European Economic and Social Committee

INT/580
A space strategy that benefits citizens

Brussels, 7 December 2011

OPINION

of the
European Economic and Social Committee
on the
Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions - Towards a space strategy for the European Union that benefits its citizens
COM(2011) 152 final

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On 4 April 2011, the European Commission decided to consult the European Economic and Social Committee, under Article 304 of the Treaty on the Functioning of the EU, on the

> *Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions - Towards a space strategy for the European Union that benefits its citizens*
> COM(2011) 152 final.

The Section for the Single Market, Production and Consumption, which was responsible for preparing the Committee's work on the subject, adopted its opinion on 10 November 2011.

At its 476th plenary session, held on 7 and 8 December 2011 (meeting of 7 December), the European Economic and Social Committee adopted the following opinion by 174 votes, with 8 abstentions.

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1. Conclusions and recommendations

1.1 The EESC recognises that space is an irreplaceable strategic resource for meeting the EU's social, economic and security needs; it is a driving force for growth and innovation, generating wealth through highly qualified jobs, innovative services and market opportunities in other industrial sectors, and backing for research which in turn produces innovation for industry.

1.2 The EESC recognises the importance of a competitive space industry, comprising the full value chain - i.e. manufacture, launching, operations and downstream services.

1.3 The EESC recognises space policy as a competence that the EU shares with the Member States which also implement their own initiatives. The Committee therefore calls for a stronger partnership with Member States, including those which are not ESA members, aimed at coordinating their respective space policies and competences. Consideration should also be given to allowing States which are not ESA members to participate in collaborative programmes such as ISS (International Space Station).

1.4 The EESC therefore welcomes efforts to consolidate the ground on which European space policy is built by linking it to the foundations of the Union through the provisions of the Lisbon Treaty, and to Europe’s industrial policy through the Europe 2020 Strategy, as well as to research and innovation through the Horizon 2020 initiative.

1.5 The global monitoring programme GMES is the key to maintaining the EU's independent capacity for collecting data and information on the Earth system, both in real time and in

10-year data sets, with a view to ensuring environmental and territorial monitoring and security, and to gaining an understanding of some of the mechanisms behind climate change. The EESC is therefore extremely concerned that the GMES budget has not been included in the 2014-2020 multiannual financial framework and calls on the Commission to identify the funds needed to stave off the programme's collapse.

1.6 The EESC recognises the central role that the European Space Agency (ESA) plays as a repository for Europe's technical, scientific and managerial expertise, which is instrumental to the successful management of space programmes.

1.7 Other major bodies include EUMETSAT, an operational organisation that provides meteorological data, the European Environment Agency[1] (EEA) and the European Centre for Medium-Range Weather Forecasts[2] (ECMWF).

1.8 The EESC points to the vital contribution made by space to security and defence. The EESC underscores the need to take due account of the needs of the common defence policy, not least by developing new cooperation and infrastructure programmes[3].

1.9 The EESC acknowledges the need to safeguard the value of its own space infrastructure by developing the Space Situational Awareness (SSA) system.

1.10 As regards space exploration and exploitation, cooperation should be stepped up with Europe’s established partners, such as the US, Russia and Japan, and bilateral agreements should possibly be sought with emerging space powers such as China, India and Brazil.

1.11 International cooperation in space is vital for the promotion of European technology and services and of its social and humanitarian values.

1.12 In addition to being one of Europe's founding values, research is critical to developing Europe’s independent capacity in the area of key enabling technologies, which are needed to make its industry competitive on the global market.

1.13 EU investments in research must be made more effective through the establishment of a Common Strategic Framework for research and innovation funding.

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1 (Footnote does not apply to English version.)

2 (Footnote does not apply to English version.)

3 "The common security and defence policy shall include the progressive framing of a **common Union defence policy**. This will lead to a common defence, when the European Council, acting unanimously, so decides. It shall in that case recommend to the Member States the adoption of such a decision in accordance with their respective constitutional requirements. The policy of the Union in accordance with this Section shall **not prejudice the specific character of the security and defence policy of certain Member States** and shall respect the obligations of certain Member States, which see their common defence realised in the North Atlantic Treaty Organisation (NATO), under the North Atlantic Treaty and be compatible with the common security and defence policy established within that framework." (Treaty on European Union, Title V, Chapter 2, Section 2, Article 42(2)).

