
Final Call for a European Space Strategy

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Introduction

Space poses both an opportunity and a challenge for Europe. And so does the new provision of the Lisbon Treaty – article 189 TFEU – that awards the EU an explicit competency on Space¹. For quite some time now, European industries have been playing a leading role in the aerospace sector, second only to their American counterparts in terms of global market share. According to most stakeholders, this new EU competency has the potential to secure European space and space-related industries the very top spot in terms of both market share and technological innovation. Nevertheless, article 189 establishes a parallel competency of the EU, leaving untouched Member States' capacity to pursue their own national space policies. Any successful EU space policy will, however, depend on the willingness of State actors to support a stable and coherent strategy at the European level. To be sure, we could point out as a good omen the current examples of cooperation between European States, bilateral or through the European Space Agency. But the aim of article 189 is to go beyond fragmented cooperation and to allow the emergence of a cohesive, coherent and comprehensive European Space Policy and, one would hope, of a strategy guiding it. This article will try to provide an insight into the current debate on Space in Europe as well as a critical perspective on the challenges lying ahead with regard to a European Space Policy.

¹ “Article 189: §1. To promote scientific and technical progress, industrial competitiveness and the implementation of its policies, the Union shall draw up a European space policy. To this end, it may promote joint initiatives, support research and technological development and coordinate the efforts needed for the exploration and exploitation of space. §2. To contribute to attaining the objectives referred to in paragraph 1, the European Parliament and the Council, acting in accordance with the ordinary legislative procedure, shall establish the necessary measures, which may take the form of a European space program, excluding any harmonization of the laws and regulations of the Member States. § 3. The Union shall establish any appropriate relations with the European Space Agency. §4. This Article shall be without prejudice to the other provisions of this Title.”

The Current Debate

Contrary to some beliefs, a European space policy is beneficial to more than just a small sector of the industry. It is important to acknowledge, first, that a wide range of small and medium enterprises (SMEs) are actually the backbone of the space industry². Moreover, the benefits of a Space policy do not only translate into more business for companies, but also into the provision of better services to people, from communications to traffic management and navigation, to disaster prevention, the examples being almost innumerable. Space policy can contribute to seemingly unrelated policy areas - from Climate Action to Immigration policy - by enabling users to collect multiple sorts of information that might be crucial to the development of various policies. For instance, once Europe's GMES system (the European Earth Observation Program) is up and running, it will be able to serve the most varied purposes, from monitoring environment and climate change to assisting in border control or even providing intelligence to security and defense actors. It is therefore crucial that space policy be conceived and looked at in an integrated way, as Vice-President of the Commission Antonio Tajani stresses, so as to make the most of the potential that space systems can offer in virtually all policy areas. Space policy can therefore become a pillar of safety and security by providing assistance to military actors but also, and no less importantly, to civilian actors and activities. Finally, as our societies become increasingly information-based, our dependency on space systems - namely in terms of communications - is also accruing. This means that space policy has a role to play in our daily lives too, by guaranteeing reliable and sustainable space systems which are responsible for providing us with a range of services that, among other things, enable our economies to function and grow.

² This first section (comprising points i, ii, and iii) summarizes a two-day conference on the emergence of a European Space Policy organized on the 26th and 27th October 2010 by Business Bridge Europe under the patronage of the European Parliament's President Jerzy Buzek and in partnership with the European Commission, the Belgian Presidency of the Council, the European Space Agency and the Committee of Regions. This major event, sponsored by some of the space industry's most prominent companies, took place in the European Parliament's hemicycle and gathered Europe's leading figures in Space matters from the public and private sectors.

Rising to the challenge

The first priorities of the EU's Space Policy will be, to be sure, the conclusion of ongoing projects such as Galileo and GMES, for which the EU is directly responsible. But Europe did not need article 189 to finish these, as Paul Weissenberg, Director for Aerospace, Defense and Security Industry at DG Enterprise & Industry, stresses. So, what is the added value of the new provision? According to Mr. Weissenberg, article 189 allows the EU to develop reinforced partnerships with Member States in order to integrate current infrastructures and systems, as well as to complement them. The EU will now be able to strengthen its role as a security provider, both in space and from space, just as it will reinforce its status as a leading player in environmental protection, innovation and scientific progress. With regard to space exploration - an objective explicitly stated by the treaty - it may seem unclear, at first sight, what benefits we could take from it, if any. In reality, the constant drive for innovation inherent to space exploration leads to important technological advances that eventually turn out to have multiple useful applications in technologies and services commonly used by people - it is a matter of trans-utility, as Mr. Weissenberg puts it. Furthermore, space exploration can give us important insight about our own world and its fragility, namely with regard to threats coming from outer space.

