

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

Space, Cyber, and Telecommunications Law
Program Faculty Publications

Law, College of

2017

The European Union and the Outer Space Treaty: Will the Twain Ever Meet?

Frans G. von der Dunk

University of Nebraska College of Law, fvonderdunk2@unl.edu

Follow this and additional works at: <http://digitalcommons.unl.edu/spacelaw>

 Part of the [Air and Space Law Commons](#), [Comparative and Foreign Law Commons](#), [International Law Commons](#), [Military, War, and Peace Commons](#), [National Security Law Commons](#), and the [Science and Technology Law Commons](#)

von der Dunk, Frans G., "The European Union and the Outer Space Treaty: Will the Twain Ever Meet?" (2017). *Space, Cyber, and Telecommunications Law Program Faculty Publications*. 89.

<http://digitalcommons.unl.edu/spacelaw/89>

This Article is brought to you for free and open access by the Law, College of at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Space, Cyber, and Telecommunications Law Program Faculty Publications by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

6

The European Union and the Outer Space Treaty: Will the Twain Ever Meet?

Frans G. von der Dunk

Introduction

In spite of the envisaged Brexit and other crises and problems currently threatening the European Union (EU)¹, that half-way house between a group of cooperating states and a single quasi-federal union of states remains an important player in today's world, also – at least from a bird's eye view – in terms of outer space. Its member states Germany and France have the largest space budgets of all European states (discounting the Russian Federation as a European state), and the European flagship projects Galileo and Copernicus, with the European Commission on behalf of the Union in the driver's seat, are among the most challenging and interesting space infrastructures currently being developed.

That, obviously, then also raises the issue of the EU's 'relationship' with, views on and involvement with the Outer Space Treaty², the most comprehensive and generic international convention setting out the legal framework for all space activities. It should be noted at the outset that the Treaty itself, drafted in the middle of the Cold War and focusing on military and scientific aspects of space activities, is very much targeting its legal regime towards sovereign states, not towards a unique 'phenomenon' such as the Union.³

Prior to going into the specifics of any ‘relationship’ of the EU with, views on and involvement with the Outer Space Treaty, however, it is important to understand the proper place of the Union and its predecessor in the broader European space endeavour – as it is by no means the only, or even the first European body within the European ‘spacescape’.

The Broader European ‘spacescape’

Actually, the first such European bodies were the European Organisation for the Development and Construction of Space Vehicle Launchers (ELDO)⁴, established in 1962 to develop a joint European launcher after neither the UK nor France had been able to pull off a viable launcher development programme on their own, and the European Space Research Organisation (ESRO)⁵, established the same year to coordinate and integrate (some of) the space research programmes of the individual member states – a group largely overlapping, but not completely identical to that of ELDO member states.⁶

When both organisations turned out to fall far short of their intended goals, in 1975 it was decided to essentially merge the two into one: thus, the European Space Agency (ESA) was established.⁷ Australia left the club that instant; ESA has since then grown to encompass 22 European-only member states: Austria, Belgium, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, the Netherlands, Norway, Poland, Portugal, Romania, Spain, Sweden, Switzerland and the UK.⁸

ESA soon covered almost the complete spectrum of the joint European space effort in terms of types of activities, from pure space science to prototype communication and earth observation satellites. The boundaries of where ESA was deemed by the still-sovereign member states – of which especially the larger ones also maintained their own national space programmes – to provide the best possible venue for their space efforts were set by the ESA Convention:

The purpose of the Agency shall be to provide for and to promote, for exclusively peaceful purposes, cooperation among European States *in space research and technology and their space applications, with a view to their being used for scientific purposes and for operational space applications systems,*

- (a) by elaborating and implementing a long-term European space policy, by recommending space objectives to the Member States, and by concerting the policies of the Member States with respect to other national and international organizations and institutions;

