

SYNOPSIS REPORT ON THE CONSULTATION 'A SPACE STRATEGY FOR EUROPE'

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, climate change or security. They enable research and innovation, growth and jobs creation, not limited to highly specialized sectors.

Space policy contributes to the growth and investment agenda of this Commission and space is recognized 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 2016. The purpose of the Space Strategy is 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 preparation of the Strategy has included a comprehensive stakeholders' consultation process, the results of which are summarized below.

1 CONSULTATION PROCESS

The consultation was conducted in two steps: through an open public consultation and ad hoc targeted consultation activities. The open public consultation aimed at reaching out the largest possible base of citizens and stakeholders. Targeted consultation activities towards main European space actors were conducted in order to ensure a balanced approach to sectorial interests.

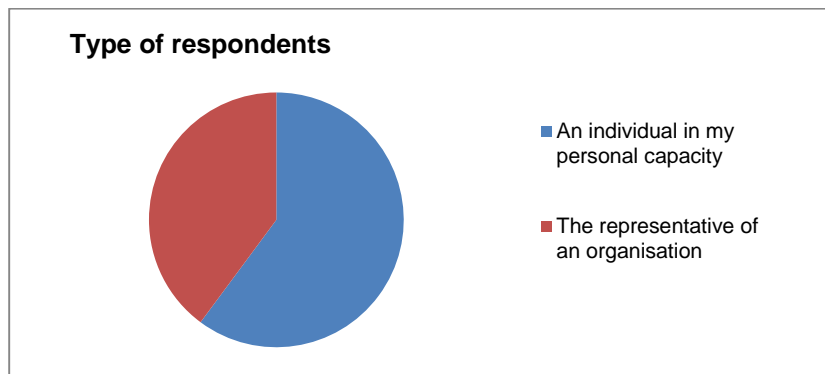
1.1 Open public consultation

An open public consultation was conducted from 18 April until 12 July 2016 and was available on the public website of the Commission <https://ec.europa.eu/eusurvey/runner/SpaceStrategy>. The consultation was 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 wanted to share their views on the future Space Strategy. It contained 36 questions calling for open replies, multiple choice replies or ranking replies, built around the main domains expected to be covered by the Space Strategy:

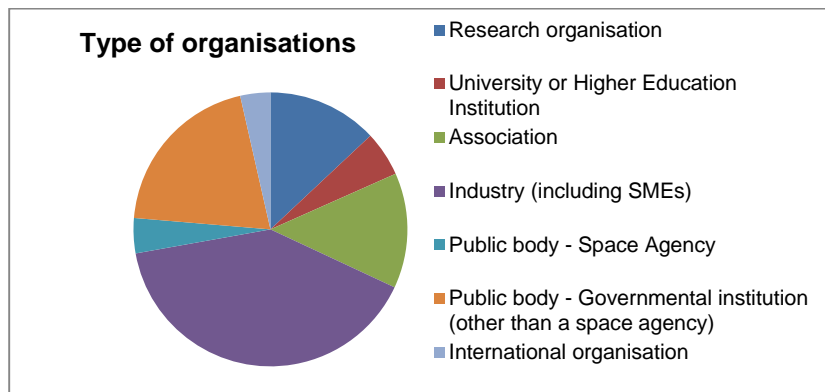
- General objectives of a Space Strategy for Europe
- Space economy and Competitiveness
- Access to space
- Security
- Future developments
- International cooperation
- Uptake and evolution of EU flagship space programmes
 - Copernicus
 - Galileo/EGNOS

A relative high number of replies were received (424) representing a wide coverage of respondents across different categories and geographic origin. The data regarding the characteristics of the respondents is however incomplete due to the fact that many respondents (almost 40%) have not replied to the questions concerning the type/size of organisation, geographic origin, domain of activity, etc.

From the partial data collected, the results appear to be rather balanced between individuals (60% of the replies) and organisations (40%).



Replies from organisations represent mainly associations and industry (53% of the replies to the question on the type of organisation) and the public sector (28% of the replies). The majority of these organisations are involved in space-related activities.



