

A Space Strategy for Europe

Fields marked with * are mandatory.

Introduction

Space is an important, strategic sector for Europe. Space technology and the applications and services derived from space systems support the implementation of many public policies, from agriculture to transport, from climate change to security. They enable research and innovation, growth and job creation, not limited to highly specialised sectors.

Space policy contributes to the growth and jobs agenda of this Commission and space is recognised as a strategic sector in which Europe should maintain its global leadership.

The Commission has decided to present a Space Strategy for Europe as one of its key initiatives for this year. The purpose of the Space Strategy would be to set out the overall strategic vision for the Union's activities in space while ensuring proper coordination and complementarity with the activities pursued by the Member States and the European Space Agency (ESA).

The following survey is addressed to all interested stakeholders in the public and private sectors, in industry, including small and medium-sized enterprises (SMEs), research and academia in Europe, as well as to all interested citizens who would like to share their views on the future Space Strategy. International partners are also invited to contribute. Your input and ideas are important to us!

How to respond

Respond online: **you may choose to answer all or only some sections of this questionnaire**. You may pause at any time and continue later. You can download a copy of your contribution once you have submitted it.

Only responses received through the online questionnaire will be taken into account and included in the report summarising the responses, exception being made for the visually impaired.

Deadline: 12 July 2016.

Accessibility for the visually impaired

We shall accept questionnaires by email or post in paper format from the visually impaired and their representative organisations: download the questionnaire by clicking "Download PDF version" link on the top right column of this webpage.

Email us and attach your reply as Word, PDF or ODF document.

Or

Write to European Commission - DG GROW/I1 Space Policy and Research Unit - Avenue d'Auderghem 45, 1040 Brussels.

Protection of personal data

For transparency purposes, all responses to the present consultation will be made public.

Please read the Specific privacy statement below on how we deal with your personal data and contribution.

Protection of personal data Specific privacy statement

- [Protection of personal data](#)
- [Specific privacy statement](#)

Contact

GROW-I1@ec.europa.eu

Useful links

- [Space Policy](#)
- [Copernicus](#)
- [Survey for companies using Copernicus data](#)
- [Galileo and EGNOS](#)

General information on respondents

*

I am responding as:

- An individual in my personal capacity
- The representative of an organisation

*Please indicate the name of your organisation:

Confederation of Industry of the Czech Republic

*Please indicate a contact email address in your organisation:

jproksch@spcr.cz

*Type of organisation:

- Research organisation
- University or Higher Education Institution
- Association
- Industry (including SMEs)
- Public body - Space Agency
- Public body - Governmental institution (other than a space agency)
- International organisation

What is the size of your organisation?

- Less than 10 employees
- Between 10 and 49 employees
- Between 50 and 249 employees
- 250 employees or more

Is your organisation involved in space-related activities?

- Yes +
- No

*In the case of a representative of an organisation, please indicate the country where the organisation is based:

Czech Republic

In the case of a representative of an organisation, please indicate the country where the organisation is active:

Czech Republic

*Please indicate your preference for the publication of your response on the Commission's website:

Please note that regardless of the option chosen, your contribution may be subject to a request for access to documents under Regulation 1049/2001 on public access to European Parliament, Council and Commission documents. In this case the request will be assessed against the conditions set out in the Regulation and in accordance with applicable data protection rules.

- Under the name given: I consent to publication of all information in my contribution and I declare that none of it is subject to copyright restrictions that prevent publication.
- Anonymously: I consent to publication of all information in my contribution and I declare that none of it is subject to copyright restrictions that prevent publication.
- Please keep my contribution confidential. (It will not be published, but will be used internally within the Commission)).

*

The Commission may contact you in case a clarification regarding your submission is needed depending on your reply to the following question.

Do you wish to be contacted?

- Yes
- No

General objectives

Question 1 - Article 189 of the Treaty of the Functioning of the EU calls for the development of a European space policy. Which of the following objectives do you consider particularly important in this context?

Please select maximum 3 options and rank them in order of importance from "1 - unimportant" to "3 - very important". NB: Avoid selecting the same rank for all options.

at most 3 answered row(s)

	1	2	3
To create jobs and employment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To enable more efficient and effective public policies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To enable scientific discoveries and innovation	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
To contribute to security and safety of European citizens	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
To support critical terrestrial infrastructures which rely on space services and data (e.g. transport networks, electricity grids, communications)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
To strengthen Europe's diplomacy and standing on the international scene	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Autre +	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question 2 - In which of the following areas do you think that space technologies and space services play an important role now and in the future?