- (b) by elaborating and implementing activities and programmes in the space field;
- (c) by coordinating the European space programme and national programmes, and by integrating the latter progressively and as completely as possible into the European space programme, in particular as regards the development of applications satellites;
- (d) by elaborating and implementing the industrial policy appropriate to its programme and by recommending a coherent industrial policy to the Member States.⁹

In other words, as soon as certain prototype technologies had proven their feasibility, it was not deemed appropriate for ESA to continue operating them on a 'routine' basis for downstream terrestrial applications. Thus, once ESA had developed an operational launcher, in 1980 its member states created Arianespace as a private French company with involvement and support from about half of the current ESA member states to operate these launches on a commercial basis.¹⁰ Once ESA had demonstrated the success and operational viability of the satellite communications technology it had developed, in 1982 EUTELSAT was established – with ultimately more than double the amount of member states compared to ESA (but all European) – to operate a European satellite infrastructure for communication purposes on a quasi-commercial basis.¹¹ Similarly, in 1983 its member states created EUMETSAT to run with the earth observation satellite technology ESA had developed and provide earth observation services for meteorological, then also climate change purposes to its member states – again, a set different (in this case slightly larger) from the membership of ESA itself.¹²

As it is yet too early for Europe's satellite navigation system Galileo (developed, as far as the technology goes, under ESA auspices)¹³ or Europe's environmental and security monitoring system Copernicus (equally being developed, as far as the technology goes, under ESA auspices)¹⁴ to be operated on a daily 'routine', let alone commercial basis, it remains unclear for the time being what specific respective governance systems are to be established for the long term.

This finally brings us to the position of the EU within this larger 'European spacecape', as it also constitutes the main reason why the governance systems for these two 'European flagship projects' will most likely not consist of a different and formally independent entity such as Arianespace, EUTELSAT/Eutelsat or EUMETSAT, but of an EU body or agency.¹⁵ In many respects, this driving role for the EU represents the culmination of three

decades of growing interest and involvement of the Union and its predecessor, the European Community, in outer space and space activities.

The European Communities/Community/Union enters the European ‘spacescape’

For a proper understanding of why the European Communities for a long time did not play any role in the European ‘spacescape’ or vice versa, one has to understand furthermore the background to and rationale of that particular vehicle for European cooperation. From the start in the 1950s, three intergovernmental organisations of a very special nature – the European Coal and Steel Community (ECSC)¹⁶, within a few years followed by the European Atomic Energy Community (EAEC, also Euratom)¹⁷ and the European Economic Community (EEC)¹⁸ with identical sets of member states – were established in Europe *for the purpose of regulating trade across member state borders on the basis of an Internal Market with considerable socio-economic and political safeguards.*

Institutionally speaking, their uniqueness transpired in the way several Community-level bodies – the predecessors of the current European Commission, Council of Ministers, European Parliament and Court of Justice of the European Communities – were able to take decisions binding upon the totality of member states and their citizens in the respective realms addressed by the treaties, overriding as necessary any diverging national legislation on the subject.¹⁹

Substantively speaking, where the ECSC and EAEC by definition confined themselves to specifically circumscribed and quite special areas of the European economies, the EEC was supposed to address the remainder of economic activities – *to the extent addressed, explicitly or implicitly, by the EEC Treaty or implementing European level-regulation, which meant in essence as soon as a certain sector of the economy had become commercialised, privatised and subject to substantial international trade and the European institutions had officially recognised this.*

This is the key: until the mid-1980s, there simply was no space sector in Europe which fitted those conditions, hence ‘space’ figured only in some visionary political documents, but neither in any legislative activities nor in any material actions. Neither the growth of the three Communities in terms of member states nor the ‘institutional integration’ thereof which took place through various later treaties ultimately giving rise to the European Community and the EU,²⁰ changed this fact.