From all the replies which indicated the geographic origin (including replies from individuals and from organisations), most originated from the European Union (from 21 EU Member States), with a strong participation to be noted from Spain, France, the UK, the Netherlands and Germany, followed by Belgium, Italy and Finland. 24 replies (out of 255 indicating geographic origin) were received from 15 non-EU countries (e.g. USA, Turkey, Tunisia, Thailand, South Africa, Korea, Japan, Mexico, Australia, Brazil, Chile, etc.)

1.2 Other consultation activities

The European Commission also conducted a number of targeted consultation activities. Other EU institutions and agencies were consulted and some of them provided written input. Written contributions were received from the European External Action Service (EEAS), the European Defence Agency (EDA), the European Global Navigation Satellite Systems Agency (GSA) and the European Union Satellite Center (EU SATCEN). The Commission cooperated closely with the Council, and followed the work of the European Parliament on “Space capabilities for security and defence”¹ and on “Space Market Uptake”².

Regular meetings were held at the level of Director General with the European Space Agency (ESA) during the period concerned, addressing notably the Space Strategy, and an EU-ESA Informal Space

¹ European Parliament Resolution of 8 June 2016, P8 TA (2016) 0267

² European Parliament Resolution of 8 June 2016, P8 TA PROV (2016) 0268

Ministerial meeting took place in The Hague on 30 May 2016. Other intergovernmental organisations, such as EUMETSAT and EUROCONTROL also provided their views on the Strategy.

The Member States have been extensively consulted on elements of the Space Strategy, in particular through:

- the Space Policy Expert Group (meetings of 3 March 2016, 11 May);
- the Council Space Working Party (meetings of 4 March, 8 April, 13 May, 10 June);
- the Competitiveness Council of 26 May 2016;
- three ad hoc meetings with all EU Member States dedicated to the Space Strategy (17 May, 8 July and 9 September in Brussels) in which the Commission presented the initial concept of the Space Strategy for Europe and gathered the feedback of the national representatives;
- informal bilateral meetings and written contributions received at the initiative of some Member States (e.g. Denmark, France, Germany, Ireland, Italy, Sweden, the Netherlands, Poland, United Kingdom). A group of 10 Member States sent a joint letter reflecting their views (Bulgaria, Croatia, Cyprus, Czech Republic, Latvia, Lithuania, Malta, Portugal, Romania and Slovenia).

The 'Space Solutions Conference' organised on 30 and 31 May by the Dutch Presidency of the Council of the EU was also an opportunity to collect the views of the stakeholders.

In addition, the private sector, notably the industry and its business associations, were consulted through the industry dialogue process (meetings of 18 April and 17 June), through Workshops on Access to Finance and Market Conditions for the space industry (on 25 January, 3 May and 5-6 July), and through several informal bilateral meetings at the initiative of some industry actors. Around 25 written contributions were received in addition.

Some inputs were also received from universities and research centres and associations.

Finally, in view of the global nature of space, an outreach on the public consultation on the Space Strategy for Europe was initiated through the European External Action Service and the EU delegations in order to target international partners in third States. The outreach suggested that the national authorities dispatch the link to the online consultation among local administration bodies and non-public actors. Around 20 formal contacts/meetings have been held with the national authorities of third States. These contacts resulted in verbal exchanges reported by the EU delegations or in contributions (written or online through the questionnaire).

2. RESULTS OF THE CONSULTATION

Overall, the results of the online questionnaire and the outcome of the ad hoc consultation activities have provided material that the Commission has carefully analysed with a view to feed its reflection on the Strategy.

There is little divergence between the positions of the various stakeholders (Member States, manufacturers, operators, users, science and research centers, etc.) on the different topics: the results of the online questionnaire (60% of the replies to which come from individuals) are very often confirmed by the positions of the Member States and of other stakeholders and vice-versa. There is thus a general consensus on the topics to be addressed in the Strategy, on the current shortcomings and on the future challenges. When some differences appear, they are mostly in the order of priorities for each category of stakeholder.

2.1 General objectives of a Space Strategy for Europe

The large scope of this subject (4 questions) triggered the largest number of replies and contributions. The results of the online questionnaire, mainly answered by individuals/citizens, differ slightly from those of the targeted consultations, with citizens emphasising societal goals, while industry tended to emphasise economic goals.