Please rank the options below in order of importance from "1 - unimportant" to "3 - very important".
 NB: Avoid selecting the same rank for all options.

	1	2	3
Environment	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Climate change mitigation and adaptation	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Energy (electricity generation and energy infrastructure)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Transport (aviation, road, rail, waterborne)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Telecommunication	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Security & Defence	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Border control	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Civil protection	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Migration	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Marine and maritime activities	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Agriculture	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Education	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Development	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Health	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Employment	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Leisure activities	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other +	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question 3 - In your opinion, a Space Strategy for Europe should pursue which of the following main objectives?

Please rank the options below in order of importance from "1 - unimportant" to "3 - very important".
 NB: Avoid selecting the same rank for all options.

	1	2	3
Create jobs and growth	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Boost the competitiveness of the European space sector (from production and deployment of space systems to their operation and commercial exploitation of services and applications)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Contribute to Europe's autonomy and freedom of action in space	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Foster a safe and secure use of space	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Help the EU be(come) more competitive with respect to other foreign economic powers	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Promote cutting-edge space research and development in Europe	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Promote the use of space in European public policies	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Promote the commercial use of space-enabled data and services in Europe	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Promote regional development, especially in regions active in space activities	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Improve complementarity and synergy of actions between the EU, ESA and Member States	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Foster international cooperation in space	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Other +	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Competitiveness, security and international cooperation

Question 4 - In your opinion, which are the main **challenges** facing the European space sector today?

Please rank the options below in order of importance from "1 - unimportant" to "3 - very important".

NB: Avoid selecting the same rank for all options.

	1	2	3
Increasing competition from existing space powers (i.e. USA, China, Japan, India, Russia)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
New countries entering the space arena	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Entry of non-European "NewSpace" actors (i.e. community of relatively new space companies working to develop low-cost access to space and lower cost space-based products and services)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Emergence of new business models and new industrial processes in space	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Lack of appropriate financing mechanisms supporting space activities in Europe (e.g. venture capital, risk financing, etc.)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Fragmented European market and lack of critical mass	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Decrease in space-relevant technical skills (e.g. science, technology, engineering and mathematics)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Competition with other sectors for resources (e.g. radio spectrum, etc.)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Competition or lack of integration with non-space based providers (e.g. terrestrial networks, drones, etc.)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Security and sustainability of space activities (e.g. space debris, cybersecurity, other threats)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Other +	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question 5 - In your opinion, which are the **main opportunities** facing the European space sector today and in the next 10-15 years?

Please rank the options below in order of importance from "1 - unimportant" to "3 - very important".

NB: Avoid selecting the same rank for all options.

	1	2	3
Commercialisation of space activities	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Lower cost and more frequent access to space	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Use of commercially available and ready to use components for the production of space systems	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Deployment of Low Earth Orbit constellations (e.g. satellite communication, Earth Observation, etc.)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Use of small satellites (i.e. reduced size and mass, with increased functionality)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Use of pseudo-satellites and high-altitude unmanned vehicles (e.g. for communication, observation, navigation)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Other +	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question 6 - In your opinion, what could be done at EU level to foster the competitiveness of the European space sector?

Please rank the options below in order of importance from "1 - unimportant" to "3 - very important".
 NB: Avoid selecting the same rank for all options.

	1	2	3
Support state-of-the-art space research & development	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Support skills development (from space-specific engineering skills to entrepreneurial skills)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Facilitate access to finance to support the space industrial base and foster space entrepreneurship in Europe	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Facilitate access to space data and technologies generated in the EU	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Facilitate access and mobility of space specialists in and into the EU	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Facilitate access to finance for businesses using space data	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Ensure a favourable business environment for space-enabled solutions	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Ensure a favourable regulatory environment for space-enabled solutions	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Facilitate access to global markets (see also next question)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Other +	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question 7 - In your opinion, what could be done at EU level to facilitate access of the European space sector to global markets?

Please rank the options below in order of importance from "1 - unimportant" to "3 - very important".

NB: Avoid selecting the same rank for all options.

	1	2	3
Reinforce cooperation between European Commission services, Member States and businesses to identify market access barriers, prioritise and define joint barrier removal strategies on global markets	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Design EU economic diplomacy initiatives specific to the space sector in coordination with Member States	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Specifically address trade in space goods/services in EU trade negotiations +	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other ++	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question 8 - In your opinion, how should the EU encourage private sector collaboration/investment in space programmes?