In the mid-1980s, however, two factors changed this fundamental attitude of abstinence.²¹ On the one hand, the EEC became increasingly pro-active in stimulating the European economy (read the totality of economies of the member states) not only by paving the way in regulatory terms for free trade and commerce, but also by supporting research and development as far as acting as catalysts to economic growth. The 1986 Single European Act thus for the first time gave the EEC such a pro-active role in research and development – which was generally agreed to including space-related research and development.²²

On the other hand, even more importantly, the mid-1980s can be seen as heralding the commercial viability of satellite communications, the first sector of space with clear commercial benefits, also in Europe, with the establishment of the private satellite operator SES in Luxembourg in 1985 to start competing with the then-still-intergovernmental EUTELSAT. The result was a first major piece of EC legislation on space, notably laying the foundations for a single European market for the provision of satellite services, by way of the so-called ‘Satellite Directive’ in 1994.²³

On-going market developments in the area of satellite communications led the European Commission also to force EUTELSAT to privatise;²⁴ in addition, in certain other areas the European authorities also started to enter the European ‘spacescape’ with efforts to regulate certain commercial or commercially-relevant aspects thereof. Most notable was the so-called ‘Database Directive’²⁵ of 1996 which established a *sui generis* copyright for electronic databases prominently including satellite remote sensing databases, since existing copyright did not sufficiently cover such novel phenomena – and protection of intellectual property rights was considered key for developing a viable commercial remote sensing sector.

With the increasing realisation that the space sector, as a high-key technology sector, became key to general European economic development as well, the European Commission’s approach to ‘outer space’ and ‘space activities’ grew progressively more comprehensive, although always limited by the extent to which the European treaties and member states allowed.²⁶ In practical/political terms moreover such efforts also faced the existing realities of a number of entrenched European entities being involved in the European ‘spacescape’, most prominently of course ESA.

The two European Flagship Projects: Galileo and Copernicus

The two European flagship projects which were initiated by the European

Commission in the late 1990s/early 2000s not only represented the culmination up to that point of increasing EU involvement in space activities, it also presented a watershed. In line with the general role of the Union as a (quasi-)legislative machinery at a partly supra-national level, until then such involvement (along the lines sketched above) had taken place in the politico-legal area, by way of enunciation of certain Directives and Regulations mainly addressing market and research-and-development aspects of certain space activities or applications.

With Galileo, however, the Union for the first time started to become an actual 'space player' itself. Following initial efforts to become partners with the US in operating Global Positioning System (GPS) as a Global Navigation Satellite System (GNSS), the Commission decided it would be in the European strategic, political and economic interest to develop a separate and independent European satellite navigation system, which came to be called 'Galileo', to be built upon a satellite navigation augmentation system still working with GPS called the European Geostationary Navigation Overlay Service (EGNOS) developed prior to Galileo-proper.²⁷

Through a small series of EU legislative documents²⁸ the Commission increasingly took control over the development and deployment phases of the EGNOS and Galileo programmes, especially after the original intention to have a concessionaire take over the system and operate it on a commercial basis had fallen through. The role of ESA, originally almost on a par with that of the Union/Commission as providing the necessary technological know-how, correspondingly receded into the background; by now it has essentially been relegated to the role of procuring agency on behalf of the Commission.²⁹ In particular by owning the satellites comprising the space-part of the system, both as launched and as yet to be launched,³⁰ the EU may now be said to have become a space operator at least in a formal-legal sense.

Following upon the initial positive reaction within the EU member states to Galileo, at least on the strategic-political level, the Commission felt emboldened to then also develop plans for an independent European satellite infrastructure for earth observation purposes, more specifically for Global Monitoring for Environment and Security (GMES).³¹ Meanwhile rechristened 'Copernicus', following three Regulations³² the Commission had been in the driver's seat from the very beginning, with ESA as a kind of junior partner³³ currently responsible for the few Sentinel satellites that already have been launched.

