



**European Committee
of the Regions**

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OPINION

Space Strategy for Europe

THE EUROPEAN COMMITTEE OF THE REGIONS

stresses that the regional dimension is essential in bringing the benefits of space closer to users and thus putting users at the centre of a European space strategy. Local and regional authorities have the competence and willingness to be involved in the implementation of European space policy, as it also supports smart specialisation strategies in many regions;

- calls on the European Commission to ensure that long-term funding for the operation of Copernicus infrastructure is guaranteed using the EU budget in future, in order to guarantee both financial viability and transparency and democratic oversight of the funding;
- calls for new ways of funding to be sought for the development and large-scale use of applications, involving the Structural Funds and the banks and in collaboration with the ESA. Given the problems with the financing of investment in research and development projects, it is worth improving the financing of research projects carried out in collaboration with research and development institutes and economic operators;
- strongly supports the request of the European Parliament for a comprehensive Communication Strategy about the benefits of space technologies for citizens and business;
- could provide more effective support to the implementation and execution of the Copernicus programme at local and regional level if it was a full permanent member of the programme's user forum and could send an official representative to that forum. This would take account of the importance of local actors in terms of the use of Copernicus data;
- underlines the important role of space monitoring and satellite navigation systems, such as Galileo and Copernicus, enabling a timely response to natural disasters such as earthquakes, forest fires, landslides and floods;
- calls for this to be duly reflected in the development of down-stream services for local and regional authorities. An effective space strategy is a crucial component of sustainable and resilient development, helping save lives as well as helping protect the environment and properties.

Rapporteur

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Reference document(s)

Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions – Space Strategy for Europe
COM(2016) 705 final

Opinion of the European Committee of the Regions – Space Strategy for Europe

I. POLICY RECOMMENDATIONS

1. As stated in the document, "Space Strategy for Europe", space matters for Europe. Europe has achieved many successes in space technologies, including unique Earth observation and geo-positioning capabilities and exploration missions. Space technologies, data and services have become an indispensable part of the daily lives of the European public, and must systematically be further developed.
2. Space's strategic importance for Europe must also be emphasised. It reinforces Europe's role as a strong global player and is an asset for its security and defence. Space policy can help boost jobs, growth and investment in Europe. Investing in space pushes the boundaries of science and research. The CoR therefore strongly supports the request of the European Parliament¹ for a comprehensive Communication Strategy about the benefits of space technologies for citizens and business.
3. The aim is to find practical ways in which space technologies, data and services can support a variety of EU policies and key political priorities, including the competitiveness of the European economy, migration, tackling climate change, the digital single market and sustainable management of natural resources.
4. The European Committee of the Regions welcomes the fact that the European Union and the European Space Agency joined forces in bringing forward European cooperation in space by signing the EU-ESA Joint Statement on shared visions and goals on 26 October 2016.. While the ESA has its own goals, cooperation with the EU Member States and institutions can create synergies. The Committee warmly welcomes the fact that the EU and the ESA have been able to develop a shared, long-term vision and goals², providing a consistent framework for the EU and the ESA in implementing the relevant strategies. It is vital to avoid duplications and/or harmful competition in this cooperation.
5. The Committee of the Regions is welcoming the fact that Europe and the Member States have a European Space Agency with over fifty years of experience in building European capabilities in developing space technologies and applications in all areas of space activities. This role needs to be maintained and further enhanced for the socioeconomic development in the regions and among other in smart specialisation.
6. The CoR is convinced that the only way for the EU's space strategy to work in the long term, and thus for the success of the European space sector in creating jobs and growth to be ensured, is for all Member States to be actively involved. This can be achieved by means of concrete, targeted measures, and by focusing in particular on capacity-building and on including those Member States that are only just getting into the space sector.

¹ European Parliament resolution of 12 September 2017 on a Space Strategy for Europe, 12 September 2017

² http://www.esa.int/About_Us/Welcome_to_ESA/Joint_statement_on_shared_vision_and_goals_for_the_future_of_Europe_in_space_by_the_EU_and_ESA.