2. Introduction

2.1 The Communication defines the legal, economic, social and strategic context for European space policy, linking it to the roots of the European Union: the Lisbon Treaty and Europe's industrial, research and common defence policies.

2.2 The Communication sets out the priority actions that define European space policy. It outlines the international dimension of the EU's space policy and analyses its governance needs. The Communication thus paves the way towards the definition and implementation of a European space programme.

2.3 The Communication asserts that the Commission will present a proposal for a European space programme in 2011 and prepare for the implementation of the proposed strategy (industrial policy, organisation of space activities).

3. General comments

3.1 The space sector represents approximately 1% of the EU budget and 5% of the volume of the European aerospace sector.

3.2 Despite its limited size in relative terms, the economic, strategic and social importance of space is now fully recognised both by the Commission and by the European Parliament: it is impossible to imagine Europe as a region of well-being without the support and stimulus of its position as leader in the space sector. In addition to generating economic benefits (on average double the amount invested, with peaks of 4.5-fold as in the case of Norway [source: OECD 2011]), this position produces a raft of associated applications which are irreplaceable and fundamentally useful for society: meteorology, navigation, positioning, air and water-borne traffic control, agriculture and land use management, humanitarian activities and management of natural disasters, national security and border control (to mention only a few).

3.3 In a time of economic difficulties such as the present, cutting investment in this sector would have, in return for an entirely marginal impact in terms of absolute savings, the disastrous effect of squandering the body of scientific knowledge and industrial capacity which Europe has built up in this strategic sector over the course of the past decades.

3.4 Developing Europe's independent capacity in the area of key enabling technologies and independent access to space are considered to be of primary importance, requiring active support.

3.5 With new countries such as China, India and Brazil entering the space sector, Europe must prepare a strategic plan to maintain both its key position in this sector and its credibility with its main partners, particularly the US and Russia.

3.6 The major flagship programmes, GMES and Galileo, will enable Europe to continue to be a driving force in strategic sectors linked to the use of satellite navigation systems and services generated by Earth observation.

3.7 Solving the problem of GMES financing is a priority to be tackled without delay: a decade of European investment in the increasingly strategic sector of Earth observation must not be thrown away, depriving Europe, European industry and European research of their hard-won leading position.

3.8 The current financial crisis hitting EU Member States could also jeopardise space exploration programmes, a laboratory of technologies for the future. It is therefore important to ensure continuity in this sector.

3.9 Table 1 gives an overview of the total investment in space by some EU members of ESA in 2009. On average, this investment amounts to between 0.01% and 0.05% of GDP (2009 data, source: OECD). By comparison, investment by the major powers such as China, Russia and the US is much larger: 0.12%, 0.20%, and 0.31% respectively. In the case of Russia and China, this figure doubled from 2005 to 2009. In Europe, France stands out as the biggest investor, at 0.1% of its GDP (source: OECD).

Table 1 - 2009 space budget (in million EUR), of the largest ESA contributors

Country	Space budget*	Contribution to ESA **
FR	1960	(716)
DE	1190	(648)
IT	685	(369)
UK	350	(269)
ES	190	(184)
BE	170	(161)
Overall ESA 2009 budget	**3600**	

*Source: OECD; ** Source: ESA

3.10 ESA has the technical knowledge and capacity to plan and implement space programmes and to drive the development of new technologies and applications. ESA operates many of the systems it designs, particularly scientific and research systems. It is up to the European Commission, however, to take on the role of operator for the infrastructure of major operational programmes such as Galileo and GMES.

3.11 EUMETSAT is an important part of Europe's operational capacity.

3.12 Other intergovernmental bodies include the European Environment Agency (EEA) and the European Centre for Medium-Range Weather Forecasts (ECMWF), who are contracting parties to the agreement on the exploitation of GMES data and services.

4. **Specific comments**

4.1 The pillars of European space policy are its legal and industrial framework, its international dimension, its governance, its relationship with the common security and defence policy and an appropriate and sustainable funding scheme.

4.2 European space policy's legal framework is rooted in the Lisbon Treaty.

4.2.1 Article 189 of the Treaty on the Functioning of the EU gives the Union a broad mandate to define a space policy and also suggests making policies in this field operational through a European space programme.

4.2.2 The European Commission's Enterprise and Industry Directorate-General (DG ENTR) directly manages EU space policy and the Galileo programme.

4.2.3 The regulation establishing the GMES programme[4] lays down the rules for its implementation and establishes the budget for its development and initial operations in the 2011-2013 period. Technical coordination and the implementation of GMES's space component are delegated to ESA which draws on EUMETSAT where necessary.

