



European Economic and Social Committee

INT/861
European Space Programme

OPINION

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Proposal for a Regulation of the European Parliament and of the Council establishing the space programme of the Union and the European Union Agency for the Space Programme and repealing Regulations (EU) No 912/2010, (EU) No 1285/2013, (EU) No 377/2014 and Decision 541/2014/EU

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Consultation	European Commission, 12/07/2018 Council, 13/07/2018
Legal basis	Article 304 TFEU
Section responsible	Section for the Single Market, Production and Consumption
Adopted in section	02/10/2018
Adopted at plenary	17/10/2018
Plenary session No	538
Outcome of vote (for/against/abstentions)	189/3/2

1. **Conclusions and recommendations**

- 1.1 The European Union can boast a number of major success stories in the space sector. Through its space programmes it contributes to addressing certain major global challenges, including those relating to climate change, security and improving citizens' daily living conditions, while retaining its sovereignty and its strategic independence vis-à-vis other space powers.
- 1.2 The EESC supports the EU in its complementary efforts to remain a major independent space power. It agrees with it acquiring financial resources commensurate with its ambitions, in particular a "prime reference amount" of EUR 16 billion, which the EESC views as a minimum financial envelope. The EESC reiterates its call for new financing opportunities to be found, together with the European Investment Bank, to support space-related research, design and manufacturing projects by private companies, SMEs and start-ups.
- 1.3 As regards the specific objectives of the European space programme, the EESC welcomes the fact that, alongside the programme's continuously evolving flagships (Galileo and Copernicus), the EU is giving "space surveillance and tracking" more autonomy and powers so as to protect space infrastructure from the risk of the huge amount of space debris that is orbiting around the Earth. It also welcomes the new initiative relating to the Govsatcom system, which responds to the need for secure European satellite communications.
- 1.4 The EESC notes, however, that the EU remains very low-key in terms of its communication with citizens on the benefits of EU space activities for society and the economy. It proposes an appropriate campaign, so that citizens realise the added value of European space activities, which have become indispensable to their daily lives, boosting jobs, growth and investment, and which are an asset for their safety.
- 1.5 Moreover, we are very far from making the most of the benefits that space offers for the European economy. The potential of the Earth Observation Programme, and of harnessing the vast amount of data it produces, is largely under-utilised. The EESC calls for an information and awareness-raising initiative to be launched for potential beneficiaries, especially in the maritime and agricultural sectors.
- 1.6 Internationally, the European space sector is subject to fierce competition, given that space activities are becoming increasingly commercial with greater private sector participation on the market outside the EU. Consequently, it will be absolutely necessary to boost the importance of the single market and apply a principle of "European preference" in the space sector.
- 1.7 Europe needs competitive launchers suited to commercial and institutional markets if it wants to maintain its independent access to space in the face of a growing number of launchers and strong competition. The EESC encourages the Commission to explore ways to support European research and launch infrastructure.

1.8 The EESC considers that the futuristic project of extracting and retrieving natural resources outside the earth's orbit (space mining), an area in which one Member State has positioned itself as a pioneer, calls for the EU to follow developments more closely, in order to maintain clear European added value.

2. Introduction

2.1 Since the 1990s, the EU has been developing a space policy oriented towards independence from other space powers, in particular through the development of programmes and applications in key industrial sectors such as communications, security, emergency services, navigation systems, information, event broadcasting, climate change, weather forecasting, etc.

2.2 With the support of the European Space Agency (ESA), the EU now has a major network of satellites and its own access to space, via French Guiana, using European launchers. ESA Member States¹, in turn, have their own space agencies and programmes, research centres, ground facilities and substantial industrial capabilities. In general, they are the source of space initiatives which are then taken up in the framework of the EU or ESA.

2.3 EU action involves, in particular, designing, fully financing and operating the following space programmes, for which it bears overall responsibility for implementing, including in the area of security:

- **Galileo** is the first highly accurate global satellite navigation and positioning system, specially designed for civilian purposes, provided free of charge to users;
- **Copernicus** provides Earth observation data covering six areas: monitoring of land, the marine environment, the atmosphere and climate change as well as emergency management and security;
- **EGNOS** is a pan-European system of three satellites which improves the quality of the open signals emitted by existing global satellite navigation systems and provides more accurate geolocation data;
- **SST** (space surveillance and tracking) is a space monitoring system used to track the 780 000 items of space debris in orbit around the Earth;
- **Govsatcom** is a governmental (civil and military) satellite communications system, recognised as one of the elements of the Global Strategy for the Union's Foreign and Security Policy.