The Commission has reflected this input in defining the principal objectives around which the Space Strategy is constructed, emphasising the need to maximize the integration of space into European society and economy among the key goals. The Commission has focused on the socio-economic aspects of space as a driver for competitiveness and jobs creation rather than on the “inspirational” aspects, linked to activities such as space exploration or human spaceflight, which it considers an area of primary responsibility for the European Space Agency and national space agencies.

▪ *Results of the online questionnaire*

When invited to provide free comments on the Space Strategy for Europe, some respondents to the online questionnaire refer to four main high-level goals:

- provide an inspirational and ambitious vision for a new societal horizon;
- bring security and prosperity to our society,
- ensure the non-dependence and the influence of Europe, as a major space power, at global level;
- prepare the future of the next generations and of the humankind, the future 'civilisation challenge', for instance through manned flights and exploration.

Among the possible objectives of the Space Strategy a vast majority of the online respondents equally mentioned, contributing to the competitiveness of European industry, supporting the uptake and evolution of the EU flagship programmes, investing in research and innovation and enhancing international cooperation.

In the free text comments, some respondents also mentioned some transversal/horizontal aspects, such as an improved governance at European level, an increased effort on education and promotion of space, streamlined and enhanced public funding at European level, optimised through more agile and flexible instruments (H2020 being perceived as too slow and complex and the 'juste retour' of ESA as discouraging true competition and access to market by SMEs).

On the question on how the respondents see the role of the EU under article 189 of the TFEU, 28 % of the respondents chose scientific discoveries and innovation, 19% the creation of jobs and growth and the protection of critical infrastructures, 14% the security and safety of European citizens.

Concerning the areas in which space technologies and space services play an important role now and in the future, no one area seemed to be highlighted over the others as the replies to the online questionnaire are evenly distributed across the thematic areas proposed³.

Results of other consultation activities

³ 16 areas proposed: Environment, climate change mitigation and adaptation, energy, transport, telecommunication, security & defence, border control, civil protection, migration, marine and maritime activities, agriculture, education, development, health, employment, leisure activities, others.

The feedback from the Member States which took position on this aspect largely confirmed the results of the online consultation, except that they tend to see the priorities in a different order from a more economic perspective, putting the emphasis for instance on sustaining and using the existing infrastructures (Galileo, Copernicus, European launchers and Europe's spaceport) and encouraging the development of new space applications.

The feed-back received from the majority of stakeholders representing the industry puts the focus on the need to exploit to the full potential and extend the existing EU programmes and to increase European industry's competitiveness through support to R&D. Users, such as European regions, recall the necessity to take into account user-relevant policies, in particular at regional and local level.

2.2 Space economy and Competitiveness

The input received through the consultations largely confirm the Commission's analysis of the main trends shaping the global space environment and affecting the competitiveness of the European space sector (e.g. with technological shifts and new business models emerging globally).

In the Space Strategy, the Commission has addressed the main issues raised in the consultations. In particular it has considered measures to support the competitiveness of the sector by fostering research, innovation and developments of skills, by opening up new sources of finance and investments for the sector and by promoting an entrepreneurial eco-system. The detailed results of the consultation are as follows:

- *Results of the online questionnaire*

Concerning the **main challenges** facing the European space sector, respondents identify a number of issues but not one stands out as being particularly important: the industrial competition from existing or emerging space powers (12%), the lack of appropriate financing mechanisms supporting space activities, such as venture capital and risk financing (11%), the fragmented European market and lack of critical mass (11%), as well as the security and sustainability of space activities linked to e.g. space debris, cybersecurity or other threats (11%).

Concerning the **most important opportunities** in the next 10-15 years no one issue seems to emerge as respondents equally identify the following opportunities: The trends towards lower cost and more frequent access to space (18%), the commercialisation of space activities (18%) and the use of small satellites (18%).

Regarding **possible actions to be undertaken at EU level** to foster the competitiveness of the European space sector, the respondents rank the following as most important:

- Support state-of-the-art space research (14%);
- Support skills development, from space-specific engineering skills to entrepreneurial skills (12%);
- Facilitate access to space data and technologies generated in the EU (12%);
- Facilitate access to finance to support the space industrial base and foster space entrepreneurship in Europe (11%).

Regarding the question on the actions that could be taken at European level to facilitate access to global markets, 40% of the respondents to this question consider that it is necessary to reinforce

cooperation between the European Commission, Member States and business to identify market access barriers and define joint barrier removal strategies. 34% would like the EU to design economic diplomacy initiatives specific to the space sector in coordination with Member States.

