

# Space for growth

A viable, modern space policy is crucial if the EU is to establish itself as the most advanced knowledge-based society in the world.

## Facts and figures

### Industrial policy context

The EU needs to [improve its productivity and competitiveness](#) in the face of growing international competition and tough economic conditions. For these reasons a strong, inclusive and viable industrial policy is vital. This is why the EU, in 2010, identified [ten key actions for European industrial competitiveness](#).

One of the actions identified was the pursuit of a [space policy](#), in collaboration with the European Space Agency and Member States. The EU recognised that Europe's competitiveness in space requires technical development and public support.

### ▶ Did you know that ...

- [Satellite communications](#) - broadcasting and telecommunications - account for 40 % of the current revenues of the European space sector
- The European space industry directly employs 30 000 people, spread over about 2 000 companies
- The 11 major satellite operators in Europe operate 153 communication satellites and employ 6 000 staff

### The importance of space technology

Why is space so important? The reason is that in today's world, space systems and space-based technologies play a critical role in the daily life of all European citizens and businesses, providing services for telecommunications and television, weather forecasting and global financial systems. In agriculture, satellite technology can be used to guide tractors in order to produce high-yield crops. Europe needs an [effective space policy](#) if it is to take the lead in vital sectors such as these. It is little wonder that the space sector, worth €90bn worldwide, is growing at 7% per annum.

Space activities in Europe have been [successfully developed for over 30 years](#) within the framework of the European Space Agency (ESA). The situation of the [European space manufacturing industry](#) however has changed significantly in the past decade. Globalisation and the integration of emerging market countries into the world economy have opened new markets for European industry, but also increased competitiveness. Emerging powers such as India and China are investing billions in cutting edge space technology.

The long-term viability Europe's space sector will therefore depend on sustained long-term R&D investments, since from concept validation to actual implementation and qualification in orbit may take up to 10 years. Europe



needs to develop a proper space policy to enable it to exert global leadership. The EU and [ESA](#) are increasingly working together towards common objectives. Some 20 per cent of the funds managed by ESA now originate from the EU budget.

## EU policy

Space policy is a key element of the [Europe 2020 strategy](#) and is an integral part of the industrial policy flagship initiative. Since the 1960s it has been a cornerstone of European cooperation, both internally between Member State governments and experts, and externally with key partners such as the US and Russia.

In 1960, [scientists from ten European countries](#), called the 'Groupe d'études européen pour la Collaboration dans le domaine des recherches spatiales' (GEERS), set up a commission to enable governments to discuss European cooperation in space. These discussions resulted in the establishment of the European Space Operations Centre (ESOC) in 1967, and finally the European Space Agency (ESA), which was created in its current form in 1975.

### A focus on space

The development of a dedicated European space policy was initiated with the [2003 Commission White Paper](#) entitled Space: a new European frontier for an expanding Union. The White Paper explicitly stated that Europe needs an effective space policy in order to help deliver EU objectives of faster economic growth, job creation and industrial competitiveness.

The White Paper was followed in November 2003 with

## Policy milestones

2003	Commission White Paper Space: a new European frontier for an expanding Union EC-ESA Framework Agreement
2004	Council Decision on the conclusion of the Framework Agreement Commission Communication "Global Monitoring for Environment and Security (GMES): from concept to reality"
2005	Commission Communication on the European space policy - preliminary elements
2007	Commission Communication on the European space policy Council Resolution on the European space policy
2010	Commission Communication "An integrated industrial policy for the globalisation era"
2011	Commission Communication "Towards a space strategy for the European Union that benefits its citizens"

the adoption of the EC-ESA framework agreement, which strengthened cooperation between the European Commission and the European Space Agency (ESA). A [2005 Commission Communication](#) then laid the foundations for a European space programme, revolving around three objectives: strengthen and preserve independent

## Bringing benefits to citizens

Many concrete applications have been developed through the European space policy, including in the fields of Satellite navigation, earth observation and [satellite communication](#). Data gathered from these applications can help to locate and save the lives of crews in difficulty due to bad weather, for example.

[Galileo](#), the European satellite radio navigation and positioning programme, aims to establish an enhanced global navigation satellite system, providing a highly accurate, guaranteed global positioning service. It will offer five services, namely the Open Service, the Public Regulated Service (PRS), the Search-and-Rescue Service, the Safety-of-Life Service and the Commercial Service. The definition phase and the development and In-Orbit Validation phase of the Galileo programme were carried out by the European Space Agency (ESA) and co-funded by the ESA and the EU.