4.3 The industrial context

4.3.1 The space sector makes up some 5% of Europe's aerospace sector (dominated by the aeronautics sector which makes up 92% of it). The output of the entire aerospace sector in Europe amounted to approximately EUR 130 billion, 6 billion of which related to the space sector (2008 data, source: *Ecorys Report to the EC*). The aerospace sector employs about 375 000 people, with 31 000 in the space sector in Europe (source: OECD 2011); they are highly qualified, 35% of them being university graduates, engineers and managers.

4.3.2 The space industry's role in innovation, particularly the development of new technologies and equipment, is irreplaceable.

4.3.3 The industrial framework for European space policy is the Europe 2020 Strategy.

4.3.4 The strategy's flagship initiative, set out in the Communication COM(2010) 614 final/4, defines space as a "driver for innovation and competitiveness at citizens' service". It mentions the **Galileo/EGNOS and GMES** programmes as established programmes whose completion and continuation beyond 2013 must be the subject of legislative proposals in 2011 in line with overall proposals for the multiannual financial framework. Space infrastructure is recognised as an essential tool for public security and accordingly must be protected. Space environment monitoring capability is provided by the Space Situational Awareness (SSA) programme.

4 Regulation (EU) No 911/2010, OJ L 276, 20.10.2010, p. 1.

4.3.5 Satellite communications is a key space sector as well as contributing to the Digital Agenda for Europe through its impact on the roll-out of broadband.

4.4 International cooperation

4.4.1 As set out in the GMES regulation, the GMES programme is the European contribution to the construction of the Global Earth Observation System of Systems[5] (GEOSS), developed by the Group on Earth Observations[6] (GEO).

4.4.2 The partnership with Africa, using EGNOS, GMES and telecommunication infrastructures, will have an impact on vital sectors such as resource management, security, cartography, geodesy, telecommunications and information.

4.4.3 G7 countries represent the bulk of institutional investments in space, with USD 53 billion in 2009 (source: OECD). The United States alone have contributed USD 44 billion, with NASA accounting for 17 billion. The G7 aggregate, excluding the US, accounts for the remaining 9 billion.

4.4.4 Alongside traditional players such as the US, Russia and Japan, the importance of the new emerging space powers such as Brazil, India and China, whose space budgets collectively amount to USD 7.2 billion, is clear[7]. By way of comparison, the Russian Federation's budget is USD 2.5 billion.

4.4.5 ESA's 2009 budget, in comparison, was EUR 3.6 billion (see also Table 1).

4.4.6 Europe has a "Free and Open" policy on the distribution of data, which is applied by ESA and in effect in the GMES programme.

4.5 Governance

4.5.1 According to the provisions of Article 189 of the Treaty on the Functioning of the EU, the Union "shall establish any appropriate relations with the European Space Agency", in addition to strengthening its partnership with the Member States and coordinating the efforts needed for the exploration and exploitation of space.

4.5.2 ESA is an intergovernmental organisation and will soon have 19 Member States. ESA membership is not restricted to EU Member States (for example, Switzerland is a member) or to strictly European countries (Canada has a partnership agreement with ESA). The guiding

5 (Footnote does not apply to English version.)

6 (Footnote does not apply to English version.)

7 China: USD 6.1 billion; India: USD 861 million; Brazil: USD 205 million.

principle for managing ESA's resources is *geographical return*, whereby Member States are awarded industrial contracts in proportion to their contribution to ESA. As a result of this principle, the Member States have committed substantial resources. Its staff management is based on the similar principle of *fair return*, although the basis for these criteria is not as direct as for those applied to industrial contracts, as in principle staff are not required to represent or answer to national interests. The EU is currently shifting away from the principle of the sum of national interests in favour of European added value[8]. In the case of ESA, and with a view to a European space plan, this principle would seem to be particularly appropriate.

4.5.3 Cooperation between ESA and the EU is governed by a framework agreement which entered into force in May 2004 (OJ L 261, 6.8.2004). The European Commission and ESA coordinate their actions through the Joint Secretariat, comprising Commission administrators and ESA executives. The Member States of ESA and the EU meet at ministerial level in the Space Council, a concomitant meeting of the Council of the European Union and the Space Agency Council. The Council is prepared by Member State representatives in the High-level Space Policy Group. ESA maintains a liaison office in Brussels to facilitate relations with the European institutions.