¹ ESA has 22 Member States. The national bodies responsible for space in the following countries have a seat on ESA's governing Council: Austria, Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, the Netherlands, Norway, Poland, Portugal, Romania, Spain, Sweden, Switzerland and the United Kingdom. Canada takes part in some projects under a cooperation agreement. Slovenia is an Associate Member. Bulgaria, Croatia, Cyprus, Malta, Latvia, Lithuania and Slovakia have cooperation agreements with ESA.

- 2.4 The Commission has currently delegated the development and deployment of space infrastructure to ESA, which is responsible for deploying the Galileo infrastructure, while the EU agency in Prague (the European GNSS Agency – GSA) is responsible for promoting the market penetration of Galileo. ESA also manages some Copernicus operations.
- 2.5 The European space industry employs more than 231 000 people, including 41 333 in the area of space construction, and generates an added value estimated by the European Commission to be between EUR 53 billion and EUR 62 billion in 2017.

3. **Commission proposal**

3.1 The proposed space programme is a response to the industrial strategy presented by Mr Juncker in his 2017 State of the Union address, and to the Commission Communication of 26 October 2016 on a new "Space Strategy for Europe".

3.2 The following acts:

- Regulation (EU) No 1285/2013 on the implementation and exploitation of European satellite navigation systems, Galileo and EGNOS;
- Regulation (EU) No 377/2014 establishing the Copernicus Programme;
- Decision 541/2014/EU establishing a Framework for Space Surveillance and Tracking Support;
- Regulation (EU) No 912/2010 of the European Parliament and of the Council setting up the European GNSS Agency

are repealed and replaced by the Regulation under consideration, which lays down rules common to all components of the programme, dealing in particular with budgetary contributions and mechanisms, financial provisions, public procurement, governance and security. The Regulation also lays down certain rules specific to each of those components.

3.3 The European GNSS Agency, which is responsible for implementing a new generation of satellite navigation systems (GNSS), becomes the European Union Agency for the Space Programme, which is responsible for contributing to the programme, in particular with regard to security, communication and promotional activities, as well as activities linked to marketing the services offered by Galileo and EGNOS.

3.4 The new space programme aims to:

- provide high-quality, up-to-date and, where appropriate, secure space-related data, information and services;
- maximise socio-economic benefits;
- enhance the security of the EU and its Member States;
- promote the EU's role as a major player on the international stage.

- 3.5 The proposed Regulation sets the total budgetary allocation for all EU space activities, including research, at EUR 16 billion for the period 2021-2027 (compared to EUR 12.6 billion for the period 2014-2020). This financial envelope constitutes the prime reference amount in line with the Interinstitutional Agreement of 2 December 2013 on budgetary discipline, and can be broken down as follows:
- Galileo and EGNOS EUR 9.7 billion;
 - Copernicus EUR 5.8 billion;
 - SST/Govsatcom EUR 0.5 billion.
- 3.6 The new Regulation also addresses the different forms of cooperation and partnership between stakeholders, as well as relations with international organisations and third countries.
- 3.7 The Commission will report annually to the European Parliament and the Council on the implementation of the space programme, based on performance indicators still to be established.
- 3.8 The programme will also be evaluated at least every four years. The conclusions of the evaluations, together with the Commission's comments, will be forwarded to the European Parliament and the Council as well as to the EESC and the Committee of the Regions.

4. **General comments**

- 4.1 It must first of all be recognised that the EU can congratulate itself on having developed its own space policy in good time and on becoming independent from the other space powers, including one previously considered a reliable partner but that has since become unpredictable.
- 4.2 The EESC supports the EU in its complementary efforts to remain a major independent space power and to be able to consolidate its technical strengths. Space is a sector requiring considerable financial resources. There can be no ambitious space policy without a corresponding budget.
- 4.3 The fact that the draft Regulation plans to allocate financial resources to the EU in line with its ambitions – i.e. a financial envelope of EUR 16 billion as a minimum "prime reference amount" – can therefore only be welcomed. It follows that the Parliament and the Council, as well as the Commission when it draws up the draft budget, undertake not to depart from that amount by more than 10% for the entire duration of the programme (except in exceptional circumstances). Nonetheless, the EESC reiterates its call for new financing opportunities to be found, together with the European Investment Bank (EIB), to support space-related research, design and manufacturing projects by private companies, SMEs and start-ups, such as in the area of nanosatellites, miniature propulsion systems, extending satellite lifespans, new applications for Earth observation, etc.
- 4.4 Moreover, space research and innovation – which must be strengthened if the EU wishes to remain at the cutting edge of progress – can be financed by Horizon Europe, under the "Leadership in enabling and industrial technologies" work programme, with a budget of EUR 13.5 billion.

