EPP Group Policy Paper on Space

SPACE POLICIES FOR GROWTH, ECONOMIC TRANSITION AND SECURITY IN EUROPE

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Our vision

The EPP Group strives to maintain and extend Europe as a world leading space power. We believe that the European Union has to increase its role as a security provider at home and abroad, ensuring stability in its neighbourhood and globally. We believe that EU Space Policy is increasingly important as the actions demonstrate the contribution to the security of EU citizens in a very concrete way, which no individual Member State could have done alone.

The EPP Group wants to make EU Space Policy an important tool for economic growth and increased private involvement in the space economy. We believe that further incentives would be to a clear benefit for SMEs and the New Space sector and, together with a clear legislative framework, it would help strengthening the competitiveness of our industry.

Space activity - a necessity

The European Union (EU) activities in space provide essential information and services to support our core policies on climate, security and rescue, transport, communication and digitalisation among others, and to strengthen EU resilience.

Space is thus underpinning an important economic activity - supporting more than 230,000 jobs in the Union, creating directly €53-62 billion in value for the economy and impacting indirectly more than 10 percent of EU GDP[1]. As such, the European space economy is the second largest in the world and is a highly research and innovation intensive sector with high skilled employees.

Space technology is also contributing to R&D activities in different sectors and to the exploration of the Universe.

Europe - a world space power

The current success of the European space economy relies on the European Space Programme, which is managed by the European Commission through the European Union Agency for the Space Programme (EUSPA) and - in many cases - in close cooperation with the intergovernmental European Space Agency (ESA) and the Member States.

The EU Earth Observation programme Copernicus provides services for environmental, air, land and sea monitoring to underpin various areas such as precision agriculture and search and rescue operations from its constellation of satellites.

The Galileo programme, which is Europe's Global Navigation Satellite System (GNSS), delivers the most precise navigation and positioning service in the word. The overlay system EGNOS provides improved positioning and timing information; for instance to use for airplanes landing in European airports.

The GOVSATCOM - the satellite communication service for governmental users contributes to the EU's response to specific threats and provide support to the EU Maritime Strategy and the EU Arctic Policy.

[1] Space Market: How to facilitate access and create an open and competitive market? Study by EPRS for ITRE Committee, November 2021)

Space Surveillance and Awareness (SSA) aims to enhance capabilities to monitor, track and identify space objects and space debris; SSA includes three sub-components covering space objects surveillance and tracking (SST), space weather phenomena (SWE) and near-earth objects (NEO).

The total budget of the EU space programme for 2021-2027 is €14.4 billion - the biggest budget ever adopted at EU level for space, a big increase compared €11 billion for 2014-2021 and only €5 billion from 2007-2013. However, compared to our global competitors, the EU space budget is still not enough: the United States allocates USD 24 billion to NASA - just for 2022!

Current challenges

EPP Group Priorities

> *EU autonomous access to space needs to be reinforced - especially in launchers as Russia, due to its invasion, has withdrawn from the Guiana Space Centre in Kourou.*

> *Additional funds for Copernicus are needed to make up for the budget shortfall from Brexit.*

Russia's invasion of Ukraine has demonstrated the need to act promptly to reinforce EU autonomous access to space and the EU supply chain in order to reinforce EU resilience. The EU needs to ensure its strategic autonomy and not be dependent on third countries in strategic areas, e.g. on launchers, and on strategic EU value chains for our EU flagship programmes.

Russia's war already had a significant impact on European Space Policy, spaceflights and exploration activities. The Russian space agency Roscosmos announced its withdrawal from the Guiana Space Centre in Kourou. The establishment of EU alternative Spaceports should be explored.

Due to a lack of Russian launch capacity, the strive for greater EU autonomy for access to space launching satellites becomes urgent. In any case, the Russian decision has no consequences on the continuity and quality of the Galileo and Copernicus services; nor does this decision put the continued development of these infrastructures at risk.