Mr. Weissenberg considers that article 189 is really a call for Europe to stand up as a global player and profit from the strategic dimension of space, particularly in terms of security and defense, underlining that it would be "sterile" to focus on domestic issues of space policy in Europe such as the 'governance debate' - an opinion shared by Jean Jacques Dordain, Director General of ESA, who sees disputes about competencies as "provincial". Team work is essential to achieve success: Member states and EU institutions must work with each other and among themselves in an integrated manner to develop a stable and coherent policy and, in parallel, they must find proper articulation with the European Space Agency (ESA). Although these entities have now a rather long experience working together in major projects such as Galileo and GMES, it is important to find a balanced and efficient division of labor between EU institutions, Member States and ESA in order to avoid creating parallel space policies, as Eric Beka, Belgian High Representative for Space Policy, warns. Improved synergies between ESA and the EU could prove extremely beneficial: by building on Europe's existing technical competencies, infrastructure and experience, and by conjugating the EU's political coordination capacities and political weight with ESA's expertise and technical vocation, Europe could come to claim undisputed leadership in space. However, there are important practical questions that, in the opinion of Mr. Beka, will need to be sorted out first. The EU will need to establish accountability rules within ESA so as to have a grip over developing projects. Moreover, it will still have to figure out how to allow ESA to develop security and

defense-related projects autonomously. Finally, a big question mark remains on funding: the EU will have to review its budget allocations to Space if it wants to be able to muscle its new competency.

In the same line as Eric Beka, Yannick d'Escatha, President of CNES (France's Space Agency), finds it important to know in detail how the EU and Member States will integrate in a synergic way existing capacities. This vision - typically French according to an expert on the subject - seems nevertheless to ignore the basic truth that there is no longer a real synergy between the main European space actors (France, Italy and Germany). Still, Mr d'Escatha reminds us correctly that the current framework agreement between ESA and the EU will expire in 2012, and that it will have to be revised to take into consideration the implications of article 189. Besides, the relations between Member States and ESA, as well as between the EU and its Member States, will have to be revised as well in order to better accommodate this new EU competency.

Stakeholders stress the importance of having a balanced approach when defining the programs and scope of action of the EU in Space, in order to avoid competing with Member States' programs. Enrico Saggese, from the Italian Space Agency, warns against the development of a Space policy that would jeopardize the valuable existing heritage and the conditions that made it possible, in similar fashion to what Giuseppe Morsillo, from ESA, says. On the same note, Johann-Dietrich Wörner, Chairman of Executive Board at DLR, finds it essential that ESA remains intergovernmental as the only way to guarantee progress. The EU should therefore - in their opinion - focus on establishing broad consultations, determining user needs and seeking appropriate funding, while ESA would be in charge of developing and providing requested services to users. From a user's perspective - such as the one laid out by Mr. Lars Prahm, Director-General of EUMETSAT - it is important that the European Union also promotes the development of user communities and the good-functioning of "downstream" institutions responsible for delivering citizens space-based services and applications.

In light of this new competency, the EU could now - in theory - address the issue of concentration and exclusive contracts in order to foster technological progress through competition. In particular, a good deal of attention should be paid to business concentration, as 91% of the space market is held by only six Member States. In addition, the EU could also focus on making the industry less dependent on public procurement, especially as the EU currently does not have the financial means to support a European space market. Finally, the EU now has a role to play in securing Europe's non-dependency with regard to strategic space technologies such as Earth and near-space observation, as several stakeholders have stressed. It remains to be seen, though, if it will be granted the appropriate instruments to carry out these tasks.

From a supply policy to a genuine industrial policy?

