

航空宇宙法學會誌 第25卷 第2號
2010년 12월 30일 발행, pp. 231~247

논문접수일 2010. 12. 3
논문심사일 2010. 12. 17
게재확정일 2010. 12. 23

RECENT DEVELOPMENTS IN EU SPACE POLICY AND LAW

Tanja Masson-Zwaan*

Contents

- I. Introduction
- II. ESA
- III. ESA and the EU
- IV. EU law and space activities
- V. Space security and the EU draft Code of Conduct
- VI. Conclusion

* Deputy Director, International Institute of Air and Space Law, Leiden University President, International Institute of Space Law (IISL)
Copyright © 2010 by T. Masson-Zwaan. Elected Member of IAA, Académie de l'Air et de l'Espace, ILA. Board Member of Women in Aerospace - Europe. Email: t.l.masson@law.leidenuniv.nl. All websites referred to in this article have been accessed and verified in May 2010.

I . Introduction

In this paper, some recent developments in EU space policy and law will be addressed. Well before the EU started to play a role in European space activities around 2000, ESA had already established a long and solid track record in building the European ‘space-scape’, therefore it is useful to start with a brief overview of ESA’s history, structure and practices. Thereafter, the gradual involvement of the EU will be outlined, as well as the implications of the Lisbon Treaty that entered into force in December 2009. Lastly, the legitimacy of military use of space in Europe and the role of the EU draft Code of Conduct for space activities will be discussed.

II . ESA

In 1964, the European Space Research Organisation (ESRO) was created.¹⁾ It was too dependent on the US for space research and therefore not very successful. That same year, the European Launcher Development Organisation (ELDO) was created. Here, the problem was that there was not sufficient expertise in launcher technology in Europe. There was no coherence between ELDO and ESRO, so the success of both these organisations was rather limited. In 1973, an interim arrangement was concluded to bring ELDO within ESRO. Two years later, in 1975, the Convention for the Establishment of a European Space Agency was signed, which entered into force in 1980.²⁾

1) See for a history of ESRO and ELDO, *A history of the European Space Agency 1958 - 1987, Volume 1: The story of ESRO and ELDO* (ESA special publication 1235), ESA 2001, at <http://www.esa.int/esapub/sp/sp1235/sp1235v1web.pdf>.

2) <http://www.esa.int/convention/>.

The purpose of ESA, as stated in Article 2 of the ESA Convention, is “to provide for and promote, for exclusively peaceful purposes, cooperation among European states in space research and technology and their space applications”. To realize this goal, ESA pools material and technical resources of the member states at the national level, integrates national space programmes as much as possible at the European level, and strengthens European space efforts for exclusively peaceful purposes at the global level.

ESA Currently has 18 Member States.³⁾ Canada takes part in some projects under a cooperation agreement, and several states take part in the Plan for European Cooperating States (PECS: the Slovak Republic, Slovenia, Estonia, Hungary, Romania and Poland.⁴⁾ The aim of this plan is to stimulate relations, expand overall European scientific/industrial base, and enrich ESA as an R&D organization. Agreements also exist with Cyprus and Latvia.

ESA has two main organs, the Council of member states and the Director General, assisted by his staff. The Council is the governing body of ESA and functions on the basis of one state, one vote, regardless of the state’s size or financial contribution. The Council meets either at ministerial or at delegate level. Ministerial Councils take place every three years and adopt key decisions on new and continuing programs. The Council elects a Chairman every two years, who is assisted by a Bureau. The Director General is appointed by the Council. He is the CEO and legal representative of the Agency, and is responsible exclusively to the Agency - not to any member state.

ESA is active in the following fields:

- Science & robotic exploration;

3) Austria, Belgium, Czech Rep.(‘08), Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Norway, Netherlands, Portugal, Spain, Sweden, Switzerland, UK.

4) see <http://pecs.esa.int/>.

- Human Spaceflight;
- Earth Observation;
- Telecommunication;
- Navigation;
- Launchers, and
- Space Technology.

Two main types of programmes are conducted by ESA: mandatory programmes and optional programmes. This provides for a flexible framework accommodating the interests of individual states while maintaining a coherent, efficient and manageable programme.

All Member States participate in mandatory programmes, on the basis of their GNP. The Council approves these programmes, determines their level of resources, and member states contribute on a pre-set scale. It mainly concerns the general budget, future studies, technological research, education, and common investments for e.g. facilities, laboratories, and basic infrastructure, as well as science programmes, such as solar system science, astronomy and fundamental physics. In optional programmes, the member states may choose their level of participation. This concerns mainly programmes of a more practical nature, such as design, development, construction, launching and further operations. The Council adopts the programmes, and member states may opt out or contribute, subject to their interests ('à la carte'). About 80% of the ESA budget concerns optional activities, which lie in the fields of human spaceflight, telecommunications, earth observation, launchers, navigation, or robotic exploration.