The post Brexit agreed funding of United Kingdom (UK) for Copernicus is blocked by the dispute over the Northern Ireland Protocol together with the UK's participation in the Horizon Europe research programme. An agreement was found between the Commission and ESA to address the budget shortfall and to preserve the continuity, integrity and evolution of Copernicus. Proceeding with the full scope and full speed of envisaged activities requires a budget higher than the one currently available.

The future

Secure communication, space traffic management, strategic autonomy, defence

EPP Group Priorities

> *To maintain Europe's position as a world space power, the EU has to step up its launches of satellites. Fresh money to the EU budget is needed for the Secure Connectivity Programme 2023-2027.*

> *We embrace the dual civil and military use of our space assets and acknowledge that there are also clear synergies in the area of research and development. We must make the most use of the Space and Defence Ecosystem.*

> *A close cooperation between the EU and NATO in the framework that the EU Space Programme is necessary - in particular what concerns the protection of space-based capabilities and services for security and defence. We welcome the space dimension of the recently adopted European Strategic Compass.*

It is not given that Europe's position as the second largest space power in the world can be maintained - considering the challenges from rising space nations such as China and India and the increased involvement of private companies from the USA, such as SpaceX, Blue Origin and Virgin Galactic.

The competition has not least intensified when it comes to launch and operate satellites. Almost 12,000 satellites have already been put in orbit by 6,000 launchers, and in the coming years an additional 20,000 satellites will be sent to space - offering a variety of private services, like the Internet from space, navigation, mapping etc.

The Union will also have to step up its launches of satellites and the published Secure Connectivity Programme for 2023-2027 is a new step in that direction - the €6 billion programme (of which €2.4 billion comes from the EU budget) is very welcome. According to the plans, the new European constellation of satellites will ensure the availability of worldwide access to secure satellite communication services for the protection of our critical infrastructure, for surveillance, support for external actions as well as for the provision of reliable and fast connection to people and businesses through the private sector.

New resources would be of great advantage and overlapping with existing services should be carefully assessed in order to secure the success of this new programme.

Quantum communication technology, initially developed in the framework of EuroQCI, should be part of the Secure Connectivity system to offer an enhanced level of security for our satellite communication systems.

At the same time, the problem of increased congestion in space and the more than one million pieces of space debris from worn out satellites pose a risk to our satellite launches, to our existing assets in space and not least to our astronauts in space. It is clear that management of traffic in space and the possible cleaning of space from debris has become an urgent matter for Europe and the world as such.

The space sector should also be considered as a model in terms of strategic autonomy when rethinking other policy fields, such as the energy sector. This means a strong focus on building up of our own capacity and a speeding up of the development of launch systems Vega-C and Ariane 6 as well as the support to newcomers developing lower cost & smaller/micro launchers across EU.

Space Policy and development of space technologies is increasingly intertwined with developments in security and defence, and rightly so. The establishment of an EU Space Defence Command is a natural and necessary development to protect our space assets. The co-habitation between civil use and security and defence user is apparent when it comes to Galileo data and services, which has a clear dual use case. We should embrace the dual civil and military use of our space assets and acknowledge that there are also clear synergies to be exploited in the area of research and development - an obvious way is through the Space and Defence Ecosystem, which is defined in the EU new Industrial Strategy and in the Action Plan for Synergies between Civil Defence and Space Industries.

We should avoid the same situation as we had in Ukraine where non-EU private companies covered certain governmental services, ensuring secure connectivity. Europe should be at the forefront of the global Space Policy.

The multiple threats to our security makes close cooperation between the EU and NATO in the framework that the EU Space Programme a necessity for the future - in particular what concerns the protection of space-based capabilities and services for security and defence against cyber-attacks, physical threats, debris or other harmful interference. Therefore, we welcome the space dimension of the recently adopted European Strategic Compass. Despite our collaboration with allies, the EU still needs to be autonomous where needed, ensure resilience of space and ground assets, access to critical raw materials and technologies, resilience of supply chains as well as the availability of space-based services.