The Full Operational Capability phase of the Galileo programme is currently managed and fully funded by the EU. The Commission and ESA have signed a delegation agreement, by which ESA acts as the design and procurement agent on behalf of the Commission. Galileo will be inter-operable with GPS and GLONASS, the two other global satellite navigation systems.

The [GMES system](#) is a network for collecting and disseminating information concerning the environment and security obtained from monitoring the Earth from space and in-situ. This system will assist decision-making by public and private authorities in Europe and support research.

## ► Technology take-off

By augmenting existing [GPS signals](#), the [European Geostationary Navigation Overlay Service \(EGNOS\)](#) offers enhanced vertical precision and integrity. EGNOS is Europe's first venture into the field of satellite navigation and paves the way for Galileo, Europe's independent global satellite navigation system currently under development. EGNOS is operational and available for use with both a free Open Service and a Safety-of-Life Service for aviation, allowing pilots to rely on it for safer approach to less easily accessible airstrips or under difficult meteorological conditions.

The EGNOS Safety-of-Life service was made available on 2 March 2011, a milestone for this groundbreaking European programme, but airports still need EGNOS-specific landing procedures for their runways in order for it to be used in real flight operations.

and affordable access to space, enhance scientific knowledge and reap the benefits of space technology.

### European space policy and beyond

The European Space Policy, which was signed in 2007, unified the approach of the ESA with those of individual EU member states. It also expressed support for an operational and autonomous Global Monitoring for Environment and Security (GMES) satellite capability and for a global navigation satellite system under European civil control, i.e. the Galileo positioning system (see box). The accompanying [Communication](#) stated that "Europe cannot afford to lose out on securing the potential economic and strategic benefits of space for its citizens. Europe must make further efforts to preserve and improve its global competitive position."

A [European Space Policy progress report](#) was published in September 2008, and the [6th Space Council](#), held June 2009, focused on the contribution of space to innovation and competitiveness. "When we are speaking about space policy, we are not simply talking about a symbolic, a great project for the future," said [European Commission president José Manuel Barroso](#) in a recent speech. "It is about very concrete applications for the life of our citizens and I think that this is important if we want to keep the political support for this policy."

The central position of space in European policy making was further acknowledged in 2009, when [Article 189 of the Lisbon Treaty](#) gave the EU an explicit role in designing a policy for space exploration and exploitation. This was shortly followed in October 2010 with a Commission Communication on "An integrated industrial policy for the globalisation era", a flagship initiative of the [Europe 2020 strategy](#). This stressed that [implementation](#) of the European Space Policy through a common, inclusive and flexible European Space Programme should be a priority.

In April 2011, the European Commission published the Communication "[Towards a space strategy for the European Union that benefits its citizens](#)", outlining the strategic mission of a European space policy. "Space

*is strategic for Europe's independence, job creation and competitiveness,"* said Vice-President Antonio Tajani, responsible for Industry and Entrepreneurship. "Space activities create high-skilled jobs, innovation, new commercial opportunities, and improve citizens' well-being and security."

The Communication again highlighted the fact that the Lisbon Treaty gave Europe a new framework within which to build a viable space sector. The EU now has a specific mandate to draw up a European space policy, including the promotion of joint initiatives, support for research and technological development and coordination of exploration and exploitation. To this end, "...Parliament and the Council shall establish the necessary measures, which may take the form of a European space programme". The European Commission is currently looking into the possibility of presenting a proposal for such a programme.



## ▶ Working together

Closer ties and an increase in cooperation between ESA and the EU will bring substantial benefits to Europe by guaranteeing Europe's full and unrestricted access to services provided by space systems in support to its policies, and encouraging the increasing use of space to improve the lives of its citizens.

Current joint initiatives include the European Geostationary Navigation Overlay Service (EGNOS), which is already operational, the European global navigation satellite system called Galileo, as well as the Global Monitoring for Environment and Security initiative (GMES). The EU and ESA also coordinate their research and development efforts, in particular in the area of critical technologies.

