

## **DG GROW meeting with Member States in preparation of Space Strategy**

8<sup>th</sup> July 2016

### **Working document#1:**

#### **Vision and Goals**

1. Space is an important and strategic sector for Europe, contributing to many sectorial policies. It is an enabler for responding to societal challenges and it effectively contributes to smart growth and highly qualified jobs, as well as the competitiveness of European economy. The standing of Europe as a global player is reinforced by its important position in all segments of the space economy.
2. Europe has had many successes in space. Thanks to the efforts of ESA, the EU and the Member States, Europe has achieved autonomy in strategically important areas, such as access to space and the use and application of space technologies.
3. Today's challenges for the space sector are characterized by changing paradigms and new user needs, an increasing number of countries and new private actors entering the field, as well as increasing reliance on space. The space sector is becoming more diverse and complex. As competition is getting fiercer, Europe cannot rest on its laurels. To shape its future standing in the sector, Europe's goals and objectives have to respond to these challenges and turn them into opportunities.
4. The collective European ambition could thus be that Europe remains a world-class actor in space and a partner of choice on the international scene. By 2030, Europe should be able to fully benefit from its space solutions to implement its policies, to strengthen European values, improve knowledge and foster prosperity. Every single European citizen shall benefit from Europe's space capacities and capabilities.

The goals, responding to this vision could be:

- To maximize the integration of space into European society and economy, by extending the use of space technologies and applications to support public policies, providing effective solutions to the big societal challenges facing Europe and the world.
- To foster a globally competitive European space sector, by supporting research, innovation, entrepreneurship for growth and jobs, seizing larger shares of global markets.
- To ensure European autonomy in accessing and using space in a safe and secure environment.

These goals shall rest on the solid foundation of excellence in science, technology and applications, expressed through an environment of outstanding education and skills and a thorough knowledge base.

#### Question:

*Do Member States share the proposed vision and goals?*

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### Working document#2:

#### Draft outline

*The following DRAFT document is presented for the purpose of orientating a discussion only. It is based on preliminary (internal) reflections within DG GROW, pending the results of the public consultation and Commission inter-service coordination.*

*Member States are invited to comment on the scope and issues addressed.*

#### I. REALISING THE ECONOMIC AND SOCIETAL BENEFITS OF SPACE

- Space technologies are part of our daily lives. Space solutions already contribute in many policy areas (e.g. environment, emergency response, crisis management, transport, agriculture, maritime, etc.). The EU is developing two big space programmes (Galileo/EGNOS and Copernicus). The deployment of these programmes and their infrastructure is progressing well. EGNOS is operational since 2009, Galileo initial services will start shortly, and four out of six Copernicus services are fully operational. This offers a powerful tool in support of public policies (at European, national, regional levels) and enormous (untapped) potential for our economy.
- For this potential to be fully realised the systems must be fully deployed, the quality and continuity of data, signals and services guaranteed, users made aware of the opportunities, and any technical or other barriers undermining the uptake of services by users and markets removed.

#### 1. Making full use of the EU's space programmes

- The Commission is committed to making Copernicus and Galileo/EGNOS a European success and fully exploiting the potential benefits they hold for the European society and economy.
- To reach this objective, different measures—both horizontal and sector specific ones—could be foreseen to promote the user and market uptake of services and data stemming from Galileo/EGNOS and Copernicus. Actions could focus on improving framework conditions and tackling technical barriers in order to facilitate access and use (e.g. data platforms for Copernicus; applications and receivers for Galileo; support to interoperability and development of standards); stimulating and supporting R&D for development of services and applications; increasing awareness and demand from users (existing and new).
- As public authorities at all levels (European, national and local) can play a decisive role as early adopters of space solutions, appropriate accompanying measures could be put in place to support the use of Galileo/EGNOS and Copernicus.

- The Commission could work with industry and users, Member States and relevant EU agencies to prioritise, on a continuous basis, sectors and markets where space could bring value and identify any legislative, administrative or technical barriers that need to be addressed at European level to enable the use of space solutions. The development of downstream applications could be encouraged, based on the integration of space data and signals with other digital and data analytics technologies.