Private sector involvement

Research and innovation, start-ups, SMEs, New Space

EPP Group Priorities

> *A clear regulatory framework to support private sector involvement in the space economy - especially for SMEs and actors in the New Space area.*

> *Data sovereignty is key for the EU. We have to release the important potential of many EU actors contributing to this goal by providing data solutions, micro-launchers, satellites and state-of-the-art high-tech innovations.*

The legacy of public involvement and big space and defence companies is apparent when it comes to research and development and to the exploitation in the upstream space sector (launchers aerospace prime/satellite manufacturers), midstream (satellite operators) and downstream sectors (development of services and applications by using data from satellites and space

technologies. New Space innovators play also an increasing role.

Many more private companies, start-ups and Small and Medium-sized Enterprises (SMEs) are active in the so-called ICT/digital sector making up the New Space ecosystem. However, the situation is in flux with no clear regulatory framework.

Space Policy should have an even more important role in strengthening European industry for the recovery of the EU economy and for enhancing EU resilience.

The Space sector is an incredible asset for the EU economy as a whole, from which both companies and citizens can benefit greatly. It requires that we involve the private sector to a much bigger extent than today.

As the immense opportunities stemming from the Internet of Things (IoT), industry 4.0, big data and autonomous vehicles become evident, the demand for satellites and space technology will only increase further. Along the entire supply chain, the demand for satellites, micro-launchers and data processing will rise and the EU is presented with a unique opportunity to step up its role in space and increase its competitiveness.

In order to reach European digital sovereignty, data sovereignty is key. Already today, the EU has many actors contributing to this goal by providing data solutions, micro-launchers, satellites and state-of-the-art high-tech innovations. As the strategic importance of space and the increasing competition that is building up becomes evident, important potential remains untapped.

Figures[2] from a recent market survey the installed base of navigation and positioning (GNSS) devices will grow from 6.5 billion units in 2021 to 10.6 billion units in 2031. The downstream market revenues from both devices and services is forecasted to grow from €199 billion in 2021 to €492 billion in 2031. The market for Earth Observation data and services is set to double from roughly €2.8 billion to over €5.5 billion over the next decade. In the secure satellite communications, the current civilian demand of satellite communication capacity in Europe is around 2.5 Gbps and the military demand does not exceed 1.5 Gbps. In 2035, the forecast could reach almost 4 Gbps for military demand and 20 Gbps of civilian demand.

[2] EUSPA MARKET REPORT issue 1/2022, published on 25-1-2022

Concrete proposals on space policies:

1. Promoting business possibilities for private companies in the New Space sector is a key priority. The European Parliament must be part of the expert group on Policies & Programmes relevant to EU Space, Defence and Aeronautics Industry established by the European Commission that should develop a concrete road map.

2. The CASSINI initiative (Competitive Space Start-ups for Innovation) implemented by the Commission provides €1 billion in risk capital to space start-ups is a timely initiative that goes in the right direction. However, the success of the CASSINI investment facility relies on both private sector involvement by attracting investment funds to raise new funds with a focus on space investments, and on Member States using their policy instruments to encourage this development. Improving access to financing will furthermore require a modernised Competition Policy and state aid rules that are fit for purpose. Despite the existing limit and too rigid framework of the CASSINI initiative, the model is promising for the future.

3. The EU must improve in developing the knowledge generated by research in business activities. We need a legislative proposal from the Commission for the downstream space sector to ensure the larger participation of private sector take up of the business potential, and provide a stable framework and predictability for long-term private investments. Such a regulatory action could also take the form of a "space compatibility" check to mainstream space data and applications across all relevant domains (e.g. trade, energy, transports, security, critical infrastructure, civil protection, natural disasters prevention and response, land and marine management, agriculture and fisheries) to ensure that EU Space Technologies are duly taken into consideration to achieve policy objectives (e.g. digitalisation, Green Deal, resilience, strategic autonomy).