- 4.5 In this regard, we must welcome the fact that, after Brexit, the UK intends to request to continue participating in the European space programme. However, the EESC regrets the fact that only 20 of the current 28 EU Member States are ESA members.
- 4.6 With regard to the specific objectives of the space programme, the EESC approves of the fact that the new applications and new services take account of developments in the area of autonomous cars, drones, robots and the Internet of Things (Galileo), and focus – in the interests of humankind – on the monitoring of climate change (e.g. anthropogenic CO₂ and greenhouse gas emissions monitoring), land use in support of agriculture, the observation of polar areas, forest and water management, and the detection of small objects (e.g. ships) to monitor illegal traffic (Copernicus).
- 4.7 The EESC also supports the proposal to allocate more autonomy and capacity to SST in order to protect space infrastructure and the Earth from space risks, as well as the creation of new activities to observe space debris and extreme space weather phenomena resulting from solar activity as well as asteroids and comets (near-Earth objects). The issue of space debris directly concerns over sixty countries that currently own and operate satellites. This space surveillance is crucial given the risk of damage to essential infrastructure that affects the daily lives of citizens, with the associated service interruptions, inconvenience and economic losses.
- 4.8 The new initiative on the Govsatcom system responds to the need for secure EU satellite communication (border surveillance, maritime community, policing, civil protection, humanitarian aid, EU external action, etc.) and will make it possible to improve the safety and independence of future European secure telecommunications systems and services, which the EESC supports.
- 4.9 The EU can thus boast a number of major success stories in the space sector. The EESC notes, however, that the EU remains very low-key in terms of its communication with citizens on the benefits of space for society and the economy. Many are not aware that when, for example, they use their mobile phone, smartphone or navigation systems, watch satellite TV, travel by land, sea and air, or withdraw money, they are using space services. It will therefore be necessary to ensure, via an appropriate campaign, that citizens realise that European space activities are essential for their daily lives, create employment, growth and investment, and help improve their security.
- 4.10 Similarly, we are very far from making the most of the benefits that space offers for the European economy. The potential of the Earth Observation Programme, and of harnessing the vast amount of data it produces, is largely under-utilised. The EESC calls for an information and awareness-raising initiative to be launched for potential beneficiaries, especially in the maritime and agricultural sectors.
- 4.11 As the Commission notes, there have been difficulties related to the space sector's capacity to hire appropriate staff. The EESC is of the view that space science should be included in the school system, and that awareness should be raised among Member States' universities in order for them to offer a master's degree in space engineering.

- 4.12 Internationally, the European space sector will have to meet the challenge of fierce competition, given that space activities are becoming increasingly commercial as a result of greater private sector involvement. The major European operators carry out most of their activities outside Europe. Consequently, it will be absolutely necessary to boost the importance of the single market and apply a principle of "European preference" in the space sector.
- 4.13 As the Commission states, space is part of a global value chain, which is facing major changes pushing the traditional boundaries of the space sector. This "New Space" is revolutionising the space sector, not only from a technological perspective but also from an economic model point of view. It is therefore essential for the EU to actively support the whole space sector, in particular research and development, start-ups and business incubators active in this sector. The EESC regrets that the Commission confines itself in this Regulation to stating that the space programme shall support cooperation between undertakings in the form of space hubs bringing together, at national and regional levels, actors from the space and digital sectors, without any further information about the functioning and financing of such hubs.

This "New Space" project could consist of developing the economic sector of space assets (space mining), with the aim of extracting and retrieving natural resources from outside the earth's orbit. Asteroids, for example, may contain nickel, platinum, cobalt and iron. NASA estimates that the asteroid belt between Mars and Jupiter (more than a million asteroids) is worth USD 700 trillion. These resources may be brought back to Earth, or used in space as energy for satellites or to build bases from which space exploration missions further afield can depart.

- 4.14 Luxembourg is the second country in the world, after the United States, to establish a legal framework (which some contest) allowing for the exploration and commercial use of space resources. The EIB has also been involved in the project in an advisory capacity, together with ESA, which intends to provide advice and guidance through its financial advisory service for innovation.
- 4.15 The EESC believes that the EU should step up its technological, financial and legal participation in space mining research, and ensure that the project continues to have clear European value, as other American, Arab and Asian organisations and companies have become involved in the project.
- 4.16 Europe needs launchers suited to commercial and institutional markets if it wishes to be able to maintain its independent access to space. Reusable rockets show particularly promising progress, which will reduce costs and the turnaround time between launches. Competition on the commercial market remains intense and sometimes unfair. The EESC encourages the Commission to explore ways to support research and European launch infrastructure, while respecting the vital principle of preserving the EU's independent access to space.
- 4.17 Even if, according to the TFEU, the Member States have the power to define services of general interest, this does not detract from the competences of the EU to define such services at its own level, where this appears necessary in order to implement the EU's objectives. The EESC calls

for the EU institutions to recognise the existence and need for EU services of general interest in areas where EU action is more effective in meeting its objectives, as is clearly the case for the space sector.

Brussels, 17 October 2018.

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