## **2. Ensuring continuity and evolution of the programmes**

- With the EU space programmes becoming fully operational, building stability, trust and confidence in users become key. It is therefore important that current services should be fully deployed and their long-term continuity and evolution assured, driven by user needs and taking into consideration the mid-term evaluation of the programmes foreseen in 2017.
  - For Galileo and EGNOS, the evolution could comprise improvements of the current services (with greater robustness and performance, at least equivalent to the future generation of GPS) and provision of additional services, such as regional or timing services.
  - For Copernicus, existing services could be expanded to meet emerging user needs in areas, such as climate policy, migration policy or security issues. Any expansion of the Copernicus services should taking due account of the capacity of the private sector to deliver reliable and affordable services over the long term.

## **3. Enabling connectivity for the digital economy**

- Satellite communications play a key role in the digitalisation of our society and economy, as access to digital connectivity becomes increasingly important for every EU citizen. They are instrumental in connecting remote assets and populations living in areas not accessible to terrestrial networks, driving the use of widely distributed sensor networks, transforming transportation infrastructures and acting as a reliable backbone network for critical services such as safety and security. Satellite communications are also an important enabler for several EU policies and could provide complementarity to the terrestrial networks, in e.g. connectivity for the Internet of Things and in rural or remote areas. The convergence of satellite and terrestrial technologies should therefore be encouraged.

## **4. Boosting competitiveness and innovation of the space sector**

- Space is an enabler of many other industrial activities. It is a driver of competitiveness and innovation.
- Europe has a world-class space sector, which holds a strong competitive position on global commercial markets. This is enabled by the existence of a strong manufacturing (upstream) industry whose activities range from basic research to commercial infrastructures, as well as a dynamic downstream sector.
- The objective for Europe should be to maintain its independent capacity to conceive, develop, launch, operate and exploit space systems. This implies the availability of a first-rank space sector able to design and produce world-class space systems and associated ground segments, delivering the state-of-the-art systems and services required by public and private customers in Europe and world-wide. It also requires a strong, innovative and

globally competitive space industrial base, underpinned by excellent science and research, as this industrial base is the foundation to a vibrant space economy in the future.

#### **4.1. Fostering new business opportunities**

- The expected combined growth of the space economy will result across the space value chain and will be boosted by the integration of space with ICT. In particular, most of the growth potential in the space sector in the future is expected to come from the downstream uses of space<sup>1</sup>. The downstream sector will continue being enabled by a sustainable upstream sector.
- Traditionally the space sector has been driven by public sector needs and public financing. Although commercial services gradually emerge, the private sector is rather reluctant in assuming higher risks.
- Accordingly, enabling measures could be foreseen in order to foster the envisaged growth and build a transition. Such measures need to be planned at both national and European level given the global - and therefore European cross-border - dimension of space. They could aim at establishing the right framework conditions on the one hand, and incentivising the private sector to be more risk-prone, on the other hand.
- Possible Union action could be three-fold addressing awareness, business ecosystem and financing aspects.

#### **4.2. Supporting a strong industrial base**

- While Europe captures a significant share of the global commercial space markets today, the competitiveness of the European space sector is challenged at the international level.
- Unlike its main competitors the European space industry has a smaller domestic market and relies for almost half of its business on global commercial sales. The share of military expenses is also smaller and synergies between civil and defence sectors are much less developed in Europe. Unlike the US, the European market for downstream navigation and EO services is only now emerging. Europe is also highly dependent on non-European systems and critical technologies (particularly from the US<sup>2</sup>). This impacts the ability of Europe to export its products.
- This, together with the growing competition, the globalisation of the space value chains and the emergence of new business models benefiting from private financing alternatives which are more adapted to support space innovation than in Europe, is putting the European space industry under pressure. The situation is evolving fast and Europe cannot afford to lose the competitive advantage acquired so far.
- Against this background action is needed to support the European space sector so that it remains competitive and maintains its leadership positions in key market segments (satellite manufacturing, launchers, operations, services) and across the spectrum of space activities (telecommunication, EO, satellite navigation, launchers). A stronger European industrial base is also needed to allow developing the future European downstream solutions by having cutting-edge infrastructures and systems enabling unrestricted access to space data and signals.