For what concerns the most important action for the EU to encourage private sector collaboration/investment in space programmes, the highest number of responses (36% of the respondents to this question) refers to the promotion of partnerships between the public and private sectors .

Dependency on a few third country suppliers, in particular for 'critical technologies' (i.e. those components or subsystems essential to space programmes) is a concern for the European space programmes/activities for 50% of the respondents to this question, while 30% of them considers that it is not a concern. . For those who consider that this is a threat and who made proposals to mitigate this risks, the most effective way of reducing such dependency according to the survey results is by ensuring support for research in order for the critical technologies to be developed in Europe.

- *Results of other consultation activities*

For the large majority of Member States access to and use of space data delivered by the EU's Earth observation and satellite navigation platforms is a major strategic strand to be supported by the EU. In particular, research and innovation actions should foster the market uptake and development of downstream applications using space-based solutions.

The feed-back received from the majority of stakeholders representing the industry also recognise reaping the benefits of past investments in Copernicus and Galileo infrastructures as a strategic priority. However, industry stakeholders stressed more the importance of reinforcing the competitiveness of the European space sector by investing in the development of critical space technologies, leading to European non-dependence, attaining a sustainable and reliable supply chain of European component and systems providers, and by ensuring public private partnership schemes with industry.

Both the Member States and the stakeholders representing the industry which provided contributions on this subject recognise the importance of providing adequate support for a booming ecosystem of European-based "Newspace" actors, similar to the North American Silicon-Valley-minded community of space entrepreneurs. The conclusions of the three consultative Workshops on "Access to finance" organized by the Commission early 2016 called for means facilitating access to financial instruments leveraging opportunities through Horizon 2020 and the Union Investment Plan.

2.3 Access to space

The contributions received on this topic generally support further actions in support of European independent access and use of space, as a strategic asset, subject to ensuring a competitive level playing field for the European industry and anticipating future evolutions in particular towards cost reduction of access to space.

In line with the input received, the Commission has made proposals in the Space Strategy for maintaining an autonomous, reliable and cost-efficient access to space for Europe, such as aggregating the launch service needs of EU programmes, contributing to long-term research and innovation needs, and considering ways to support launch infrastructure facilities where this is

needed to meet EU Policy objectives or needs. The detailed results of the various consultation activities on this topic are as follows:

▪ *Results of the online questionnaire*

When asked whether access to space is an area where the EU should become more involved in the future, 74% of the online questionnaire respondents to this question replied positively. When requested to provide suggestions on how this involvement should materialize, some of these respondents call for:

- The consolidation of the European institutional demand for launchers, with a European preference;
- The development of low-cost access to space and re-usable launchers;
- The need to foster private initiatives in line with the 'New Space', facilitating the emergence of a competitive market for SMEs, Public-Private Partnerships with industry and disruptive approaches;
- Access to space for small satellites.

Other suggestions call for European autonomy, investment in R&D and innovation, and for the development of manned space flights (for space tourism or exploration).

The need for a close synergy with ESA is underlined by several respondents.

▪ *Results of other consultation activities*

The majority of Member States which took position on the issue of access to space sees the EU primarily as a customer of launch services, but acknowledge the need to look ahead and anticipate new technological developments and new evolutions, especially in low-cost launchers and micro-launchers. They also mention that research should address not only technological innovation but also industrial processes.

Some Member States underline the need for a micro/mini launcher capacity for Europe to be able to catch the small satellite launch market and would support EU action in support of low-cost access to space technologies, including for new spaceports. Some of them also stress the strategic priority of keeping European autonomy in access to space, and of sustaining and using the European launch systems. They call for the aggregation of institutional demands for launch services to provide better visibility to the industry. Some Member States consider that EU involvement is needed in the financing of launch infrastructures in order to enable European industry to compete on a level playing field globally.

European industries involved in access to space that participated to the consultation underline the need for a level-playing field with main international competitors. They would welcome in particular better visibility on long term institutional demand, investments on launch infrastructures and support to Research and Innovation in order to prepare the next generation of launch systems.