Now that the EU has a clear mandate in space, it is in its interest to create the conditions for the development of a competitive industry that will back up a European-level space policy, according to Herbert Reul, Chairman of the EP's Committee on Industry. This implies investing not only in research, development and innovation but also in education in order to ensure that there is a skilled labor force capable of taking the industry forward. It is primordial that a strategy integrating space and industrial policies be developed but, before, there needs to be a thorough assessment of needs, instruments to be used and level of investment required, as Mr. Heinz Zourek, Director General of DG Enterprise, reminds us, and which is already under way. Articulating space policy with industrial policy is essential to make sure that there is an industrial base supporting Europe's strategic ambitions and that, at the same time, these industries are competitive enough to lead commercial activities in the space market, as Mr. Eric Morel de Westgaver, Head of the Procurement Department and Associated Director for Industrial Matters of ESA, stresses. The EU will need to thoroughly identify user needs, align procurement (which remains quite elusive) and promote innovation and competition if it wants to contribute positively to making European industries more competitive. ESA's programs will play an important role in fostering and supporting industrial capacities in the space industry in Europe, but the goal of leadership that EU officials aim to achieve is only possible if the EU develops an industrial policy that really gives attention to the space industry.

The industry seems to share most concerns and goals with public officials. Reynald Sez nec, CEO of Thales Alenia Space, reiterates the importance of investment in research and development and of developing an industrial policy taking into careful consideration the needs of the space industry. He highlights the importance of reciprocity when awarding contracts at the international level since this industry in particular is highly nationalized and protected. The EU should therefore make use of its political weight to reverse this situation. Furthermore, he stresses the need for guaranteeing the continuity of services and programs so as to build confidence among industry stakeholders and stimulate their participation. However, somewhat contradictorily, Mr. Sez nec defends that the EU should foster competition in the industry while making sure, at the same time, that the principles of fair return and geographical distribution are maintained within ESA - two principles which contribute precisely to the fragmentation of the industrial base and the market.

In a different line, Evert Dudok, CEO of Astrium Satellites, focuses more on the industry's funding structure and warns against declining institutional budget allocations to space. He acknowledges it would be desirable to shift the current balance between public

procurement and funding coming from commercial activities, namely by increasing the latter's share - which is only 40% - but stresses nevertheless that, in the meantime, public procurement should not be reduced as investment losses are especially costly in the much globalized space market. In this context, he highlights the important positive correlation between public investment and the level of industry development, and reminds us that goals such as innovation and competitiveness can only be achieved in the long run. Mr. Giuseppe Viriglio, Chairman of Telespazio, stresses the need for new regulations that would namely guarantee a minimum level of investment in the industry, thereby preserving industrial capacities so as to avoid the risk of companies becoming uncompetitive and eventually going under after losing an important contract. The creation of public-private partnerships is considered by him to be insufficient to maintain the industry at a high level – and rightly so, we would say, since no sort of financial engineering will be able to replace public procurement or user demand, and since the industry cannot finance herself projects expecting to attract users *ex post*, the best case-in-point being project Galileo itself. Finally, Mr. Giovanni Labini, Chairman of SME4SPACE, draws the attention to the delicate situation of small and medium enterprises working in the space industry - although they make up 50% of the industry and are therefore considered as its backbone, their size makes them especially vulnerable to any major shifts in demand. Hence, in the same line as Mr. Viriglio, Mr. Labini supports the creation of mechanisms preserving industrial capacity.

Financing space policy and the industry

The issue of funding is of the utmost importance considering not only the amounts of investment that space requires, but also the current situation of financial contention. Hervé Jouanjean, Director General of DG Budget, clearly states that there can be no increase in allocations for space in the foreseeable future as the budget is capped and as the EU has few autonomous revenue sources. Furthermore, the Commission has plans to introduce new budgetary rules that will release the Union from the obligation of covering exceeding costs of EU-financed projects, as a means to make all actors involved in fund-management more responsible. This, however, risks sending the wrong message to potential investors in European projects.