One of the interesting features of ESA is its industrial policy, which focuses on promoting cost-effectiveness, improving world-wide competitive industry, using existing industrial potential in Europe, preference for European industry,

equitable member state participation, and exploiting the advantages of competitive bidding. It is based on the principle of 'fair return', which in essence means that each member state should receive a return in the form of contracts for the amount it has invested into the Agency. The ideal situation would be a return coefficient of 1, but some weighting is possible and in 1997 some amendments were introduced that somewhat diluted this concept of 'fair return'.

The most recent Ministerial Council took place in November 2008 in The Hague.⁵⁾ It declared that space is a key asset for Europe to face global challenges and that Europe should aim for European global leadership, e.g. in environment issues (incl. climate change), and should implement the European Space Policy agreed with the EU in 2007.

The meeting recognised that space 'is an enabling tool that gives European decision-makers the ability to respond to critical challenges such as climate change and global security. It can make a significant contribution to growth and employment, and provides technologies and services for the knowledge-based society. Furthermore, it increases the understanding of our planet and Universe, and, not in the least, it contributes to a European identity, cohesion and security, providing inspiration for possible future human endeavors and drawing young people into scientific and technical education.'

At the programmatic level, several decisions were taken on new activities, such as an initiative on climate change, Space Situational Awareness (SSA) and 'Integrated Applications' Promotion. Also, important decisions were taken about continuing programmes like exploration. Lastly, decision-making processes and industrial procurement policies were discussed.

5) See http://www.esa.int/SPECIALS/Ministerial_Council/.

III. ESA and the EU

It can be said that the EU and ESA have a common aim, which is to strengthen Europe and benefit its citizens. Closer ties and increased cooperation will bring benefits to Europe by guaranteeing Europe's full and unrestricted access to services provided by space systems for its policies, and by encouraging the increasing use of space to improve the lives of its citizens.

However if we compare the basic premises on which the EU and ESA are based, the first reaction is to observe a clash between the ESA principle of fair return and the EU premise of free competition. As regards space, we can see a gradual converging of these two concepts as the European space industry is starting to mature. It cannot be denied that the European space industry would not be as competitive and efficient as it is today if it were not for the fair return principle - this has allowed many European states to gain expertise and know-how in the field, which otherwise would have remained occupied by a few players in traditional European space powers like France, Germany, Italy and the UK.

Starting in 2000, the EU and ESA have started a consultation process that has intensified over the years. The reason for the EU to start showing an interest in European space activities, whereas it had stayed out of the picture for decades, was the realisation of the global political impact of a strong European space industry and of the fact that many of Europe's space programmes nowadays have a political component which ESA is not equipped with, or meant to deal with. A good example of this is global navigation by satellites; the EU realised that the implications of being solely dependent on a US military system for its navigation needs was unacceptable and it was necessary to Europe to develop its own capacity in this field. The political aspects of setting up a global system built by Europe had to be addressed

by the EU, not by ESA, which is in charge of the technical aspects; hence the need for a ‘sharing of competences’ between the two organisations became clear.

Thus, in 2000, a European strategy for space was developed, and a high level joint taskforce was set up between the two organisations.⁶⁾ In 2003, the Green Paper on a European space policy was adopted, to raise awareness about the strategic importance of space for Europe.⁷⁾ Then in 2004, the Framework Agreement was adopted, which outlines the roles of both organisations, while recognising each other’s complementary strengths.⁸⁾ That same year the first ‘Space Council’ took place between the EU Council and the ESA Ministerial Council. It was recognised that the EU and ESA each have a distinct role to play in space. The EU’s role is regulatory and general in character, whereas ESA’s role lies in the technical and operational field and is space-focused.

In 2007, during the fourth ‘Space Council’, the ‘European Space Policy’ was adopted.⁹⁾ The fifth ‘Space Council’ was held in 2008, and the sixth was held in 2009. In these meetings, the importance of the two so-called ‘flagship’ projects of ESA/EU cooperation was stressed and reaffirmed, namely Galileo and GMES, but also new areas were identified, such as space and climate change, the contribution of space to the Lisbon strategy, space and security, space exploration, and the contribution of space to innovation and competitiveness.

The aforementioned 2007 European Space Policy sets out a common political framework for space activities in Europe and outlines the basic vision and strategy for the space sector. It tackles issues like security and defence,

6) See http://www.esa.int/esaCP/ESAG25UM5JC_index_0.html and http://esamultimedia.esa.int/docs/wisemen_report.pdf.