2.4 Security

The contributions received on this topic are quite consensual and generally support the development of civil-military synergies in space. The evolution of the existing Space Surveillance and Tracking

support framework (SST) seems to be supported. Stakeholders also call for actions going beyond SST to prevent the proliferation of debris. On governmental satellite communication (Govsatcom), stakeholders seem to support an initiative by the EU subject to establishing clear user needs and building on existing capacities.

In line with the input received, the Commission has considered in the Space Strategy an evolution of SST to other types of threats. However, at this stage, an action to remove debris proliferation has not been considered due to the lack of international consensus on this issue. On Govsatcom, the Commission and EDA have already taken action to establish user requirements and the Commission will prepare an impact assessment to assess the feasibility of action in this area. The detailed results of the various consultation activities on this topic are as follows:

- *Results of the online questionnaire*

Around 50 % of the respondents to the online consultation have replied to the question regarding the way dual-use space systems and technologies could be optimized. 93% of these respondents support the promotion of civil-military synergies at European level, particularly in Earth observation, navigation and satellite communications.

When requested to indicate whether the EU action on SST should evolve, 80% of the respondents to this question replied positively, giving priority to the protection of European satellites against cyber-threats and space weather hazards, followed by intentional (manmade threats) and other natural threats.

73% of the online respondents to the question on governmental satellite communications considered very important or somewhat important for the governmental and security users to have the possibility to benefit from better access to secure satellite communications with guaranteed availability and improved resilience. Several replies to the online questionnaire supported a dual-use approach and hybrid (space/terrestrial) solutions.

- *Results of other consultation activities*

The results of the online questionnaire are confirmed by the direct contributions received from various categories of stakeholders (Member States, manufacturers, operators, users, science and research centers).

- Member States and industry acknowledge the link between space and security and the need to consider potential dual-use synergies when launching new space activities or programmes.
- On space debris, all categories of stakeholders express concerns on the need to ensure security in space and protect European space assets. The industry in particular calls for a ‘Clean Space’ in which space weather, Near Earth Objects (NEO) and man-made threats would be identified and mitigated. Member States support the SST and in particular its governance model. They are in favor of the SST evolution, for instance towards space weather activities, but stress the importance of taking action in parallel to mitigate the proliferation of debris. They would like to see the EU playing a regulatory/policy role, at EU or international level, in preventing debris proliferation, e.g. through a regulation on de-orbiting or through the development of space traffic management activities.

- On Govsatcom, the Member States, the industry (including manufacturers and operators), and the users support a better access to secure satellite communications with guaranteed availability and improved resilience, as well as the principle of de-fragmenting the demand for governmental satellite communications. But some of them consider that EU action in this regard should be subject to confirmation of the exact users' needs (or rather security needs) and should take due consideration of already existing satellite communication services. Some of these stakeholders, notably the satellite operators, point to the importance of having a global approach to communications needs (e.g. interoperability with future 5G).
- Other comments (from all categories of stakeholders, including the European External Action Service) make reference to the need to use the full potential of Copernicus and of the European Global Navigation Satellite Systems (EGNSS) for security purposes (see § 2.7).

The European Parliament, in its report on “Space capabilities for security and defence” calls for a reinforced use of European space capabilities to support the European Common Security and Defence Policy (CSDP). The European Defence Agency underlines that the next generation of European space systems should take into account their potential for dual-use and support initiatives such as the SST, Govsatcom, the use of Galileo for security purposes and Earth Observation and imagery analysis.

2.5 Future developments

This subject is the one that triggered the least contributions in the online public consultation. Due to the wide scope of the question and the longer timeframe considered (2030), the results are not precise enough to allow any precise proposals, particularly since most of these future developments might be dependent on the evolution of the international legal framework.

- *Results of the online questionnaire*

Regarding which development could most impact space activities and business in the long-term future (beyond 2030), 59% of the respondents to this question refer to sustainable space activities (such as space debris reduction and in-orbit satellites servicing) while 50% favour also space exploration, closely followed by developments leading to sub-orbital flights (enabling, for instance, point-to-point transportation, space tourism and access to space).

- *Results of other consultation activities*

The topic is not clearly addressed in the feedback from Member States and industry. In the timeframe beyond 2030 space exploration is however mentioned as an important topic deserving a strategic definition often in a context of international cooperation. This message is particularly underlined by industry and to a lesser extent by Member States.