At a later stage, although the details of the institutionalisation are far

from clear and as of yet only a 'GMES Bureau' has been created within the Commission to prepare such a future governance regime, it may be assumed that the Union will, along roughly similar lines as with Galileo, become the ultimate responsible authority for the space activities conducted by and with the Copernicus infrastructure.³⁴

In the context both of Galileo and of Copernicus, the fact that two of the participating countries – Norway and Switzerland – are member states of ESA only, thus co-financing the programmes to the extent that ESA is executing them, yet not member states of the EU, so not automatically involved in the decision-making on the future of both programmes, has so far been solved pragmatically. Yet it has to be kept in mind – as this membership-situation is not likely to change anytime soon – that this may still come to present problems in the future.

The Final Step: Comprehensive EU Competence in Space?

Largely at the background of the developments mentioned earlier, a more long-term political discussion took place on the future of European space policy and law, and in particular the overall relationship between ESA, the erstwhile vehicle for all such discussions and still equipped with the necessary technical and operational know-how, and the Union/Commission, with clearly superior powers in the political and legislative realm but, as seen, a relatively late entrant into the European 'spacescape'. While the Commission originally tended to go for incorporation of ESA into the Union-structure, as a 'space agency of the Union',³⁵ already the different memberships – currently, amongst the 28 EU member states and 22 ESA member states, 20 countries belong to both groups – precluded that from happening in the short run.

Nevertheless, the two entities willy-nilly converged in their operations, approaches and activities in the European 'spacescape'.³⁶ Still largely on the basis of 'equality' the two concluded a Framework Agreement in 2003³⁷, cementing their overall cooperation while leaving each to do what it was best at – in accordance with its own internal procedures and *modi operandi*.

The major development here concerned the development of an overall EU competence in space as opposed to the isolated areas where it had already exercised its legislative authority on the basis of Internal Market competences.³⁸ The end-result so far is the inclusion, following the Treaty of Lisbon³⁹, in the Treaty on the Functioning of the EU of an Article providing the following:

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 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.⁴⁰

In particular because of the italicised phrase, this ‘space competence’ has been labelled a “parallel competence”, as it – contrary to the ‘standard’ approach of EU law – leaves the authority of individual EU member states to enunciate domestic legislation in tact.⁴¹ Recognising the fact that currently seven out of 28 EU member states have a comprehensive national space law providing for a licensing regime of private space activities (in chronological order: Sweden⁴², the UK⁴³, Belgium⁴⁴, the Netherlands⁴⁵, France⁴⁶, Austria⁴⁷ and Denmark⁴⁸), this quite seriously limits the actual possibility for the Union to draft overarching EU law in this particular context.⁴⁹ It thus still remains to be seen to what extent the Union will be allowed to further develop its legislative role in the field of European space activities and applications.

The above analyses clarify that in the end the Union’s relationship with the Outer Space Treaty is essentially twofold, noting that of the 28 EU member states four are not parties to the Treaty (Croatia, Latvia, Malta and Slovenia) but that the provisions are generally recognised to present customary international law.

The EU as a ‘legislator’ and the Outer Space Treaty

On the one hand, to the extent the Union acts in its legislative capacity, whatever law or regulation it enacts, such law or regulation should not run counter to the provisions of the Outer Space Treaty – and at least 24 out of 28 member states are bound to ensure the Union does not do so, and are also bound to succeed in doing so in view of their large majority. The Union itself also recognises the fundamental obligation resting upon it to comply

with international law, and as the Outer Space Treaty reflects customary international law, this clearly includes that Treaty as well, even as the Union itself has not formally indicated this specifically.⁵⁰

However, the provisions of the Outer Space Treaty are rather broad and general, providing only general obligations to:

1. Act in the interests of the international community, international cooperation and international peace and security.⁵¹
2. Desist from the stationing of weapons of mass destruction in outer space.⁵²
3. Treat astronauts as 'envoys of mankind' and support them when in distress as much as possible.⁵³
4. Accept international responsibility and liability as appropriate, and ensure proper authorisation and continuing supervision of non-governmental space activities.⁵⁴
5. Desist at least in principle from harmful interference with other (States') legitimate space activities.⁵⁵
6. Allow access in principle to stations and equipment on celestial bodies.⁵⁶
7. Generally comply with international law applicable to outer space.⁵⁷