4. The Industrial Ecosystem for Space and Defence provides a frame for the development of the sector - not least how the sector can grow when at the same time meeting the challenge of the twin green and digital transition,

the recovery of the EU economy and the enhanced resilience of the EU. We ask the Commission within the shortest delay possible to develop and publish a concrete transition pathway for the Space and Defence Ecosystem in the EU Industrial Strategy.

5. To establish increased European autonomy in space, we have to speed up the development of launch systems Vega-C and Ariane 6 and engage more with the private sector through research and development to develop alternative launch systems - and the EU launch system value chain - through improved integration of EU New Space SMEs and start-ups.

6. With the planned increase of launching satellites into orbit, the viability of establishing and investing in Spaceports in Europe - to complement the main launch site in French Guiana - should be investigated. The potential of the Union's outermost regions should be taken into account in the implementation of the Union's strategy for space infrastructures, launchers' improvement and access to space.

7. The EU must continue to try to ensure to the highest possible degree space-related and military strategic autonomy and resilience and assure a role of the Space Programme for reinforcing a Defence Union.

8. Ensuring independence from Russian and Chinese space infrastructure and technologies is a main priority. Europe needs to find ways to increase its sustainable technological non-dependence from the two countries, and to a certain degree the United States.

9. Quantum technologies supported by the Digital Europe programme will reinforce Europe's strategic digital capacities - and the European Quantum Communication Infrastructure (EuroQCI) Initiative must be a main priority included in the Secure Connectivity programme for 2023-2027.

10. Critical dependencies (critical and advanced raw material, critical technologies for space) from Russia, Belarus or Ukraine should be mapped and mitigating measures/solutions to address critical dependencies and support the space sector identified to single out what is directly impacted by the sanctions on Russia.

11. There is an urgent need for ramping up in the area of Space Traffic Management (STM) - relating to Space Situational Awareness and Space Surveillance and Tracking - and to expand the Security Monitoring Centres across the EU that would engage directly with national authorities. A clear regulatory framework is also needed on Space Traffic Management and the Commission should to develop a Union set of rules, standards, technical specifications and guidelines and to actively promote these Union rules at international level. This Union set of rules should be coherent with other EU rules in other policy domains, such as Defence, Industrial Policy, Environment and Aviation/ATM, in order for this later case not to compromise aviation safety. In the upcoming mid-term review of the current Space Programme, Space Traffic Management should be incorporated into the programme. The Commission must identify sources for financing Space Traffic Management within the Space Programme.

12. The Commission and the High Representative to the European Union should keep the European Parliament informed about international cooperation in the security area that involves space - including the evolvement of EU-NATO cooperation in this area. Due to recent geopolitical developments, there is an urgent need to develop an EU Space Strategy for Security and Defence to define a common European response to threats to our space infrastructures.

13. Given the strategic importance of the EU Space sector for the EU's digital sovereignty and competitiveness, the impact of legislation on actors in the space industry should be closely monitored. Therefore, changes to regulations should take into consideration the impact on the sector's competitiveness and its critical nature to the EU's overall Space Policy and digital sovereignty, and possible exemptions for the space industry should be considered. One such regulation with high impact on the space industry is for instance the REACH Regulation as well as the State Aid Rules.

14. Giving its potential, the space sector should play a key role in the recovery of the EU economy in the aftermath of COVID-19 pandemic. For this reason, the Recovery and Resilience Facility (RRF) along with Cohesion and Regional

Funds should be used as a possible funding source as space innovation fulfils the three major eligibility criteria: climate action, low carbon economy and smart mobility.

15. To increase the awareness of the benefits and the potential of EU Space Programmes, the Commission and other relevant Union entities should strengthen information and communication on space for the public.