2.6 International cooperation

Reinforced international cooperation is supported by most space stakeholders, in particular by European actors and for all space sectors. The Commission has taken the responses into consideration in the Strategy, in particular the suggestions to support European companies access external markets and on a reinforced European position in the global fora.

- *Results of the online questionnaire*

72% of the respondents to the online questionnaire replied to the question on the areas in which the EU should reinforce its cooperation with international partners in space. The answers are equally distributed among the proposed sectors (around 17% for each category): satellite navigation, earth observation, space situational awareness, space science, space exploration and use of space data. Among the other areas suggested by respondents, the cooperation in the development and promotion of downstream applications is often indicated.

- *Results of other consultation activities*

For Member States and industry who provided direct contributions, it appears paramount that Europe maintains and strengthens its position as a major space power and a key international partner in all space matters. For them, the Space strategy should consider how to allow for a more robust European position in the international cooperation context, with the aim to promote common development and partnerships at the international level. Most Member States also highlight that the EU should improve coordination with national authorities to facilitate market access and motivate enterprises to enter international markets. For some of them, the EU should consider supporting measures to initiate new international cooperation initiatives.

Several third countries have stressed interest and readiness to cooperate with the EU, as a key partner in space, notably with regard to EGNOS, Copernicus data, joint research activities and downstream market.

2.7 Uptake and evolution of EU flagship space programmes

2.7.1 Copernicus

Contributions converged around three main aspects, namely the importance of Copernicus to evolve and have a long term perspective as a primarily publicly funded and user driven programme, the need to improve access to the data generated by Copernicus and the need to increase activities concerning uptake by public and private users to promote market creation and development.

The Commission has partly reflected these inputs in the priority actions detailed in the Strategy, specifically as regards user uptake, market development and data access. The detailed results of the consultation activities are as follows:

- *Results of the online questionnaire*

Data access and long term availability of Copernicus products (service and satellite data) are considered as the most important aspects for Copernicus (more than 70% of the respondents to the question on the key elements to be included in the data infrastructure component). Storage, processing of Copernicus data and the combination with other data are considered key issues. Commission activities to foster uptake of Copernicus should focus on facilitating access to data and information; about 72% of the respondents consider this very important. Awareness, both within the earth observation sector as in other sectors is considered very important (51% and 61% respectively). Access to hosted processing capabilities, interoperability, support start-ups and dedicated education programmes are considered slightly less important.

More than 85% of the respondents consider that solutions for data availability should include public funding, with about 39% of the respondents promoting a mixed public-private funding model. Only 9% is convinced that solutions should be developed entirely by the private sector.

Access to all Copernicus data is deemed most relevant by 68% of the respondents. Access to tools is considered the second most important element (33%), while access to a market place seems least relevant (17%). Only 15% of the respondents consider the purchase of data from private sources by Copernicus relevant.

88% of the respondents would support an extension of the Copernicus service portfolio, with only 12% wishing to limit the service portfolio to the current scope. Future products considered most important include natural hazard monitoring (60%), land use and soil monitoring (58%), agricultural monitoring (54%), land and Sea borders (47%), Greenhouse gas emissions (47%) and polar monitoring (44%).

- *Results of other consultation activities*

For the Member States who provided input on Copernicus and industry stakeholders, the continuation of the Copernicus programme should be ensured, and multiple stakeholders stress the necessity to formulate an ambitious long term strategy for Copernicus, including elements on the evolution of the Copernicus infrastructure and services, long-term data access and the development of the downstream sector. Member States expressed the view that Copernicus should remain a publicly funded programme.

According to some Member States user uptake activities, including the recently started Copernicus Masters programme and Copernicus for start-ups, should continue to increase the use of Copernicus data by public, scientific and private users. Furthermore, Copernicus should address the Big Data challenge and promote market development. Copernicus should foster the establishment of a globally competitive downstream sector.

Several stakeholders and Member States indicated that International cooperation in the context of Copernicus should be pursued and take into consideration the existing agreements between ESA, EUMETSAT and other satellite agencies worldwide. Coordination with the Group of Earth Observation should be reinforced. Satellite systems developed and operated by ESA and EUMETSAT are an asset for Europe and synergies with Copernicus should be actively established, along with tailored EU-funded research activities for the development of downstream environmental applications and forecasts. Copernicus needs to build upon infrastructures available in Europe, in particular in the Member States, ESA and EUMETSAT.