4.5.4 The Space Council has fostered a strong relationship between ESA and the Commission.

4.5.5 EUMETSAT is an intergovernmental organisation with a current total of 26 Member States. The Council is the decision-making body of the organisation, composed of representatives from the Member States' meteorological services, which also fund activities. Contributions are based on a scale which is proportional to the gross national income of the individual Member States. The 2010 budget was around EUR 300 million.

4.5.6 Other intergovernmental bodies include the European Environment Agency and the European Centre for Medium-Range Weather Forecasts, who are contracting parties to the agreement on the exploitation of GMES data and services.

4.6 Research and innovation

4.6.1 Research is a founding value of European culture. Research and innovation help deliver jobs, prosperity and quality of life. Research is also at the very foundation of Europe's non-dependence on enabling technologies. Space is a privileged area where links are forged between academic research and industrial innovation and the development of breakthrough technologies.

8 See paragraph 166 of the European Parliament resolution of 8 June 2011 on *Investing in the future: a new Multiannual Financial Framework (MFF) for a competitive, sustainable and inclusive Europe*: "… the way the system of own resources has evolved, gradually replacing genuine own resources by the so-called 'national contributions', places disproportionate emphasis on net-balances between Member States thus contradicting the principle of EU solidarity, diluting the European common interest and largely ignoring European added value…".

4.6.2 Funding for space research is part of the EU's research funding schemes. However, the EU's presence in the applications sector is still too small, and steps must be taken to ensure that Europe's research capacity generates new and innovative applications.

4.6.3 The EU research budget is mainly funded through the 7th Framework Programme (2007-2013) with a budget of EUR 50.5 billion. Approximately 3% of FP7 is dedicated to space (EUR 1.4 billion).

4.6.4 Under the proposed multiannual financial framework for 2014-2020, research and innovation funding will be connected through a Common Strategic Framework for research, innovation and technological development (to be called Horizon 2020) and research funding will rise to EUR 80 billion for the 2014-2020 framework period.

4.6.5 Under the Europe 2020 strategy, the EU has set the ambitious goal of 3% of GDP for research.

4.7 Common security and defence

4.7.1 Space infrastructure provides vital services for security and defence, as recognised in the common security and defence policy, particularly in the areas of crisis prevention and management.

4.7.2 The safety of space infrastructure is jeopardised by the increasing amount of space debris. ESA and EDA, for the civilian and military dimensions respectively, have launched Space Situational Awareness (SSA) programmes. The EU is working on the international code of conduct for outer space activities.

4.8 A European space programme – Budget

4.8.1 The Communication under consideration envisages the possibility of including a proposal for a European space programme in the June 2011 multiannual financial framework. The EU budget proposal for 2014-2020, presented in June 2011, was geared towards delivering Europe's 2020 Agenda[9].

4.8.2 The proposal for a European space programme is not spelled out in the multiannual financial framework, although provisions for GMES and Galileo are included:

- Multiannual financial framework Heading 1: "Smart and Inclusive Growth" assigns EUR 7 billion to Galileo
- Outside the multiannual financial framework: GMES is financed with a budget of EUR 5.8 billion.

9 COM(2011) 500 final/2, *A Budget for Europe 2020*, Part I.

The proposal to fund GMES outside the multiannual financial framework is in glaring contradiction with the recommendations set out in the Commission staff working document SEC(2011) 868 final of 29 June 2011 accompanying the Communication on *A Budget for Europe 2020*, as well as with the conclusions of the EU Competitiveness Council, adopted on 31 May 2011.

4.8.3 It is important to understand how the budget planned for GMES can be guaranteed, in order to avoid the risk of losing a programme crucial for Europe's future competitiveness in the strategic sector of Earth observation, which has so far cost a decade of work and EUR 3 billion in investments. According to the conclusions of the 3094th Competitiveness Council (Internal Market, Industry, Research and Space) held on 31 May 2011, "the Commission will elaborate a proposal for the funding of these flagship programmes [i.e. GMES and Galileo] as part of the next Multiannual Financial Framework" and "both programmes being European programmes under EU responsibility, should continue to be financed by the EU budget".

4.8.4 The approach outlined in the multiannual financial framework proposal is to be set out in detail before the end of 2011 in the legislative proposals for the expenditure programmes and instruments in the individual policy areas.

Brussels, 7 December 2011.

The President
of the
European Economic and Social Committee

Staffan Nilsson