Commission and with the support of the ESA, towards developing quantum communication infrastructure that would cover the whole EU.

¹¹ COM(2021) 70 final.

¹² The EU adopted the GOVSATCOM component of regulation (EU) 2021/696 on 28 April 2021 to ensure the long-term availability of reliable, secure and cost-effective satellite communication services for GOVSATCOM users. Regulation (EU) 2021/696 envisages that in a first phase of the GOVSATCOM component until approximately 2025, existing capacity would be used. In that context, the Commission is to procure GOVSATCOM capacities from Member States with national systems and space capacities and from commercial satellite communication or service providers, taking into account the essential security interests of the Union.

¹³ In fact GOVSATCOM is a strategic asset – closely linked to national security – used by most Member States. Public users tend to favour either government-owned (owners of Governmental SATCOM include France, Germany, Greece, Italy, Luxembourg, Spain) or public-private solutions (such as Germany's Satcom BW or Luxembourg's GovSat) or make use of specific accredited private providers. GOVSATCOM was identified as early as 2013 (European Council Conclusions 19/20 December 2013) as a promising field, with the possibility of tangibly contributing to the objectives for a strong, secure and resilient European Union. It is now an integral part of the space strategy for Europe (Space Strategy for Europe COM(2016) 705 final), the European defence action plan (European Defence Action Plan COM(2016) 950 final) and the European Union global strategy.

- 2.6 The increasing hybrid and cyber threat levels and the propensity of natural disasters drive the changing needs of governmental actors towards higher security, reliability and availability of commensurate satellite communication solutions. Furthermore, the rise of quantum computers adds an additional threat, since these computers will be able to decrypt content that is currently encrypted.
- 2.7 There has been an emergence of various public-supported or subsidised non-EU mega-constellations in the US, China and Russia. Coupled with the shortage of available frequency filings and orbital slots and the limited lifetime of GOVSATCOM capacity, this creates an urgency for an EU space-based secure connectivity system. The Programme would cover the capacity and capability gaps for governmental satellite communication services.
- 2.8 The Programme should also allow for the provision of commercial satellite communication services by the private sector. A public-private partnership was assessed in the impact assessment to be the most appropriate implementation model to ensure that the objectives of the Programme could be pursued. It would notably stimulate innovation in all components of the European space industry (large system integrators, independent midcaps, SMEs and start-ups).
- 2.9 As governments, citizens and EU institutions are becoming increasingly dependent on connectivity, their needs require higher security solutions, low latency¹⁴ and higher bandwidth, hence the need to have guaranteed access to resilient solutions through innovative technology, and new industrial trends and approaches. The envisaged system will thus be a technology-setter, as highlighted in the proposal.
- 2.10 In order to be cost-effective and to capitalise on economies of scale, the Programme should optimise the match between the supply and demand of governmental services.
- 2.11 In fact, satellite communications provide ubiquitous coverage, complementary to terrestrial networks. They are increasingly handled as a strategic asset, which highlights the growing global need for governmental services ensuring resilient connectivity not only to support their security operations, but also to connect critical infrastructures, facilitate efficient and effective electronic cross-border or cross-sector interaction between European public administrations, businesses and citizens, contribute to the development of a more effective, simplified and user-friendly e-administration at the national, regional and local administration levels¹⁵, and manage crises, as well as support border and maritime surveillance.
- 2.12 The establishment of the Programme will follow a gradual approach striving for quality. Initial development and deployment could start as of 2023; provision of initial services and in-orbit test of quantum cryptography by 2025; and full deployment with the integrated quantum cryptography allowing full services by 2028. Its total cost is estimated at EUR 6 billion and the funding will come from different sources of the public sector (EU budget, Member States and

¹⁴ Low latency refers to a minimal delay in the processing of computer data over a network connection. The lower the processing latency, the closer it approaches real-time access. A lower latency network connection is one that experiences very short delay times.

¹⁵ Report from the Commission to the European Parliament and the Council. Results of the interim evaluation of the ISA (interoperability solutions for European public administrations) programme, 23 September 2019, COM(2019) 615 final.

ESA contributions) and private sector investments. Regarding the EU funding, it does not undermine the implementation of existing space components of the EU Space Regulation, notably Galileo and Copernicus.