Knowing that the institutional budgets will not be expanded for the time being, what other options are left? The European Investment Bank (EIB) could be a viable alternative. In particular, the EIB's Risk Sharing Finance Facility (RSFF) has played a significant role in financing projects that fit into the category of Research, Development and Innovation, and could be one solution according to Harald Gruber, responsible for the RSFF of the EIB. Mr. Gruber suggests, nevertheless, that all actors involved in space policy should seek

more public-private partnerships and other funding sources such as equity funds or grants. Venture capital could play an important role in the future as well, as suggested by Uli Fricke, Chairwoman of the European Venture Capital Association, but there is still a long way to go as venture capital and space-industry actors need to interact more and improve their knowledge of each other before they can develop serious partnerships.

In a different line, Mr. Magliozzi, from Telespazio, suggests that commercial markets offer a good potential for companies to recover a substantial part of investment costs. This seems to be upheld by the figures advanced by Mr. Yves Blanc, from EUTELSAT, according to who for each euro invested in R&D there is a return of €5 in industrial business and €40 in service provision. However, in order for this to be possible, there needs to be careful planning when developing systems and services so as to make them inter-operable and their use for commercial purposes must be previously secured. Costs could also be further reduced, in his opinion, by increasing the operational life of systems, making them “multi-operable” and, finally, by centralizing their management in hubs. This line of thought is shared by other industry representatives such as Mr. Christodolous Protopapas, Chairman of the European Satellite Operators Association, who points out satellite communications as an example of commercial markets propelling the space industry. He defends as well that public actors should consider using shared systems instead of costly, fully public ones.

Between Hope and Reality: What Are the Real Perspectives for a European Space Policy?

Article 189 makes Space a political endeavor in which the EU can henceforth play an active role. It offers, without question, numerous opportunities as investment in space can translate into economic leverage, industrial competitiveness, scientific knowledge and greater security. But before Europe can reap any benefits from Space policy, it will have to solve a number of thorny issues. Most representatives from the European Commission and ESA are dismissive of the debate on domestic governance and prefer to highlight the symbolism and potential of a European Space policy. But what those officials have failed to mention, so far, is a concrete strategy of the EU - and namely of the Commission - that will allow Europe to live up to its potential. It may well be true that this new competency is all about Europe's role in the world and that article 189 should not lead to internal disputes about competencies but rather serve to propel Europe in the international scene. The reality, nevertheless, is that there are internal disputes with regard to article 189 and that these differences must be surpassed before Europe can think of leading the game. The recent disposal of a Communication project on a strategy for Space³ prepared by the services of Mr. Tajani is symptomatic of the tension surrounding Space policy within the European Union insofar as not all Member States seem to be ready to make a final decision on it yet. Among the main concerns are fears that the principle of fair return may be put into question by the Europeanization of this policy and by opening up competition in the context of a European space market – a concern particularly stressed by some States, such as Germany and the UK, who support the continuity of an intergovernmental governance scheme for ESA rather than its “communitarization”. Against this background, the interrogations put forward by Mr. Beka - representing the Council - on the practical issues that Europe will need to sort out in order to build a coherent Space policy now appear more meaningful.

The truth is that there is not yet a strategy guiding Space policy at the EU level and there cannot be any before broad support

³ Jehin, Olivier « La Commission renonce à développer une stratégie spatiale », November 3rd, Agence Europe

and consensus among Member States exists. Space policy today remains “focused on space applications and broader benefits for other EU policies”⁴. Funding is also a major issue considering that Space policy is not yet foreseen in the financial perspectives, which means that no yearly EU budget allocations are granted to Space as a policy of its own merit – instead, space projects receive funding from other policy areas such as security or industrial competitiveness⁵, as well as from the Seventh Framework Program in the context of Research and Development⁶. For the time being, Space projects will mostly receive funding through industrial policy, according to MEP Edit Herczog, but this solution is clearly not sustainable if European officials really want to make the most out of the potential of article 189 – proof of that is the fact that even the conclusion of ongoing projects such as GMES is dependent on the goodwill of States to provide additional funding⁷, as Edit Herczog confirmed. The Galileo Program, in turn, saw a budget override of 59% and launching its 27 satellites is now estimated to cost €700 million⁸. In stark contrast to this situation, funds from the EU budget for the period of 2007-2013 amount to only €5.25 billion, or roughly €750 million a year, with GMES eating up alone as much as 85% of the total⁹. To this amount we should add funding coming from Research & Development programs such as the 7th Framework Program, which allocates for the same period € 1.4 billion¹⁰, or roughly €200 million a year. This means that EU allocations for space still remain under €1 billion a year. Furthermore, even when Space policy can have a budget of its own, it is unclear if allocations will suffice to implement large scale projects since European States are more than ever reluctant to increase the EU budget. We can only wonder, then, how Europe will attain leadership in space under these conditions, namely when total institutional spending on Space in Europe amounts to roughly €6 billion¹¹, which seems clearly insufficient. And with current limits on the budget, the Union will not be able to fund large-scale industrial projects, as Mr. Damien Abad, MEP, notes. Finally, seeing how difficult recent talks to approve the 2011 budget proved and how States have rejected the European Parliament’s demands to have a bigger say on the definition of the financial perspectives, it might be sometime before Space policy can enjoy the level support needed from EU institutions and Member States alike to get the right amount of resources and attention. Also, we should add that funding may not be the sole obstacle to a