7) See <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2003:0017:FIN:EN:PDF>.

8) See http://ec.europa.eu/enterprise/newsroom/ef/document.cfm?action=display&doc_id=2322&userservice_id=1

9) See <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2007:0212:FIN:EN:PDF>.

access to space and exploration.

IV. EU law and space activities

The recent entry into force of the Treaty on the Functioning of the European Union (TFEU), often referred to as the Lisbon Treaty,¹⁰⁾ has codified the competence of the EU in the field of space activities. Although the EU had been working in close cooperation with ESA since approximately ten years, there was no formal legal basis to do so until now.

Title 1 of the TFEU addresses EU Competences ('Categories and Areas of Union Competence'). Article 3 deals with the 'exclusive' EU competences, where the Member States have transferred all their sovereign rights to the Union (e.g. monetary policy in Euro countries), whereas Article 4 concerns so-called 'shared' competences (e.g. transport, energy, environment, etc.) and Article 6 concerns 'support' competences (e.g. education, culture, and, tourism). Only areas that fall under the *exclusive* or *shared* EU competence allow for the adoption by the EU of (binding) Regulations, Directives and Decisions. Article 4.2 lists the areas of shared competence, which include transport, and, hence, aviation.¹¹⁾ Interestingly, 'Space' is not mentioned in that same paragraph, but

10) Signed at Lisbon, 13 December 2007. The Treaty of Lisbon amends the EU's two core treaties, the Treaty on European Union and the Treaty establishing the European Community. The latter is renamed the Treaty on the Functioning of the European Union (TFEU). OJ 2008/C 115/47. See <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2008:115:0047:0199:EN:PDF>.

11) They are: (a) internal market; (b) social policy, for the aspects defined in this Treaty; (c) economic, social and territorial cohesion; (d) agriculture and fisheries, excluding the conservation of marine biological resources; (e) environment; (f) consumer protection; (g) transport; (h) trans-European networks; (i) energy; (j) area of freedom, security and justice; (k) common safety concerns in public health matters, for the aspects defined in this Treaty.

in paragraph 3, which states: 'In the areas of research, technological development and space, the Union shall have competence to carry out activities, in particular to define and implement programmes; however, the exercise of that competence shall not result in Member States being prevented from exercising theirs.'

The fact that 'space' is mentioned in Article 4 seems to imply that it is a 'shared' competence, however, since it is not included in the (exhaustive) listing of paragraph 2 but in a separate paragraph 3, the 'space' competence (as well as R&TD) seems to be different from the competences in the areas mentioned in paragraph 2. For the 'normal' shared competences listed in paragraph 2, the Member State's competence is 'subsidiary' to the EU competence: the Member State may only exercise its competence if the EU does not (any longer) make use of its competence; this is also referred to as the 'pre-emption principle'.¹²⁾ For space, the competencies of EU and Member States 'co-exist', meaning that the Member State does not have to sit and wait for the EU to decide whether it will undertake action or not. Space is therefore sometimes referred to as a 'parallel competence'.

The substantive provisions can be found in Title XIX, dealing with 'Research and Technological Development and Space'. The powers of the Union in the field of space are contained specifically in Article 189, which reads as follows:

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,

12) Cf. Art. 2.2: 'When the Treaties confer on the Union a competence shared with the Member States in a specific area, the Union and the Member States may legislate and adopt legally binding acts in that area. The Member States shall exercise their competence to the extent that the Union has not exercised its competence. The Member States shall again exercise their competence to the extent that the Union has decided to cease exercising its competence.'

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 programme, excluding any harmonisation 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.

What are the implications of this provision for the EU's competence to either enact EU law in the field of space activities or to harmonize national legislation? First, it seems that the powers of the EU are limited to scientific and technological space activity, and may not cover for instance commercial space activities. But perhaps even more important is the exclusion of harmonisation of national laws and regulations in paragraph 2, as it seems to preclude altogether any EU initiatives to harmonize national legislation in the field of space activities. The reason for this exclusion is not entirely clear, but perhaps it can be explained from the fact that the space business is considered as 'special', with relatively few actors, high strategic importance (national security or defense-related), and very high cost and risk.¹³⁾

So although the Lisbon Treaty gives the European space market a better foundation in EU law, it seems doubtful whether it is an overall improvement. It is clear that individual member states must continue to play a role especially

13) See for a useful analysis, 'Economic and Policy Aspects of National Space Legislations in Europe', ESPI Rep. 21 (2009), Ch. 4, <http://www.espi.or.at/images/stories/dokumente/studies/espi%20report%2021.pdf>.

in the field of harmonizing space legislation, since the EU is not allowed to do this under the new Treaty. Harmonization to at least some extent is important to guarantee legal certainty for commercial players, which will not benefit from a European patchwork of space legislation.