Please rank the options below in order of importance from "1 - unimportant" to "3 - very important".

NB: Avoid selecting the same rank for all options.

	1	2	3
Promote partnerships between the public and private sectors	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Use financial instruments	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Provide financial incentives (e.g. vouchers, tax credits)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Other +	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question 9 - Do you consider that the EU should do more to attract foreign (third country) investment in the EU space sector?

- Yes +
- No

Question 10 - The importance of research and innovation for the competitiveness of the European space industry is widely recognised. The EU supports space research & development activities through the framework programme Horizon 2020. In which of the following areas do you consider this support should be reinforced in the future?

Please rank the options below in order of importance from "1 - unimportant" to "3 - very important".
NB: Avoid selecting the same rank for all options.

	1	2	3
Space science	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Generic space technologies (i.e. not targeting a specific application area)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Earth observation	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Satellite navigation	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Satellite communications	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Access to space	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Space exploration	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Space situational awareness (incl. space weather, Near Earth Objects and space debris)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
In-orbit validation and demonstration	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Cross-disciplinary research activities (e.g. exploiting synergies with transport, environment, energy, ICT, etc.)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Dissemination and exploitation of research results	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Other +	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question 11 - Do you consider that dependency on a few third country suppliers, in particular for 'critical technologies' (i.e. those components or sub-systems essential to space programmes), is a concern for the European space programmes/activities?

- Yes +
- No

+ If yes, what do you consider are the most effective ways of reducing such dependency?

Please rank the options below in order of importance from "1 - unimportant" to "3 - very important".
 NB: Avoid selecting the same rank for all options.

	1	2	3
Support research to develop critical technologies	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Develop a dedicated procurement approach for EU space programmes that takes into consideration the associated long-term risks	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Establish continuous monitoring of the dependencies in the supply chain	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Develop common international standards to increase the number of non-EU sources of critical components	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Raise this issue in bilateral or multilateral discussions with third countries	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Other ++	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question 12 - Do you consider that access to space is an area in which the EU should become more involved in the future?

- Yes +
- No

+ If yes, how? Please specify:

200 character(s) maximum

Acces to space is one of the crucial points for future development of all technologies for safe and peaceful life. Added value for terrestrial use of satellite functions.

Question 13 - The EU economy is increasingly reliant on space infrastructure and services. The proliferation of space debris has been identified as a major threat to our satellites and to this end the EU is implementing a Space Surveillance and Tracking (SST) support framework. In your opinion, should the EU action on SST evolve in the future?

- Yes +
- No

+ If yes, what other threats to space infrastructure should be addressed?

Please rank the options below in order of importance from "1 - unimportant" to "3 - very important".
 NB: Avoid selecting the same rank for all options.

	1	2	3
Space weather events (e.g. solar flares)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Other natural threats ++	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cyber security / cyber threats	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Intentional (manmade) threats +++	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question 14 a) - Due to their dual use nature space systems and technologies can serve both civilian and military needs. In your opinion, how can synergies between civil and military space activities be promoted at European level?

200 character(s) maximum

Question 14 b) - In which areas should such synergies between civil and military space activities be promoted?

200 character(s) maximum

Question 15 - In a context of increased security threats, how do you consider the possibility for governmental and security users to benefit from better access to secure satellite communications with guaranteed availability and improved resilience?

- Unimportant
- Somewhat important
- Very important+

+ If you have selected "Very important" above, how in your opinion could this be achieved?

200 character(s) maximum

Question 16 - In your opinion, which of the following developments could impact space activities and business in the long-term future (beyond 2030)?

Multiple choice is possible.

- Suborbital flights (e.g. point-to-point transportation, space tourism, access to space)
- Sustainable space activities (e.g. space debris reduction, in-orbit satellites servicing, etc.)
- Space-based solar power stations
- Planetary defence against space threats (i.e. Near Earth Objects, such as asteroids and comets)
- Space exploration
- In-space resources utilisation (i.e. asteroid mining)
- Other +

Question 17 - In your opinion, in which areas should the EU reinforce its cooperation with international partners in space?

Please rank the options below in order of importance from "1 - unimportant" to "3 - very important".

NB: Avoid selecting the same rank for all options.