While the very last obligation mentioned also raises the issue of the extent to which *other* space or space-related treaties, even if not specifically mentioned or ratified, would as extensions or elaborations of the Outer Space Treaty, also have to be complied with, at this stage it suffices to note that so far all EU legislation addressing space activities or issues has been fairly limited and rather focused on specific aspects. Therefore, it can safely be said that this overarching requirement of EU compliance with the Outer Space Treaty is complied with so far – and until the 'space competence' of the Union pursuant to the Treaty of Lisbon would really come to be exercised, that is not likely to change.

The most pertinent example here concerns the satellite communications realm, where, as indicated, the Union is in the process of harmonising the market conditions within the Internal Market ever since the 1994 Satellite Directive. Since commercial uses of outer space at least in the realm of satellite communications, as long as compliant with the regime developed in the framework of the International Telecommunication Union (ITU) regarding the use of orbital slots/orbits and space frequencies⁵⁸, are undisputedly allowed, the main other overarching requirement stemming from the Outer Space Treaty concerns that of Article VI, to have such activities by private operators

properly authorised and supervised by the appropriate state(s).⁵⁹ The regime imposed by the Union does exactly heed that requirement: only properly licensed satellite communication operators may enjoy the benefits of that Internal Market for telecommunication service providers, and though subject to some EU framework conditions, such licences are to be granted by national telecom authorities.

The EU as a ‘space operator’ and the Outer Space Treaty

On the other hand, to the extent the Union acts as a space operator – which in the case of Galileo and, at least soon, Copernicus, would ultimately seem to be the case – it obviously has to comply with the regime set out by the Outer Space Treaty as well. As, again, in substantive terms, clear-cut legal obligations are only found in a fairly limited context, the ‘institutional place’ of the Union in the framework of the Treaty is probably the most directly relevant aspect of the relationship of the former to the latter.

In the Treaty, namely, there are but two clauses making reference to international intergovernmental organisations. First, “[t]he provisions of this Treaty shall apply to the activities of States Parties to the Treaty (...) including cases where they are carried on within the framework of international intergovernmental organizations”, and “[a]ny practical questions arising in connection with activities carried on by international intergovernmental organizations (...) shall be resolved by the States Parties to the Treaty either with the appropriate international organization or with one or more States members of that international organization, which are Parties to this Treaty”.⁶⁰

Second, “[w]hen activities are carried on in outer space (...) by an international organization, responsibility for compliance with this Treaty shall be borne both by the international organization and by the States Parties to the Treaty participating in such organization”.⁶¹ Thus, following the politico-legal logic of the Soviet Union at the time, which did not want to accord any special status to international organisations, ultimately such organisations remained, legally speaking, platforms for cooperation rather than independent legal persons capable of acting with the slightest independence from their own member states.⁶²

This also means, that regardless of the ‘space competence’ and the extent to which it would allow for the Union to start encroaching upon the licensing regimes of the seven states which so far have a national space law in place, also from the vantage point of Article VI of the Outer Space Treaty EU-level

authorisation and continuing supervision of private space activities is neither a requirement nor a right.

The major remaining issues would thus concern the obligations set out in their most fundamental version in Article VII (if a state is involved in the launching of a space object in any of the manners indicated, it will be held liable for damage caused by such a space object) and Article VIII (if a space object is launched into outer space, it is supposed to be registered by (one of) the state(s) involved, thus giving such state jurisdiction over the object). Since, however, the Union is not a state in any relevant legal sense of the word, as further supported by the provisions of Articles VI and XIII quoted above, there will be EU member states carrying such liabilities and enjoying the obligation-*cum*-possibility to register in its stead; how such liabilities, obligations and exercise of jurisdictions would then further be given shape is essentially an internal matter for the Union – so far not at all touched upon.

Will the Twain ever Meet?

