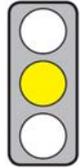


MAIN ISSUES

Objective of the Communication: The Commission presents its ideas on how the European Union can execute its new competency for space travel.

Parties affected: Companies from the space sector, transport users, national and EU authorities.



Pros: Satellite navigation systems, such as GPS together with EGNOS, increase the efficiency of the transport sector.

Cons: (1) The submitted plans for an EU space strategy are insufficient. Firstly, the Commission does not outline how to fund the measures, and secondly, it fails to explain just what benefits an independent EU space strategy would create compared to the already existing activities of the European Space Agency ESA.

(2) The economic benefits of the European satellite navigation system Galileo are questionable.

CONTENT

Title

Communication COM(2011) 152 of 4 April 2011: Towards a **space strategy for the European Union** that benefits its citizens

Brief Summary

► Background and objective of the Communication

– In 2009, the Lisbon Treaty conferred upon the EU competency for space travel (Art. 189 TFEU). It empowers the EU to take joint initiatives to:

- promote scientific and technical progress;
- boost competitiveness in the space industry;
- support other policy areas in the EU.

The Commission now wishes to execute this competency and thus presents its plans in the Communication.

– Affected parties of EU space policy are in particular:

- The space industry, i.e. manufacturers of space infrastructure (e.g. of booster rockets, aircrafts and satellites) as well as developers of applications using space infrastructure as a basis (e.g. of telecommunications and navigation services) and
- the private and public users of applications (e.g. road users using satellite-based navigation systems, research institutes and intelligence services).

► Reasons for an EU space strategy

According to the Commission, space travel has shown benefits in three areas, which justifies an individual EU space strategy:

- Socially: space travel benefits environmental protection, the information society, public and civil security and development aid, EU transport and exploring climate change.
- Economically: space travel generates new knowledge, fosters the development of new products and “new forms of industrial cooperation” (p. 2) and boosts EU competitiveness.
- Politically: space travel strengthens the EU’s role as a major player “on the international stage” and thus contributes to its “political independence” (p. 2). The EU “needs to strengthen the political dimension of space travel” (p. 11).

► “Priority Actions”

– Satellite navigation systems EGNOS and Galileo:

- According to the Commission, applications based on satellite navigation systems (e.g. in air traffic control) will create a global market with an annual turnover expected to reach around 240 billion Euros by 2020.
- The two European satellite navigation systems EGNOS (European Geostationary Navigation Overlay Service) and Galileo complement and/or are in competition with other systems such as the US-American GPS (Global Positioning System), which is already fully functional.
- EGNOS was developed by the EU, the European Space Agency (ESA) and the European Organization for the Safety of Air Navigation (EUROCONTROL). It is to improve the positioning accuracy received by GPS (later: by Galileo). EGNOS, with its three satellites and 40 ground controls, is already operational; further satellites are to enhance its performance.
- Galileo is currently being developed by the EU and ESA for civil purposes. It is to allow for worldwide object positioning with an accuracy of up to just “a few metres”. This system is not yet operational. In

October 2011, the first two of 30 planned satellites will be brought into space. Galileo should be in fully functional by 2019.