## Further information

- ▶ [Communication "An Integrated Industrial Policy for the Globalisation Era Putting Competitiveness and Sustainability at Centre Stage" COM 2010 \(614\)<sup>1</sup>](#)
- ▶ [Commission Article "Shaping a new EU Space policy"<sup>2</sup>](#)
- ▶ [Why we need Galileo brochure<sup>3</sup>](#)
- ▶ [Citizen's summary on industrial competitiveness<sup>4</sup>](#)
- ▶ [FAQs space policy<sup>5</sup>](#)

## Communicators' toolkit

- ▶ [Participant Portal for the publication of Research Framework Programme calls<sup>6</sup>](#)
- ▶ [A European journey : space research projects under the 7th Framework Programme for Research<sup>7</sup>](#)
- ▶ [ESA for Kids<sup>8</sup>](#)
- ▶ [Galileo website<sup>9</sup>](#)
- ▶ [Video European Space exploration documentary November 2010<sup>10</sup>](#)
- ▶ [Video Galileo Exhibition in Brussels<sup>11</sup>](#)
- ▶ [Video Europarl TV :Why can't Galileo get off the ground \(May 2011\)<sup>12</sup>](#)
- ▶ [Video from Young parliament: Manned mission to Mars<sup>13</sup>](#)
- ▶ [Video from Young parliament: G for Galileo<sup>14</sup>](#)
- ▶ [Video interview: A society that stops exploring is a society that stops progressing - Frank De Winne \(May 2010\)<sup>15</sup>](#)
- ▶ [Video from ESA: Galileo getting ready<sup>16</sup>](#)
- ▶ [Video European Parliament Conference: a new space policy for Europe, October 2010<sup>17</sup>](#)
- ▶ [Video Taking Off to the Future – EU-funded research for greener, safer and smarter aviation \(July 2011\)<sup>18</sup>](#)

1 [http://ec.europa.eu/enterprise/policies/industrial-competitiveness/industrial-policy/files/communication\\_on\\_industrial\\_policy\\_en.pdf](http://ec.europa.eu/enterprise/policies/industrial-competitiveness/industrial-policy/files/communication_on_industrial_policy_en.pdf)

2 [http://ec.europa.eu/enterprise/magazine/articles/industrial-policy/article\\_11000\\_en.htm](http://ec.europa.eu/enterprise/magazine/articles/industrial-policy/article_11000_en.htm)

3 [http://ec.europa.eu/enterprise/newsroom/cf/itemlongdetail.cfm?item\\_id=5166&lang=en&tpa\\_id=141&displayType=library](http://ec.europa.eu/enterprise/newsroom/cf/itemlongdetail.cfm?item_id=5166&lang=en&tpa_id=141&displayType=library)

4 [http://ec.europa.eu/enterprise/policies/industrial-competitiveness/industrial-policy/files/citizens\\_summary\\_en.pdf](http://ec.europa.eu/enterprise/policies/industrial-competitiveness/industrial-policy/files/citizens_summary_en.pdf)

5 [http://ec.europa.eu/enterprise/policies/space/faq/index\\_en.htm](http://ec.europa.eu/enterprise/policies/space/faq/index_en.htm)

6 <http://ec.europa.eu/research/participants/portal/page/home>

7 <http://bookshop.europa.eu/en/space-research-pbNB3111033/>

8 <http://www.esa.int/esaKIDSen/>

9 [http://ec.europa.eu/enterprise/policies/satnav/index\\_en.htm](http://ec.europa.eu/enterprise/policies/satnav/index_en.htm)

10 <http://ec.europa.eu/avservices/video/videoplayer.cfm?ref=1067736&sitelang=en>

11 <http://ec.europa.eu/avservices/video/videoplayer.cfm?ref=68706&sitelang=en>

12 <http://www.europarl.tv.europa.eu/en/player.aspx?pid=d5ea2cc3-b06e-40fb-a9b4-9edb00a407b4>

13 <http://www.europarl.tv.europa.eu/en/player.aspx?pid=300bf5dc-7f7d-4fbc-95e9-9e6901530447>

14 <http://www.europarl.tv.europa.eu/en/player.aspx?pid=adbe4962-989e-4713-9331-fb194add00f>

15 <http://www.europarl.tv.europa.eu/en/player.aspx?pid=f818f6ea-edba-4e00-bd27-edb04dcf0fd8>

16 <http://www.esa.int/esa-mm/mmg.pl?b=b&type=V&collection=Navigation&single=y&start=1&size=b>

17 <http://audiovisual.europarl.europa.eu/AssetDetail.aspx?g=7dc2289f-65f2-4ea5-962e-9d2c430d9a02>

18 <http://ec.europa.eu/avservices/video/videoplayer.cfm?ref=1070353&sitelang=en>