	1	2	3
Satellite navigation	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Earth observation	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Space Situational Awareness (i.e. capability to detect and monitor any threat from space and to space infrastructure)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Space science	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Space exploration	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Use of space data	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Other +	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question 18 - In the text box below please provide any general comments for the Space Strategy for Europe.

400 character(s) maximum

Uptake and evolution of the EU flagship space programmes

The EU is investing in two big space programmes: Copernicus for Earth Observation and Galileo/EGNOS for satellite navigation. These programmes, which constitute a cornerstone of the EU's space and industrial policies, span the entire value chain of the Earth Observation and satellite navigation industry and are a driver for research, innovation and creation of highly skilled jobs, with direct and indirect benefits for the European economy. In order to reap the full potential benefits of the EU investments, it is important to ensure that the programmes are used as widely as possible by public and private sectors, and their continuity and future evolution is ensured, reflecting evolving user needs and new technological developments.

Question 19 - Exploiting the synergies between the two European flagship space programmes is an area of potential enhanced benefits for EU policy objectives. In which area do you see the biggest potential for such synergies?

Please rank the options below in order of priority from "1 - not relevant" to "4 - most relevant".

NB: Avoid selecting the same rank for all options.

	1	2	3	4
In technology transfer to boost innovation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
In joint programme management to improve efficiency and reduce related cost	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
In infrastructures to reduce cost	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
In security to optimise common issues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
In development of applications	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Other +	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Copernicus

Copernicus is the EU's Earth Observation and monitoring programme operational since 2014. It consists of a complex set of systems which collect data from Earth Observation satellites and in situ sensors, such as ground stations, airborne and sea-borne sensors. It processes these data and provides users with reliable and up-to-date information through a set of services related to environmental and security issues.

Question 20 - Are you currently using Copernicus products?

- Yes+
- No ++

++ If no, do you wish to use Copernicus products in the future?

- Yes +
- No +++

+++ If you selected "No" above, please specify why not:

200 character(s) maximum

It is out of our scientific and technical interest.

Question 21 - Please indicate whether you consider the technical aspects below as a problem.

Please rank the options below in order of importance from "1 - no problem" to "4 - serious difficulty". If you have no experience, please select N/A.

	1	2	3	4	No answer
Access to Copernicus data	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Access to products from the Copernicus services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Storage of Copernicus data and services products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Processing of Copernicus data and services products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Combination with other sources of data	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Quality and clarity of the metadata on the Copernicus data and services products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Long-term predictability regarding the availability of Copernicus data and services products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

Question 21 a) - In the text box below please provide any general comments on the most serious technical difficulties encountered.

400 character(s) maximum

Question 22 - In your opinion, in which ways should the Commission foster the uptake of Copernicus?

Please rank the options below in order of importance from "1 - unimportant" to "3 - very important".

NB: Avoid selecting the same rank for all options.

	1	2	3
Facilitate access to Copernicus data and information	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Provide access to hosted data processing capabilities (e.g. clouds, platforms)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Promote interoperability between Copernicus and other sources of data (i.e. from other satellites or sensors in airborne or in-situ platforms)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Raise wider awareness of the possibilities offered by Copernicus	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Support start-ups and entrepreneurs that use Copernicus data and information (e.g. through awareness campaigns, prizes, coaching, incubation programmes)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Provide users with technical support (e.g. hotline or trainings) on how to access and use the data and information	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Foster public demand (e.g. through exchange of best practices or specific innovation procurement)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Support dedicated education programmes and academic curricula to raise skills related to Earth Observation	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Increase awareness of Copernicus in other sectors (e.g. agriculture, transport, energy...)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Foster cooperation on Earth observation with non-EU countries	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Other +	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question 23 - As the Copernicus programme gradually deploys, there is consensus on a need to integrate in its architecture a dedicated data infrastructure component that ensures data availability. Which of the following solutions are most adequate in your opinion?

Multiple choice is possible.

- Data platforms controlled and run by public authorities
- Data platforms built, operated and controlled by private entities (i.e. no public intervention)
- Data platforms controlled and run by industry but supported with public funding
- Other +

Question 24 - In your opinion, which of the following elements should be included in such a data infrastructure component?

Please rank the options below in order of priority from "1 - not relevant" to "4 - most relevant".

NB: Avoid selecting the same rank for all options.