7. Training for engineers, technicians and scientists is of crucial importance for European industry. The establishment of centres of skills and excellence, and of centres for lifelong learning, strengthens the European labour market and expands infrastructure for trials, tests and new computing and analysis capabilities, and thus helps to ensure that knowledge and skills in space-related fields and space science are continually expanded. The European space strategy needs to build on this.
8. Getting young people involved, and inspiring and motivating them, is an investment in the future of Europe. There should be more investment in awareness-raising and the creation of success stories showing what role the European public has in the development of complex systems (both on Earth and in the development of satellites). The benefits of space for society manifest themselves in a variety of ways: in communications technologies; the possibility of exchanging information in real time; continuous, high-resolution surveillance systems; a rapid response to natural disasters; support for agriculture, forestry, fisheries and maritime transport; stronger border and security controls; and many other applications.
9. The need for cost-effective small satellites for communication and surveillance purposes is constantly increasing. With regard to Earth observation applications and services, the technical capabilities of small satellites are improving rapidly and new applications are emerging, both for monitoring and managing agricultural land and for weather forecasting, particularly thanks to progress with new radar technology. The EU therefore needs to focus its attention on the continuity in Copernicus and Galileo, so as to avoid losing ground to global developments in this market.
10. A number of consultations have drawn attention to the need for high-level international cooperation³ in economic, social and diplomatic terms, in order to secure EU Member States' access to space and guarantee the security of space infrastructure. This includes space debris, the need for free orbits, and agreements on frequency and space traffic management. Space-related matters must be governed by international agreements. Local and regional authorities are ideal intermediaries between individual communities (societal groups, consumers, entrepreneurs and scientists).
11. The success and sustainability of the European space industry depend on the use and processing of large volumes and sources of information and data ("big data"). Innovative solutions, new processes, better security and better protection against cyberattacks can only be ensured if businesses are given better access to data and an inspirational cooperation can be developed with scientists, universities and the public sector.

General comments

12. This document on the space strategy for Europe takes into account and to some extent builds on the CoR's previous opinions on this subject – including the opinions on "Towards a space strategy for the European Union that benefits its citizens" and "EU Space industrial policy" – as

³ *High Level Forum –Space as a driver for socio-economic sustainable development. Dubai, 24 November 2016.*

well as the report by the European Parliament's Committee on Foreign Affairs on space capabilities for European security and defence, the review of Space Market Uptake in Europe, the recommendations on adding a regional dimension to the European Space Strategy published by NEREUS in April 2016, and the Horizon 2020 Space Advisory Group's "Advice on potential priorities for Research and Innovation in the work programme 2018-2020".

13. The space strategy for Europe is a practical response to international developments in the field of space, where competition has increased due to the "New Space" paradigm, which emerged in the US in the 1980s with companies entering the market aiming to reach outer space. Digital technologies and digitalisation are opening up new ways of doing business, while major technological shifts are disrupting traditional industrial and business models used for accessing and using space.
14. Cooperation is necessary between all institutions, as the space sector is characterised by long development cycles; this increases market risks, since the market potential of new applications needs to be assessed far in advance and it is difficult to adapt existing inventory. This means that it can be difficult for entrepreneurs who wish to enter the space sector to find investors, as it is very difficult to adapt the cyclical market and existing inventories to changes in demand.
15. The EU and the ESA must step up their cooperation, in order to support the Member States in European research and development activities in the space sector, to boost the use of innovative procurement programmes and to give more impetus to private investment and partnerships with industry, as well as to foster the development of mini- and nano satellites.
16. The EU and the ESA must develop joint awareness-raising measures and technology deployment plans so that the results achieved in various fields thanks to research and development activities can be effectively implemented. Global challenges caused by growing populations, increased demand for resources and climate change require information about our planet that can only be provided by a space-based solution.
17. The CoR has identified the following specific priorities:
 - pro-actively developing policy measures for getting SMEs more closely involved, promoting the establishment of new businesses (spin-offs and start-ups) and creating jobs in fields that use space technologies;
 - supporting R&D, additional education programmes at all levels in the fields of IT, science, mathematics, engineering and social sciences;
 - investing in space, highlighting the role of investment funds and the investment facilities, and the involvement of private investors;
 - developing cooperation between European, national and regional authorities and between the industry and users namely through a structured support from the European Commission helping to ensure that capacity of information traffic is compatible with the current challenges arising from remote detecting technologies;
 - significantly improving the steering and management of the space sector, both in the Member States and at European level, and promoting cooperation between the EU and the ESA with a focus on users as well on regions, taking into account their potential in this field;

- co-financing the creation of European Space Agency business incubators in the regions with the aim of encouraging entrepreneurship in the space sector;
- supporting educational measures and public institutions that train economic professionals, taking into account the space sector's specific entrepreneurship needs.

