Consolidating the European Space Policy requires an evolution of its governance, which is currently structured around three main types of actor.

blogs.lse.ac.uk/europpblog/2013/06/21/european-space-policy-is-governed-by-a-triangle-of-the-eu-the-european-space-agency-and-national-space-agencies/

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In 2007 a formal European Space Policy was established following discussions between the EU and the European Space Agency (ESA). Lucia Marta provides an overview of the development of European space policies and their current governance structure. European space policy governance is often conceived of as a 'triangle' between the EU, ESA, and national space agencies. Despite the achievement of important concrete results (notably national, ESA, and EU advanced space programmes), the exact responsibilities of each party and their reciprocal relationships still require further clarification.



Why does Europe pursue a space policy?

Europe engages in space activities since they are recognised as a tool to reach multiple policy objectives, some of them strategic in nature. In particular, by engaging in space programmes European governments have intended to ensure the independent exploitation of space assets for security and defence purposes. This includes support to civil and military operations, civil protection, border control and a number of other activities relating to general security. Moreover, space activities contribute to the shaping of Europe's position as a global actor, and enable it to participate in prestigious international cooperation programmes. Space programme development, besides providing additional political weight in national and international forums, consolidates Europe's status and identity as an advanced and technologically cutting edge society. Space activities can therefore also be considered as one of the building blocks of European international relations.

By engaging in space activities, European countries also contribute to developing and maintaining the Space Technological and Industrial Base (STIB), funding innovative capabilities, technological advancements and human skills. By doing so, Europe also strengthens its technological independence from other countries, contributes to the development of space application markets, and protects high quality employment.

Space activities also promote wider socio-economic benefits, including through the technological transfer from space to other domains, like medicine. From the point of view of space applications on Earth, European citizens can benefit from a multitude of services (weather forecasting, telecommunications, and traffic management, to name a few examples). Moreover, European and national authorities support the implementation of policies that benefit citizens, from environmental monitoring to search and rescue activities.

How the EU has joined space efforts: programmes and initiatives

In recent years, the European Union has engaged in space activities focusing on technological development and space applications on Earth in support of community policies. In the late 1990s, the EU launched two flagship programmes, namely the Global Monitoring for Environment and Security programme (GMES, recently renamed Copernicus) in the Earth observation domain, and Galileo (the "European" GPS) in the domain of positioning and navigation. After more than 15 years of research and development and long term funding, both programmes – which are 'dual use' programmes under civil control – will be operational soon. Copernicus will provide a large set of services to European authorities and citizens in several fields, such as agriculture, transport, security, emergency response, maritime safety, and environmental protection. Meanwhile Galileo will bring benefits to air-road-maritime transport, security and defence activities, and banking, among other areas.

While the development of flagship programmes has been on-going, in recent years the EU has made important

steps from a political perspective towards the consolidation of its role in space. The first resolution concerning the EU's participation in space research activities was adopted in 1979, and after 40 years of dialogue and steps towards a common vision and strategy, the EU and the European Space Agency (ESA) jointly adopted a European Space Policy in 2007.

Moreover, in 2008, the EU, through its Council, engaged in a political and diplomatic effort to propose a Draft Code of Conduct for Outer Space Activities to the international community. The code aims to promote transparency, confidence building measures and best practices to which existing or future space faring nations should adhere on a voluntary basis to enhance the security, safety and sustainability of all space activities and protect space infrastructures from debris, collisions, interferences and other accidental damages that may occur. The Code is still being negotiated with third countries.

Finally, the Lisbon Treaty, which entered into force in December 2009, has attributed to the EU a new direct competence in the space domain, providing the political and juridical basis to engage in the full spectrum of space activities, beyond Galileo and Copernicus and their specific policy objectives. The competence of the EU is not exclusive; rather it is shared with that of its member states.



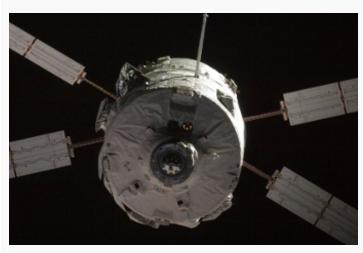
Ariane rocket, Credit: adueck (CC BY 2.0)

The governance of European space activities: a triangle

The development and operation of space programmes is complex and requires sound knowledge and experience in different sectors. The EU-led activities in space did not start from scratch: indeed, they were built upon existing human skills and technological and industrial capabilities, both at the national and European levels. In fact, beginning in the 1960s, some national space agencies – although to different extents – had developed space programmes in several domains according to their national interests. Moreover, since its creation in 1975, the European Space Agency as a research and development international agency with 20 member states (18 of which are also EU member states), has contributed to the development of unique technical abilities through its optional and mandatory programmes. ESA's domains of activities include science, Earth observation, telecommunications, navigation, exploration, technology programmes and space transportation.

Thus, the EU has joined national space agencies and ESA as an additional player in the space domain, building upon and bringing forward their unique legacy. The governance of space activities in Europe can therefore be represented as a triangle. Although each institutional player has its own interests and competences, some of them may overlap, and thus the separation and attribution of roles is not always clear.

ESA is mainly in charge of cooperative research and development programmes, implementing the decisions of its member states. National space agencies coordinate and carry on space activities (from research and development to operations) at the national level, but also in cooperation with other countries on the basis of the political orientations of their own government. The EU, as a political and regulatory entity, takes the initiative and provides



Jules Verne Automated Transfer Vehicle, Credit: NASA (public domain)

political guidance for its own programmes, but entrusts their technical development to ESA, as it does not have similar skills and experience within its structures. This was the case for Galileo and Copernicus, which were funded by the EU with important contributions from ESA, too. In the same vein, the EU also has to delegate the operation of its programmes and associated services to other entities. Indeed, one of the challenges concerns the achievement of effective governance, taking advantage of existing structures (both at the European and national levels) and avoiding useless duplications. Thus, responsibility and work sharing among existing players is not always an easy task.

More long term governance issues exist with regard to the identification of a unique political leadership to

ensure consistency and coordination among the different activities. In contrast to national space agencies, which do not have a European scope, and ESA, which is a research and development agency and not a political player, the EU seems to have the ambition and legitimacy to take on this responsibility. Space Situational Awareness, exploration or launchers programmes may be candidates for future EU led initiatives, although this would require the agreement, coordination and active involvement of ESA, national space agencies, and national defence authorities, which are currently leading efforts in this sense, outside the EU frame.

The current governance model also provides some benefits that should be maintained in the future: in particular, ESA's success in obtaining important funds from its member states, attracted also by its procurement policy; and ESA and national space agencies' skills and knowledge which have led to undeniable successes and which are recognised at the international level. The EU's regulatory power and political legitimacy are also assets that can be exploited to support this sector from the political, economic and industrial point of view.

Establishing appropriate relations between different actors to achieve effective European Space Policy governance

In the current situation, the main issue to tackle concerns the establishment of appropriate relations among the three main players of the triangle. The asymmetry of membership between the EU and ESA, the ambitions of key actors, and different procurement and management approaches, raise questions about the suitability of one actor's authority over another. In any case, national space agencies will certainly keep control over their national activities, especially as far as purely military space assets are concerned.

With regard to the EU and ESA, a few months ago both officially agreed on the need to have discussions on governance and in particular on the evolution of their relationship, while respecting each actor's competences. Of course, their respective capacities to ensure long term financing of space programmes will also be a part of the debate. Some results of the on-going discussions are expected by 2014, and despite most ESA members also being members of the EU, the outcome cannot be taken for granted.

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