	1	2	3	4
Access to all Copernicus data, products and service information on the platform, including long-term archives	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Access to hosted processing resources on the same or interoperable platform	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Access to tools and software libraries	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Access to on-line marketplace where you can sell and buy geo-information data and services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other +	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question 25 - The Copernicus programme currently provides many products based on six Copernicus services (Land, Atmosphere, and Marine Environment monitoring, Emergency Management, Climate Change and Security). In your opinion, which other products (with the necessary associated observation capabilities) should be included in the future?

Please rank the options below in order of importance from "1 – least important" to "5 - most important".

NB: Avoid selecting the same rank for all options.

	1	2	3	4	5
Extension to monitoring of polar regions for e.g. ice-related and sea surface height information	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Extension to monitoring of the greenhouse gas emissions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Extension to monitoring of land and sea borders	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Extension of natural hazard monitoring	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Extension of land use and soil monitoring products, including soil moisture, degradation and erosion products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Extension to agriculture information products serving e.g. precision agriculture and global crop monitoring needs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
None. The number of products from the services should remain limited to the current scope.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other +	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question 26 - On top of addressing societal challenges, the Copernicus programme has significant benefits in terms of growth and jobs. In your opinion, how should the Commission increase the potential of Copernicus for the private sector?

Multiple choice is possible.

- Ensure easy access to Copernicus products in the EU
- Ensure easy access to Copernicus products worldwide
- Ensure long-term availability of Copernicus products
- Explore the scope for public-private partnerships for infrastructure
- Purchase more data from private sources (e.g. commercial satellite providers)
- Clarify the boundary between the products that constitute a Copernicus core service and those that should be left to the downstream (commercial) sector
- Other +

Galileo / EGNOS

EGNOS is the European navigation satellite system providing enhanced services over the European region and Galileo is the European Navigation Satellite System providing Services [1] globally. EGNOS is operational since 2009 [2] and Galileo initial services are expected by the end of 2016.

[1]

- *Open service (OS) provides positioning and synchronisation information to users for free*
- *Commercial Service (CS) provides improved performance (versus OS) for professional or commercial use*
- *Public Regulated Service (PRS) provides strong and encrypted signals to government-authorized users*
- *Search and Rescue service (SAR) contributes to detect emergency signals*
- *Integrity –monitoring service for safety-of-life applications*

[2] A new generation 'EGNOS V3', is currently being developed within the European GNSS Evolution Programme to provide single and dual frequency services and enhanced performance and robustness for receivers capable of both Galileo and GPS.

Question 27 - In your opinion, in which areas and how should the EU promote the use of EGNOS and Galileo?

Please select for each **sector** ("Road", "Rail", ...) the most relevant **type of action** ("Awareness raising", "R&D", ...).

NB: For each **sector** you can select only one **type of action**. For example, if for "Road" you have selected "R&D", you cannot select also "Standardisation".

	Awareness Raising	Research & Development	Standardisation	Regulatory measures	Other +
Road	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rail	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Aviation	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Maritime	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Agriculture	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Surveying (cadastral, construction, mapping and mining)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Location based services (mobile phones)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Timing and synchronisation of energy networks	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Timing and synchronisation of telecommunication networks	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Timing and synchronisation of banking networks	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other +	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question 28 - In your view what are the biggest obstacles to a broader market uptake of Galileo?

Please rank the options below in order of importance from "1 - not relevant" to "6 – very important".

NB: Avoid selecting the same rank for all options.

	1	2	3	4	5	6
Existence of other GNSS (e.g. GPS, GLONASS, Beidou)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Regulatory barriers at EU level	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Regulatory barriers at national level	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Regulatory barriers in third countries	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Absence of standards	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Insufficient R&D funding	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Insufficient training / awareness among potential users	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Costs of enabling the use of Galileo	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other +	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question 29 - In case of an accident, you can call the emergency number 112. Would you find it useful that your accurate location is automatically transferred to the emergency services (in order to speed up the time emergency services take to find you)?

- Yes +
- No

+ If yes, do you believe that caller location would be more accurate if GNSS location data was used, including EGNOS/Galileo?

- Yes
- No

Question 30 - Several network infrastructures, such as electricity networks, telecom networks for mobile phones or networks used by banks to time stamp transactions need to be synchronised to function properly. Do you think that action should be taken to increase the resilience and reliability of the synchronisation by using the exact timing provided by EGNOS/Galileo (on top of other global navigation satellite systems, such as GPS or GLONASS)?

- No
- Maybe
- Possibly
- Don't know
- Certainly

Question 31 - The Commission is financing research and innovation to support market uptake. More specifically, the activities focus on developing applications and chipsets and receivers that use EGNOS and Galileo. In which areas should the funding be focused and what R&D instruments should be used?