V. Space security and the EU draft Code of Conduct

For years, the EU and ESA focused on non-military space activities, but we can observe a recent shift towards defense and security issues as exemplified for instance by the fact that the ESA Ministerial Council in 2008 accepted to set aside funding for Space Situational Awareness (SSA), and also by the EU recognizing the military implications of Galileo. The question is of course whether this is in agreement with the ESA Convention or with EU law, but it is beyond doubt that many European space projects can be used for military purposes (dual use).

Already in 2004, a Position Paper on ESA and the Defence Sector provided the recognized interpretation of the ‘peaceful purposes’ clause in the ESA Convention (‘non-aggressive’), recognized the potential of outer space for the purposes of security and defence, and underlined the ESA potential in that domain.¹⁴⁾ Also the 2004 Framework Agreement contains an explicit reference to the “security dimension” of space technology and infrastructure, and the 2007 European Space Policy underlines the dual-use character of military and

14) See Dr Thomas Beer, ESA, ‘The European Space Agency: A new actor in Security and Defence’, NATO Space Workshop, Kalkar, 22 April 2008, at http://www.japcc.de/fileadmin/user_upload/events/Workshops/Space_workshop_2008/Panel_1a_-_ESA_Presentation.pdf

civil space programmes. ESA's Space Situational Awareness Preparatory Programme (SSA-PP) was authorized during the 2008 Ministerial Council. The objective is to support Europe's independent utilization of, and access to, space through the provision of timely and accurate information, data and services regarding the space environment, and particularly regarding hazards to infrastructure in orbit and on the ground. Cooperation is an important element of this new programme, which is active in three main areas:

- Survey and tracking of objects in Earth orbit - comprising active and inactive satellites, discarded launch stages and fragmentation debris that orbit the Earth,
- Monitoring space weather - comprising particles and radiation coming from the Sun that can affect communications, navigation systems and other networks in space and on the ground,
- Watching for near-Earth objects - comprising natural objects that can potentially impact Earth and cause damage and assessing their impact risk and potential mitigation measures.¹⁵⁾

Another development that shows that Europe is increasingly aware of the strategic interest of space is the elaboration of the EU Code of Conduct. In 2008, the EU Council proposed a Draft Code of Conduct for Outer Space Activities.¹⁶⁾ The Code of Conduct is currently still being worked on. The main objective of the Code is to strengthen the safety, security and predictability of all space activities. Among the "general principles" we find the responsibility of States 'to take all the adequate measures to prevent outer space from becoming an area of conflict', but this general statement is not

15) http://www.esa.int/esaMI/SSA/SEMYTICKP6G_0.html.

16) Draft Code of Conduct for Outer Space Activities,
<http://register.consilium.europa.eu/pdf/en/08/st17/st17175.en08.pdf>

supported by any specific commitments, and the need to prevent space weaponization is mentioned nowhere – in the current draft at least.¹⁷⁾

The Code of Conduct is a voluntary, non-binding instrument. It recognizes the freedom of use and access to space, the need to safeguard assets in space, the legitimate defense interests of states, and the existing space treaties as well as the need to increase their ratifications. It wants to codify new ‘best practices’ in the fields of space debris and transparency and confidence building measures (TCBM), and can possibly be seen as a compromise between the proposals or positions of China and Russia on the one hand (who are proposing a somewhat unrealistic treaty banning all weapons in space, the PPWT¹⁸⁾) and the USA (who, under the Bush administration, did not wish to accept any limit whatsoever on their freedom to use outer space as they see fit¹⁹⁾). But the question can be asked whether the Code of Conduct as it stands today adds anything new to what is already there. It remains to be seen to what extent the political lobbying since 2008 will lead to a modified text that perhaps strikes a better balance between the various interests (currently the emphasis seems to lie more on self defense, protection of national interests etc.), and by how many states it will be subscribed. If the Code can place equivalent emphasis on the right of states to defend their national interests and the by no means smaller importance of safeguarding outer space for

17) See also V. Vereshchetin, ‘The Law of Outer Space in the General Legal Field (Commonality and Particularities)’, in Proceedings of the IISL 2009, also published at <http://www.sbda.org.br/revista/1826.pdf>.