- The Commission has announced that in 2011 it will draft a proposal for legislation, in order to ensure that “within a reasonable amount of time” the necessary number of space satellites is provided to make sure that EGNOS and Galileo are “fully operational” (p. 5).
- **GMES monitoring system:**
 - The Commission’s aim is to implement the Global Monitoring for Environment and Security (GMES) “quickly and effectively”. The service is to become operational as of 2014. The legal framework is already covered by the Regulation (EU) No. 911/2010.
 - GMES is to provide current environmental and security-related data. GMES’s infrastructure consists of both satellites in space as well as observation sources on earth. The infrastructure is not yet established.
 - The Commission wishes to use GMES in particular for:
 - observing climate change; the Commission hopes through this to gain scientific knowledge on global warming and, as a result, better adaptation strategies;
 - the common security and defence policy; although GMES was originally developed for civil purposes, it can also be used for military purposes, e.g. for the tactical surveillance of geographical areas; the EU would thus become independent from “third countries”.
- **Space exploration**
 - The Commission wishes to promote space exploration through the development of those technologies essential for further exploration in energy, health and recycling. As these technologies are also being explored in other sectors, it would be appropriate to promote such co-operations. This benefits the citizens “directly” (p. 7).
 - However, the Commission also stresses the “political dimension” to space exploration “that goes beyond the issue inherent in research and development”. (p. 7)
- **Making space infrastructure secure**
 - Space infrastructures (notably satellites) are “critical infrastructures” (p. 6), which, according to the Commission, are essential to the smooth running of economies. Their protection, e.g. of space waste or asteroids, is therefore of general interest.
 - The Commission wishes to implement a Space Situational Awareness (SSA) system. The owners of space infrastructure are to participate in its costs.
- ▶ **Industrial space policy**
 - The space industry is a “strategic sector” whose significance goes “far” beyond the space sector. Therefore, it is “vital” to draw up a space industry policy (p. 8).
 - The sector is exposed to increased competition on the world market and is “highly reliant” on public procurement. In order to improve competitiveness (p. 8-10):
 - EU funds for research and development should be used more efficiently, in particular for the development of “key technologies”;
 - an “appropriate mode” of public procurement should be found, and
 - international cooperations should help to foster the spread of European technologies and space services.
- ▶ **Koordination with other players**
 - Member States: The Commission wishes to better coordinate the space activities of Member States in order to avoid duplication. The need for space infrastructure is to be explored jointly.
 - ESA (European Space Agency): According to the Commission, the ESA, which is independent, boasts a “rich heritage” (p. 3). Now it is time for a “re-evaluation” of the relations between the EU and the ESA. The ESA should continue pursuing “closer ties with the EU” (p. 11).
The Commission proposes concretely:
 - The ESA should operate military programmes alongside the civil ones. Moreover, the organisation should consist of an intergovernmental and an EU dimension.
 - The ESA should be “flexible enough to adapt” its size to the level of funding, i.e. to be downsized (p. 12).
 - Third countries: according to the Commission, certain space activities (e.g. the International Space Station, ISS) is possible only in cooperation with third countries.
 - China: The Commission wishes to seek a “constructive” solution to issues on the use of frequencies for satellite navigation systems (p. 11).
 - USA and Russia: The Commission will discuss co-operations, e.g. in earth observation.
 - Africa: The Commission is considering using space strategies as an instrument for development policy.

Statement on Subsidiarity by the Commission

The Commission does not address the issue of subsidiarity.

Policy Background

The ESA was founded in 1975 by ten European states, among them also the Federal Republic of Germany, for a better coordination of civil space activities. Meanwhile, 19 states belong to ESA, among them also non-EU countries such as Switzerland and Norway. The members are obliged to participate in certain basic research projects; their financial contributions depend on the size of the respective country's economy. Moreover, members are free to participate in further projects. ESA's activities are driven by industrial policy motives: the budget (in 2011 almost 4 billion Euros) flows back to Member States – how much depends on the size of the financial contribution from the respective Member State – in the form of contracts to companies.

Since 2004, a framework agreement has regulated the cooperation between the EU and the ESA. Since then, the EU Competitiveness Council and ESA Council of Ministers regularly meet in the Space Council. The Space Council adopts in particular guidelines for the European space policy serving to coordinate the activities of EU and ESA.

In 2008, the European Parliament voted for an EU space strategy within a [Resolution](#) and defined its priorities (for, amongst other things, climate-change research).

Galileo should have been up and running with 30 satellites by 2008; however, amongst other things, funding issues led to delays. Moreover, since 2007, there has been a conflict of interest with China regarding the radio frequencies used by Galileo; China claims the same frequencies for its satellite navigation system COMPASS. Russia (GLONASS) and India (IRNSS) are also developing satellite navigation systems for civil use.

Options for Influencing the Political Process

Leading Directorate General: DG Enterprise and Industry

ASSESSMENT

Economic Impact Assessment

Ordoliberal Assessment

The present plans for an EU space travel strategy are insufficient: The Commission does not address the question of how the measures are to be funded. The fact that space travel can contribute to the establishment of an efficient transport system or climate research is undisputed. Moreover, having its own space strategy can serve to consolidate the EU's position as a major player "on the international stage". However, a failure to state the costs renders these arguments worthless, as cost-benefit considerations are impossible.

Although, the Commission has drawn up an impact assessment, this only assesses the costs for securing space infrastructure and for possible space exploration programmes. However, by referring to a "pragmatic approach" in the present impact assessment document the Commission does not explicitly state the total costs of all proposed measures [SEC(2011) 380, p. 4].

Moreover, the Commission also fails to explain exactly what benefit an EU space policy would provide compared to the existing activities of the ESA, whereby the Commission obviously wishes to take ESA's position as implied by the remark that the ESA boasts a "rich heritage".

The great benefit created by the bundling of space activities within the ESA is that only those Member States join ESA which really recognise its benefit. However, EU action would mean that Member States which in the past had explicitly rejected expensive space programmes and/or ESA membership as they saw no advantage in it for themselves, would also be participating through the EU budget in the funding of space programmes.