As one of its priorities, Copernicus should guarantee long-term observations in the framework of climate change mitigation and adaptation activities, according to some Member States and external stakeholders. In particular, space-borne observations of greenhouse gases in conjunction with in-situ measurements should be included as part of its portfolio. A seamless integration between Copernicus Data and Services and Basic National Services is desirable. Furthermore, with regards to the evolution of the space Component, the development and operation of a constellation of small / medium Sentinels should be considered an option.

2.7.2 Galileo/EGNOS

The contributions received converge around three main aspects namely, the achievement of the current deployment of Galileo, the need to increase activities concerning uptake by users and the preparation of the evolution of the European Global Navigation Satellite Systems. Overall stakeholders call for a long term stability of the programmes with a strong R&D support.

The Commission proposed related responses in the Strategy. Regarding user uptake and market development, proposed actions could for instance address standardization, R&D support, use of Galileo for emergency calls (E112), critical infrastructures and extension of regional coverage to EU neighbourhood countries and Africa. As regards the evolution, the strategy underlines the need to make it more robust, performant and cost-effective with a strong R&D support. Provision for new services in the evolution is also considered.

- *Results of the online questionnaire*

The market uptake of Galileo faces obstacles, which are, according to respondents, evenly distributed between insufficient R&D funding (16%), existence of other GNSS (15%), absence of standards (14%), insufficient awareness raising (14%) and regulatory barriers (third countries: 12%; national level: 11%, EU: 10%). Only 7% of respondents identify the cost of enabling Galileo as an obstacle.

As to the areas and actions that the EU should promote the use of Galileo/ EGNOS there is an even distribution between the different markets (road, rail, aviation, maritime, agriculture, surveying, location based services, and timing and synchronization). A majority consider standardisation as the most important tool to promote the use of Galileo/EGNOS, followed by R&D and regulatory measures. Public private partnerships are the favoured form of support in almost all markets except surveying, in which calls for tenders are preferred.

The use of Galileo for emergency calls (E112) is perceived as very useful; most stakeholders believe that the caller location would be more accurate if GNSS location data was used, including Galileo/EGNOS. Moreover, 52% of the respondents to the question see a need to take action to increase the resilience and reliability of the synchronisation of several network infrastructures, by using the exact timing provided by Galileo/EGNOS.

A majority of respondents consider that the existing IPR regime fulfils the objective of encouraging the adoption of new technologies using the EU GNSS.

At international level, stakeholders believe that more should be done to support the export of European satellite navigation technology, notably by signing cooperation agreements with third countries, by extending EGNOS coverage to third countries and by organizing space dialogues. Trade promotion fairs, on the other hand, are seen as less important.

The majority of the respondents are of the opinion that, in modernising the two systems EGNOS and Galileo, they should not be developed separately in the long term. The most important priorities for the evolution of Galileo in the long-term are: to improve navigation performance (40%), to reduce lifecycle costs (38%) and to improve the robustness of the system (22%). In addition, stakeholders support the need to consider new services to meet emerging user needs.

- *Results of other consultation activities*

In the consultation meetings organized by the Commission, Member States expressed the view that it is vital to complete Galileo, to exploit the benefits of Galileo and EGNOS and to make sure that services are reliable, precise and continuously available. Moreover, the long-term viability of Galileo/EGNOS is considered as crucial, in order to establish a good investment climate and to reassure potential investors and users.

The Member States highlighted as well that Galileo/EGNOS should serve three purposes: to bring benefit to the European citizen, to bring economic benefits and to support societal challenges and political priorities such as energy, the digital economy, migration and border control. According to some Member States governance stability is needed for Galileo in the near future.

There is a consensus among Member States and industry to consider the gradual preparation of the next generation of Galileo satellites as important.

For the industry, the main objective is to finalise the deployment of the first generation of Galileo, to enhance European Galileo/EGNOS downstream industry competitiveness, to foster European Galileo/EGNOS uptake and to support coordination between national and European initiatives. Key support actions should include standardization, procurement policy (taking into account the specificities of the space sector), new and innovative sources of funding, R&D, development of an "EU space diplomatic policy" and availability and protection of frequencies.