3. **General comments**

- 3.1 The EESC believes that in today's digital world, space-based connectivity is a critical and strategic asset for modern societies. It enables economic power, digital leadership and technological sovereignty, economic competitiveness and societal progress. By giving space actors a more prominent role, the Programme aims to ensure high-quality, secure space-related data and services, which can bring about socio-economic benefits for Europe's citizens and businesses, enhance EU security and autonomy, and strengthen the EU's role as a leader in the space sector, allowing it to compete with other leading space economies, and emerging space-faring nations. Moreover, it is also an important technical tool that allows freedom of speech and free circulation of ideas.
- 3.2 The EESC considers that secure, accessible and affordable connectivity is not only a prerequisite for the functioning of participatory democracy but also a precondition for the resilient implementation of fundamental rights and an opportunity for increased empowerment of citizens and civil society. European citizens are increasingly reliant on space technology, data and services. This involves, in particular, compliance with the rules on the protection of personal data. Moreover, space plays a growing role in the EU's economic growth, security, and geopolitical weight. In this sense, reliable and secure connectivity can be considered a public good for governments and citizens.
- 3.3 The EESC encourages the use of a public-private partnership (PPP) as an appropriate implementation model to ensure that the objectives of the Programme can be pursued. The direct involvement of the private sector creates an environment favourable to the further development of high-speed broadband and seamless connectivity throughout Europe. This is done by removing communication dead zones and ensuring cohesion across Member State territories, as well as providing connectivity over geographical areas of strategic interest.
- 3.4 Through a competitive procurement process, the Commission may conclude a concession contract to deliver the solution required and protect the Union and Member States interests. The involvement of industry through such a concession should allow the private partner to complement the Programme infrastructure with additional capabilities through additional own investments.
- 3.5 In this regard, the EESC underlines that the role of the public sector should be adequately reflected in the future governance of the Programme, with special attention to the security of the infrastructure and careful control of cost, schedule and performance. The Commission will be the programme manager for the establishment and the supervision of the concession. The EU agency of the Space Programme will be entrusted with the provision of the governmental services, and the European Space Agency will be entrusted with the supervision of the development and validation activities. The EESC believes that SMEs are also crucial to innovation and the ecosystem in the emerging new space economy. As such, the development of

SME space services should be actively encouraged, as well as their procurement by public authorities and the private sector alike. This would help to create jobs, improve technological skills and boost Europe's competitiveness, which are increasingly important for the EU's twin transitions to a sustainable and digital economy. This would ensure effective and transparent competition, reinforcing the technological autonomy of the EU, through specific requirements related to security, service continuity and reliability.

- 3.6 The EESC believes that in the procurement procedure, specific criteria for the award of the concession should be elaborated, ensuring the participation of start-ups and SMEs along the whole value chain of the concession, thereby incentivising the development of innovative and disruptive technologies. Where the employment of non-EU suppliers could raise issues from a security and strategic point of view, suitable participation rules should be put in place.
- 3.7 The EESC believes that SMEs should be encouraged to take advantage of the multiple financing tools at the EU's disposal to invigorate the space ecosystem, as this would help to create jobs, improve technological skills, and boost Europe's industrial competitiveness.

4. **Specific comments**

- 4.1 The EESC believes that the strategic sovereignty of the EU and the Member States is mainly based on the technological autonomy and capability of the European industry and the security of satellite communications, especially in a context of growing geopolitical tensions. The EESC therefore strongly supports initiatives to strengthen the industrial and technological sovereignty of the EU Member States.
- 4.2 The EESC supports the proposal and considers the potential synergies between governmental activities and commercial civil activities as an important opportunity from an economical point, also for the additional services offered to European citizens, in the context of a worldwide increase of public and private investments in space activities.
- 4.3 The EESC underlines the importance of supporting the competitiveness and innovation capacity of space sector industries within the Union. This will greatly contribute to ensuring Europe's autonomous and affordable access to space in the coming years, while having a critical and profound positive impact on the competitiveness of European launchers' exploitation models.
- 4.4 The EESC underlines that the Programme should allow telecommunication operators to benefit from the increased capacity and reliable and secure services. In addition, the commercial dimension would allow retail services to reach more private users across the entire EU.
- 4.5 As for the governance of the Programme (Chapter V of the proposed regulation), it is clear that the main roles in the Programme will be played by four main actors, namely the Commission, the European Union Agency for the Space Programme ("the Agency"), the Member States, and the European Space Agency (ESA).
- 4.6 In this regard, the EESC firmly believes that it is imperative to have a clear division of tasks, roles and responsibilities, together with proper coordination of the various actors, for the proper

functioning of the Programme. Therefore, a precise allocation of responsibilities, on the basis of their demonstrated competence, should also ensure the efficient execution of the Programme in terms of costs and deadlines. Efficient space traffic management is also essential to improve safety, given the increasing amount of debris in space.

- 4.7 The EESC underlines that cybersecurity of both ground and space infrastructures is key to ensuring the systems operation and resilience.
- 4.8 The EESC highlights that in order to ensure the competitiveness of the European space industry, the Programme should contribute to the development of advanced skills in space-related fields and support education and training activities, promoting equal opportunities, gender equality and women's empowerment, in order to realise the full potential of Union citizens in that area.
- 4.9 The EESC underlines that establishing and upgrading the infrastructures may involve many industrial players in several countries, whose work has to be coordinated effectively in order to develop systems which are reliable and fully integrated, with particular reference to security and cybersecurity.

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