18) Draft Treaty on the Prevention of the Placement of Weapons in Outer Space, the Threat or Use of Force against Outer Space Objects (PPWT), see <http://www.mfa.gov.cn/eng/wjtb/zzjg/jks/jkxw/t408634.htm>

19) *Note*: since this paper was written, the Obama administration has issued a new space policy, in June 2010, which is much less ‘belligerent’ and nationalistic. The US is now ready to consider discussion of international texts on space security, provided that they are equitable, verifiable and in the interests of US national security, see for a discussion of the new policy by Marcia Smith: The continuing story of Europe and space security, conference organized by IFRI and Secure World Foundation, Oct. 4-5, 2010 http://www.ifri.org/?page=contribution-detail&id=6197&id_provenance=79

peaceful purposes and free of armed conflict, as has been done in the past half century thanks to the UN space treaties, then its wide acceptance by the space community may be an impulse to better observe the UN Treaties that were drafted in the sixties and seventies.

VI. Conclusion

It is fair to say that thanks to ESA, Europe has become a key player in the global space field. We can also say that despite some fundamental differences in underlying principles, today, the respective competences of the EU and ESA are more or less clear, even though progress can still be made, and cooperation between the two organizations is beginning to show benefits.

In order to remain a key player on the world scene, it is essential for Europe to speak with one voice *vis-à-vis* the other space powers. The Lisbon Treaty is perhaps not a major step forward in ensuring a harmonized legal framework for European space activities, but at least it provides the long needed legal foundation for community involvement in European space activity. However, individual member states will continue to have to play a role at the national level to achieve some measure of harmonization of national space legislation.

References

Selected bibliography

Legal instruments:

- ESA Convention,
<http://www.esa.int/convention/>.
Treaty on the Functioning of the European Union, signed at Lisbon, 13 December 2007, (TFEU), OJ 2008/C 115/47,
<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2008:115:0047:0199:EN:PDF>
- Draft Code of Conduct for Outer Space Activities (EU, 2008),
<http://register.consilium.europa.eu/pdf/en/08/st17/st17175.en08.pdf>
- Green Paper: European Space Policy, European Commission, 21.1.2003 COM (2003) 17 final,
<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2003:0017:FIN:EN:PDF>
- Framework Agreement between the European Community and the European Space Agency, OJ 2004/L 261/64,
<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2004:261:0064:0068:EN:PDF>
- European Space Policy, COM (2007) 212 final,
<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2007:0212:FIN:EN:PDF>

Articles, Reports

- A history of the European Space Agency 1958 - 1987, Volume 1: The story of ESRO and ELDO (ESA special publication 1235), ESA 2001,
<http://www.esa.int/esapub/sp/sp1235/sp1235v1web.pdf>.

- Economic and Policy Aspects of National Space Legislations in Europe’, ESPI Rep. 21 (2009), Ch. 4,
<http://www.espi.or.at/images/stories/dokumente/studies/espi%20report%2021.pdf>.
- Dr Thomas Beer, ESA, ‘The European Space Agency: A new actor in Security and Defence’, NATO Space Workshop, Kalkar, 22 April 2008,
http://www.japcc.de/fileadmin/user_upload/events/Workshops/Space_workshop_2008/Panel_1a_-_ESA_Presentation.pdf
- Towards a Space Agency for the European Union, Report by C. Bildt, J. Peyrelevade, L. Späth to the ESA Director General,
http://esamultimedia.esa.int/docs/annex2_wisemen.pdf
- Space Security 2010, <http://www.ploughshares.ca/libraries/Abolish/SS2010.pdf>
- The continuing story of Europe and space security, conference organized by IFRI and the Secure World Foundation, Brussels, October 4 and 5, 2010
http://www.ifri.org/?page=contribution-detail&id=6197&id_provenance=79
- V. Vereshchetin, ‘The Law of Outer Space in the General Legal Field (Commonality and Particularities)’, in Proceedings of the IISL 2009, also at <http://www.sbda.org.br/revista/1826.pdf>.

Abstract

This paper starts with a brief overview of the history of the European Space Agency and recalls some of its main features. Next, the gradual process of cooperation between ESA and the EU is outlined, leading to the creation of the Framework Agreement in 2004 and the adoption of the European Space Policy in 2007. The entry into force of the Lisbon Treaty in 2009 codified the space competence of the EU, and its implications are addressed. Lastly, some attention is paid to the issue of space security in Europe, through ESA's new SSA programme adopted in 2008, and to the relevance of the EU Council initiative for a Code of Conduct for Outer Space Activities in 2008. The paper ends with some conclusions.

Key Words : Space law; ESA; EU; European Space Policy; Lisbon Treaty, space security; EU Code of Conduct.