The role of the "space regions" in implementing the European space strategy

18. The CoR welcomes the fact that the Space Strategy for Europe takes into account the importance of regional participation in its implementation, particularly through concrete measures by the European Commission together with the GSA Agency, which is responsible for EGNOS and Galileo programs, as testify the Copernicus Relays and Copernicus Academy networks to support the promotion of the use of remote sensing data and their applications.
19. The regional dimension is essential in bringing the benefits of space closer to users and thus putting users at the centre of a European space strategy. Local and regional authorities have the competence and willingness to be involved in the implementation of European space policy, as it also supports smart specialisation strategies in many regions.
20. welcomes the fact that many regions have joined the Network of European Regions Using Space Technologies (NEREUS), which points to the growing importance of space for regional economies. The aim of NEREUS is to harness the full potential of space technology for Europe's regions, in terms of both R&D and economic competitiveness, highlight the regional dimension of space policies at political level and promote a bottom-up approach to European space activities. The activities of regions that have joined NEREUS should be highlighted. Regional authorities have potential and experience in the area of integrating the activities of operators in business and science, public institutions and civil society. This should be harnessed so as to build partnerships for implementing activities under the space strategy.
21. EU space policy needs to have a clear perspective of how to convince Europe's society, economic sector and political circles of the potential offered by space. Space policy should also play a more prominent role in other European Union regional policies, in part because it provides opportunities concerning objectives in the EU Urban Agenda, smart city solutions, smart energy, city planning, agriculture, climate policy, etc.
22. Regional authorities carrying out their fundamental duty to stimulate both science and technology, and the socio-economic development of their territorial units should be seen as coordinators of regional space policy. Regional authorities have potential and experience in the area of integrating the activities of operators in the business and science sectors, public institutions and civil society. This should be harnessed so as to build partnerships for implementing actions under the space strategy.
23. The European Space Agency has been developing a number of initiatives with the regions, including the European Space Education Resource Offices (ESERO). The benefits of these initiatives should be maximised and their development further encouraged.

24. The Commission should develop support actions focused on activities relating to regional clusters, contact offices, agencies, universities and research institutes, in order to encourage the adoption of space-based products and services across industries.
25. It should also establish criteria for determining the public utility of space services with respect to the competences and needs of public authorities, on the basis of which the Commission and national authorities can assess the eligibility of applications submitted by potential users for subsidies for the deployment of services and applications.
26. The CoR supports the development and implementation of this comprehensive and ambitious European space programme that builds on past achievements and promotes and develops the priority areas of environmental monitoring, climate change, security, competitiveness and space exploration.
27. According to forecasts, users such as local and regional authorities and businesses will continue to require incentives and support from the EU and from Member States. Given the space sector's innovativeness and economic importance, the Committee calls for new ways of funding to be sought for the development and large-scale use of applications, involving the Structural Funds and the banks and in collaboration with the ESA. Given the problems with the financing of investment in research and development projects, it is worth improving the financing of research projects carried out in collaboration with research and development institutes and economic operators.

Contribution to the major European programmes EGNOS and Galileo (satellite navigation) and Copernicus (environment and security monitoring)

28. The CoR is convinced that the EU needs to guarantee funding for the operational phase of Galileo (including maintenance and replacement of satellites, safeguarding the integrity of the system, ground operations and access to data), as this is the only way of ensuring that the expected economic effects can be sustained.
29. The operational phase of Copernicus is crucial for the economic breakthrough of new technology developments, but financial support will still be required in order to cover the start-up costs connected with the uptake of new technology by a variety of users.
30. The Commission should ensure that long-term funding for the operation of Copernicus infrastructure is guaranteed using the EU budget in future, in order to guarantee both financial viability and transparency and democratic oversight of the funding.
31. There is an urgent need to establish big data centres to process and store data downloaded from Copernicus. The ability to use historical data is also very important for developing new services and applications in this area as well as the capacity to transmit large quantities of data in due time for its use.
32. The CoR underlines the important role of space monitoring and satellite navigation systems, such as Galileo and Copernicus, enabling a timely response to natural disasters such as

earthquakes, forest fires, landslides and floods. Calls for this to be duly reflected in the development of downstream services for local and regional authorities. An effective space strategy is a crucial component of sustainable and resilient development, helping save lives as well as helping protect the environment and properties.