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<sup>1</sup> According to some economic studies the return is likely to be 8 to 10 times higher in the downstream sector.

<sup>2</sup> The European Space Technology Platform estimates that on average 60% of the electronics aboard a European satellite is imported by the US.

- To this end specific measures could be put in place with a view to supporting competitiveness, ensuring non-dependence and promoting the use of space.

## **II. ADDRESSING THE STRATEGIC DIMENSION OF SPACE**

### **5. Access to space**

- Europe's freedom of action in space depends on its ability to maintain independent, reliable and cost-efficient access to space at competitive conditions. This has been identified in several Council conclusions as a political priority for the EU, ESA and Member States.
- Discussions with industry and stakeholders have identified a number of priorities that may need to be addressed at European level: the exploitation of the European launcher fleet to sustain a competitive European launch capacity; the upgrade and modernisation of existing facilities and tools to reduce exploitation costs and improve flexibility; the emergence of commercial markets for low-cost small launch systems<sup>3</sup>; sustained support to research and innovation, and new partnership schemes with industry.

### **6. Ensuring robust and secure space infrastructures**

- As space services and infrastructure become increasingly important for our security, economy and society (including for critical infrastructures and in life-critical domains), the robustness, resilience and protection of space assets becomes an imperative.
- Space debris remain the most serious risk to the sustainability of space activities. To address this issue the EU is developing a Space Surveillance and Tracking (SST) support framework based on a new model of cooperation pooling and sharing Member States assets to deliver SST services at European level. Progress has been tangible and operational services will start soon.
- Other risks to space systems exist and may need to be addressed: e.g. cyber threats or the negative impacts of space weather on critical infrastructures both in space and on ground.

### **7. Dual-use synergies reinforcing security from space**

- Beyond SST, a number of other areas exist where increased synergies between civilian and security activities could reduce costs and improve efficiency.
- Govsatcom is one example where action at European level could be useful to secure the provision of resilient satellite communication services for governmental and institutional security users. This is critical to support the implementation of EU policies and protect its infrastructures for border and maritime control, civil protection, air traffic management or drones. To address this need the Commission is working with the different user communities, and with EDA and ESA, to prepare a new initiative based on thorough understanding of user needs and an impact assessment of the implementation scenarios.
- The next generation of existing programmes (Copernicus, Galileo/EGNOS) could also be made more relevant for security purposes.

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<sup>3</sup> Projections indicate between 2000-2750 nano/microsatellites will require a launch from 2014 through 2020, which represents an average growth rate of 24% per year over the period.

## 8. Strengthening Europe's impact as a global actors

- The internationalisation of space activities is leading to changes of the space context and thus of the international relations in space. The changing context offers more possibilities to find partners in space, but also presents more competition for Europe to remain the partner of choice in bilateral or multilateral partnerships. In this context the role of the EU in space needs also to evolve and become more strategic, building on four pillars: participation in international space initiatives and fora shaping the global space agenda and legal frameworks; reinforcing bilateral space dialogues; supporting the promotion of its space programmes and developing a space economic diplomacy.

### Questions for discussion:

1. Do you consider that the draft outline covers all important **issues** that need to be addressed in the context of the Space strategy? Are important areas missing?
2. Which of the issues covered do you consider to be of highest **priority**?
3. Concerning the **evolution of the flagship programmes** (Copernicus and Galileo/EGNOS):
  - Should such evolution consider: new policy and user needs; new technological shifts; new business models; dual-use requirements; other elements?
4. Concerning **SST**:
  - Do you consider that the current SST efforts should be reinforced?
  - Should the current SST services portfolio explore synergies with other services (such as space weather, cyber alerts, etc.) towards a more comprehensive space situational awareness?
5. Concerning possible **Govsatcom initiative**:  
Considering the requests for EU Govsatcom by the Council and EP,
  - When do you think that such an EU Govsatcom service should be available?
  - Do you have views on how it should be organised and delivered?
6. Concerning **access to space**:
  - Would you agree that possible EU action should seek to ensure European autonomy on access to space? What elements should be covered: e.g. launch services demand, R&D needs, ground facilities and tools, other?