⁴ Pagkratis, Spyros “Space Policies, Issues and Trends 2009/2010, European Space Policy Institute, 2010. P. 67 (Espi.or.at)

⁵ Idem P. 61

⁶ Idem, P. 61

⁷ Idem, P.30

⁸ Idem P. 32

⁹ Idem, P. 67

¹⁰ European Commission / CORDIS (Cordis.europa.eu)

¹¹ Pagkratis, Spyros. Op. Cit, P. 61

coherent Space policy considering that, as a result of this lack of strategy, the development of synergies between different European actors might be hampered as well.

We can ask ourselves why a European strategy for Space is so important, why we should invest more in Space, and why now when Europe is struggling with an economic crisis. First and foremost, there are economic gains which are not negligible: global commercial space revenues in 2009 amounted to US\$ 175 billion¹², with European companies claiming a substantial stake of this sum. Unsurprisingly, the Council has acknowledged the importance of space activities to economic recovery¹³, but any contribution from the space sector in this sense is elusive unless investments are made, starting now. Secondly, developing a strategy and investing now is essential while Europe still has an edge over emerging space potencies such as China and India. Although in terms of "Space budget" China only poured in slightly over \$2.2 billion in 2009 and India did not surpass the \$1 billion threshold¹⁴ - which is much less than Europe's total allocations to Space - this should not create the illusion that Europe is that far ahead of its competitors. In fact, one has to take into account that in China and India, where labor and production costs are much lower, a dollar of investment can buy progress faster than in Europe or the United States. This reality seems to be upheld even in a technology-intensive sector such as Space considering that those countries' space programs continue to develop at fast pace despite having fewer financial resources at their disposal. This is especially true in the case of China who, for instance, possesses the world's largest reserves of rare Earth elements which are essential to the development of space technologies. Furthermore, even in terms of absolute budget figures, the current situation of China and India could be quickly reversed and proof of that was Russia's initiative to nearly double public investment from 2008 to 2009, having allocated nearly \$3 billion to space last year and standing now shoulder to shoulder with France, Europe's biggest investor in Space. It is therefore of the utmost importance that Europe starts to think big and that it sets its eyes in the future, just like its competitors are doing. This implies, however, that the EU develops a genuine space program and presents politicians with concrete projects for the future insofar as the existing ones no longer suffice to keep the fire alive in them or maintain their interest in supporting a European Space Policy.

¹² Pagkratis, Spyros. Op. Cit, P. 18

¹³ Idem, P. 30

¹⁴ Idem P. 18, 19

Conclusion

Space offers potential in terms of revenues, employment and technological development like few other areas do. Europe currently enjoys a relative advantage in this domain and therefore it should seize the opportunity offered by article 189 to extend its lead before other space powers can overtake it. The current context of budgetary constraint should not force the EU to drop Space policy from its list of priorities as Space itself can be an engine of economic growth. It is essential, then, that policy-makers find the will and the money to finish ongoing projects in a proper and timely manner, but also that they set targets in the long-term which are bold enough to give Space policy a new boost and direction once the EU's flagship programs Galileo and GMES are completed. Europe needs to set new goals in Space in order to move forward but this is not bound to happen unless the EU - and the Commission in particular - become more audacious and develop an ambitious strategy reminding States that Europe's successes will also depend on what it can achieve in Space.