33. In order to be able to make use of data from Copernicus and Galileo and develop new services on this basis, there is a need for legal changes to ensure that this is done in line with other measures in regional, energy and environmental policy, agriculture and environmental monitoring that make use of spatial information. It must be ensured that the data obtained from these programmes can also be used for reporting at EU level and that, where this procedure is possible, it can be implemented in accordance with the law.

Dual use of space data for security and defence

34. Space-related capabilities and services play an important role in terms of European defence and security, as they enable consistent implementation of a common security and defence policy and also link EU policy to areas such as external action, border control, maritime security, climate action, energy security, disaster management, humanitarian aid and transport. The strategic partnership with other countries carrying out space programmes needs to be strengthened in order to safeguard Europe's independence with regard to critical space technologies and access to space.

More active involvement of Member States and societal groups in various activities connected with implementing the space strategy for Europe

35. All Member States need to have access to space services and to new ways of stimulating the economy and broadening their expertise. Awareness of how to make effective use of space in a wide variety of public sector fields, including at regional level, must be raised by supporting these regions, both by developing skills and by means of various funding mechanisms.
36. Space technologies can be useful in the public sector, for example for day-to-day monitoring of an area, evaluating the status of natural resources (fresh water, coastal waters, air quality etc.) and forests and assessing timber stocks, managing agricultural land and reviewing the subsidy system, early identification and prevention of illegal construction, making use of solar and wind power, improving the energy efficiency of buildings, and in many other cases.
37. Further steps are needed to raise awareness in European society of the benefits of space. We also need better trained specialists and officials, and more engineers and scientists, to create the necessary added value for society, as well as to ensure closer cooperation with public and private organisations and businesses. The top priorities of a new space policy that is oriented towards citizens' real needs should include local initiatives, mutual exchange of experience, the creation of synergies between different functional areas, and information and awareness-raising.

Establishing specific education and awareness-raising measures to get the attention of younger generations

38. The space strategy relies on strong support and interest from younger generations. The millennial generation has grown up in a world where new applications are a given, not just for commercial ends, but also for daily use. The new ideas and perspectives young people bring should be encouraged.
39. The new European space strategy is not inspiring enough for the new generation. Space should be a source of inspiration and motivation, and help to change people's lives for the better. The strategy should primarily address how to step up education and public awareness-raising in connection with space-based information and data. Including space activities in the curricula of schools, universities and institutions providing informal education in scientific progress would go a long way towards drawing people's attention to this important area.

The CoR's next steps for successful implementation of the Space Strategy for Europe

40. The CoR urges the Commission, the European Parliament and the Council to discuss and support this strategy, and to press ahead with its effective implementation in close cooperation with cities and regions and with all relevant stakeholders.
41. In order to emphasise the importance of the space sector at regional level and to make the most of the opportunities offered to cities and regions by European space policy, a dedicated meetings focused on space issues will be organised within the CoR's Commission for the Environment, Climate Change and Energy. This is particularly necessary with a view to the mid-term review of the EU space programmes scheduled for 2017.
42. The CoR could provide more effective support to the implementation and execution of the Copernicus programme at local and regional level if it was a full permanent member of the programme's user forum and could send an official representative to that forum. This would take account of the importance of local actors in terms of the use of Copernicus data.
43. In order for the European space strategy to be implemented successfully, partnerships should be promoted between the Commission, Member States, the ESA, EUMETSAT, authorities, stakeholders, sectors, academics and user communities in other areas. The CoR can be an important partner in this connection.

Brussels, 11 October 2017

The President
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II. PROCEDURE

Title	Space Strategy for Europe
Reference document(s)	Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions – Space Strategy for Europe COM(2016) 705 final
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Procedural basis	Opinion, Rule 41 (a)(i) of the RoP
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Commission responsible	Commission for the Environment, Climate Change and Energy
Rapporteur	Andres Jaadla (EE/ALDE), Member of Rakvere City Council
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