Apart from these rather general considerations, the Commission's projects are assessed as follows:

The economic benefit created by the European satellite navigation system Galileo is questionable.

Applications already exist which are based, for instance, on GPS and EGNOS (e.g. for an efficient transport management), which create the same advantages as future applications based on Galileo would. Therefore, the Commission must substantiate the potential benefit of the "priority project" Galileo in order to justify the meanwhile projected installation costs of 4.9 billion Euros (originally: 3 billion Euros) and the projected annual operational costs of 590 million Euros (originally: 220 million Euros) [cp. COM(2011) 5: Mid-term review of the European satellite radio navigation programmes]. In the present space strategy at least it fails to do this.

One of the benefits of an independent satellite programme is the EU's independence from third countries which – theoretically – could prohibit the use of satellites in the case of a conflict. Of central importance is, therefore, the conflict of interest with China over the jointly used radio frequencies which the Commission wishes to remove in a "constructive" manner. A possible compromise in the form of a joint use of radio frequencies would, however, pave the way to manipulation and consequently, in the event of a conflict, it would be just this that failed to ensure the EU's independence, the Commission's central argument. Therefore, Galileo must, if continued, have an exclusive access to the radio frequencies in dispute. However, the Commission does not address this issue.

The deployment of public funds for basic research in space is basically justified, as private funding is not normally possible due to unknown application possibilities. It is however questionable whether the development of technologies serving further research in other fields can be assigned to basic research and

therefore – as already favoured by the Commission – should be funded by the public purse. The Commission itself seems to have doubts in respect of the benefit a publicly funded space research would generate. After all, it refers to the fact that these technologies are also researched in non-space sectors. Equally unclear remains the question of what exactly the Commission means by the “political dimension” of space research, which is supposed to justify public funding.

Impact on Efficiency and Individual Freedom of Choice

Satellite navigation systems increase the efficiency of the transport system. By 2020, the Single European Sky Air Traffic Management Research (SESAR) is to be introduced. Through the positioning of airplanes by satellites, 8-14 minutes flight time per average flight are to be saved, 948–1575kg CO₂ and up to 50% of the air traffic control costs (s. [CEP-Analysis](#) on the “Single European Sky” project).

Impact on Growth and Employment

According to the Commission, 37,000 people are employed in the space industry. They generate a turnover volume of 11.4 billion Euros. The announced industrial space policy improves the growth and employment conditions in this sector. However, funds invested in space travel are no longer available to other sectors, so their chances for growth and employment are reduced.

Satellite-based navigation systems increase the efficiency of transport infrastructure. This facilitates the division of labour in Europe, which has a positive impact on growth and employment.

Impact on Europe as a Business Location

Industrial policy measures for the space industry increase the quality of Europe as a business location for companies operating in that sector; where, however, scarce EU funds are not (any longer) available to other sectors, the quality of Europe as a business location is reduced for these sectors.

A goods and passenger transport improved by satellite-based navigation systems increases the quality of Europe as a business location.

Legal Assessment

Legislative Competency

The EU’s new space travel competency is to be assigned to the area of shared competencies (Art. 4 (3) TEC). De facto, however, the EU is actually only being granted a supporting competency which aims at coordinating measures and initiatives: the competency does not include any individual authority regarding legislation and prohibits the harmonization of Member State legislation. All of the measures proposed in the Communication fall within these limits of competency (Art. 189 TFEU).

Subsidiarity

European projects in the field of space travel cannot be appropriately coordinated at Member State level. The Member States’ option to carry out coordination within an international organization such as the ESA is insignificant in view of subsidiarity, as otherwise the principle of integration set forth in the Treaty of the European Union (Art. 1 TEC) would be undermined.

Proportionality

Currently not foreseeable.

Compatibility with EU Law

Unproblematic.

Compatibility with German Law

The EU’s shared competency regarding space travel does not engender any limiting effects on similar national measures.

Possible Future EU Action

Based on its EU space strategy, the Commission will propose space exploration programmes (e.g. to Mars). Within a working document [SEC(2011) 380] it already indicates this possibility.

Conclusion

The plans for an EU space strategy are insufficient: the Commission does not explain how to fund the measures. It further fails to demonstrate the benefit created by having its own EU space strategy compared to that of the activities by the European space Agency (ESA). Satellite navigation systems increase the efficiency of transport systems. The economic benefit of a European satellite navigation system GALILEO is, however, questionable. Applications based on GPS and EGNOS are already in use and generate the same advantages as Galileo is expected to generate in future.