Please select for each **sector** ("Road", "Rail",...) the most relevant **type of action** ("Grants", "Call for Tender", ...).

NB: For each **sector** you can select only one **type of action**. For example, for "Road" if you have selected "Call for Tender", you cannot select also "Public Private Partnerships".

[1] As defined in Article 51 of the H2020 Rules for Participation (Regulation (EU) No. 1290/2013)

	Grants	Call for Tender	Pre-commercial Procurement/Procurement of Innovative Solutions[1]	Public Private Partnerships	Other +
Road	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rail	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Aviation	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Maritime	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Surveying (cadastral, construction, mapping and mining)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Location based services (mobile phones)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

Timing and synchronisation of energy networks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Timing and synchronisation of telecommunication networks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Timing and synchronisation of banking networks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Other +	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question 32 - The Intellectual Property Rights (IPRs) owned by the EU are made available to all interested parties. This is done for the Galileo Open Service through an authorisation (non-exclusive and free of charge) that does not require any signature or commitment from its beneficiaries.

Question 32 a) - In your opinion, does this regime fulfil the objective of encouraging the adoption of new technologies using the EU GNSS by receiver and chipset manufacturers, application developers, and service providers?

- No
- Maybe
- Possibly
- Don't know
- Certainly

Question 32 b) - Should measures be taken in order to further promote and encourage innovation in this downstream market?

- Yes +
- No

+ If you selected "Yes" above, please specify:

300 character(s) maximum

Question 33 - Cooperation with international partners, especially those with their own GNSS (e.g. USA, Russia, China) and with those who are developing their own regional systems (e.g. Japan, India, etc.), is extremely important as regards compatibility and interoperability issues, as well as trade matters.

Question 33 a) - With which international partners do you think that this cooperation has been most effective to date?

	In terms of compatibility of the systems	In terms of interoperability of the systems	In terms of market access
USA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Russia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
China	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Japan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
India	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other +	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Question 33 b) - Is there more that the EU could do at international level to support the market uptake of EGNOS and Galileo and the export of the European satellite navigation technology and/or good and services?

Multiple choice is possible.

- Sign international cooperation agreements with other third countries
- Organise trade promotion events
- Participate and organise international conferences
- Organise (institutional) space dialogues with third countries
- Extend EGNOS coverage to neighbouring countries
- Other +

Question 34 - Today, Europe operates EGNOS that is providing added-value information to GPS users on a regional scale, i.e. to users located in the European territory; this added-value includes higher accuracy and better trust in the GPS signals. In parallel, Galileo will provide independent navigation services worldwide as from 2020. These two systems have been developed to respond to different needs; they are technically independent and face different operating constraints. In a perspective of modernisation of these two systems, do you consider that future generation of EGNOS and Galileo should continue to be developed separately in the very long-term (beyond 2030)?

- Yes
- No

Question 35 - The current approach followed by the EU to define the future generation of Galileo is driven by user requirements rather than a technology-push. In your view, what should be the most important priorities for the evolution of Galileo in the long term?

Please rank the options below in order of importance from "1 - not relevant" to "6 – very important".

NB: Avoid selecting the same rank for all options.

	1	2	3	4	5	6
Improve navigation performance (e.g. availability, reliability, accuracy, integrity)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Reduce lifecycle costs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Improve the robustness of the system (e.g. against unintentional interference / propagation events, malicious attacks)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Other +	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question 36 - In addition to the currently defined services, which other services or additional features compared to other satellite navigation systems should in your view be considered for the future Galileo?

Please rank the options below in order of importance from "1 - not relevant" to "4 - very important".

NB: Avoid selecting the same rank for all options.

	1	2	3	4
Service for satellite navigation applications in space	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Short Messaging Service	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emergency Warning Alerts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Inclusion of non-navigation payloads	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Other+	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Background Documents

["A Space Strategy for Europe" roadmap \(/eusurvey/files/09d1acce-5220-4efa-9b13-7f8a1afa6fd0\)](/eusurvey/files/09d1acce-5220-4efa-9b13-7f8a1afa6fd0)

[Stakeholder consultation strategy \(/eusurvey/files/1b9ed480-6778-4357-9e69-535cd8c1d63b\)](/eusurvey/files/1b9ed480-6778-4357-9e69-535cd8c1d63b)

Contact

GROW-I1@ec.europa.eu