The above analyses already make clear that, beyond the general obligations of the EU and its organs to stay in line with the Outer Space Treaty's regime, both in its role as legislator and in its role as space operator, there will be few direct connections between the Union and the Outer Space Treaty. Different from follow-on space treaties developed in the bosom of the United Nations, the Outer Space Treaty does not offer any intergovernmental organisation to act as a *de factoparty* to such a treaty. Neither is there any other category of legal subjects in the Outer Space Treaty that it could feasibly be included under. So effectively the space activities that are and will be undertaken under its aegis are to be accounted for by the individual EU member states also party to the Outer Space Treaty.

Where for instance Article XXII of the Liability Convention⁶³ and Article VII of the Registration Convention⁶⁴ do offer intergovernmental organisations the possibility to become a *de factoparty* to those respective treaties, the Union apparently does not see itself as an 'ordinary' intergovernmental organisation and thus is not prepared to make use of these possibilities.

So, will the twain ever really meet? To reiterate: the only two realistic options so far are for the Union to indeed start licensing private space operators directly so as to become subject to the rights and obligations of Article VI of the Outer Space Treaty (which still requires an argument that, apparently the solution found by the EU member states pursuant to Article XIII would require such direct EU licensing, allowing it to override any stricter

interpretation that Article VI, really, only can address states full stop), or to accept a secondary status as an ‘intergovernmental organisation’ launching and registering space objects pursuant to the Liability Convention (and hence also subject to Article VII of the Outer Space Treaty) respectively the Registration Convention (and hence also subject to Article VIII of the Outer Space Treaty). The first goes against the current trend in the attitudes of the member states concerned; the second against the EU’s own political approach – if indeed the twain will ever really meet, it will be at least a few years away.

ENDNOTES

1. As the actual, that is, legally-applicable Brexit, is at least a few years away (and might theoretically even turn into something different from a formal Brexit after all), for the purposes of this contribution, the UK will be considered part of the Union and the Union will be considered to have 28 member states.
2. Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (hereafter Outer Space Treaty), London/Moscow/Washington, done January 27, 1967, entered into force October 10, 1967; 610 UNTS 205; TIAS 6347; 18 UST 2410; UKTS 1968 No. 10; Cmnd. 3198; ATS 1967 No. 24; 6 ILM 386 (1967).
3. See P. Jankowitsch, “The Background and History of Space Law”, in F. G. von der Dunk and F. Tronchetti (eds.), *Handbook of Space Law*, Edward Elgar Publishing, Cheltenham/Northampton, 2015, pp. 1-14; M. Lachs, *The Law of Outer Space: An Experience in Contemporary Law-Making*, Brill | Nijhoff, 2010 (reprint), pp. 11-25; P. Malanczuk, “Space Law as a Branch of International Law”, *Netherlands International Law Yearbook*, 25, 1994, pp. 143-80; N. M. Matte, “Space Law”, in R. Bernhardt (ed.), *Encyclopedia of Public International Law*, Vol. 4, 2000, pp. 552-7; G. Zhukov and Y. Kolosov, *International Space Law*, Praeger Publishers, New York, 1984, pp. 1-17; B. Cheng, *Studies in International Space Law*, Clarendon Press, Oxford, 1997, esp. pp. 70-87.
4. ELDO was established by means of the Convention for the Establishment of a European Organisation for the Development and Construction of Space Vehicle Launchers, London, done March 29, 1962, entered into force February 29, 1964, expired October 30, 1980; 507 UNTS 177; UKTS 1964 No. 30; Cmnd. 2391; ATS 1964 No. 6. Amongst its member states, Australia as a non-European state stood out – the use of its launch site for European launches was considered to be of mutual interest to both the European member states and Australia itself.
5. ESRO was established by means of the Convention for the Establishment of a European Space Research Organisation, Paris, done June 14, 1962, entered into force March 20, 1964, expired October 30, 1980; 158 UNTS 35; UKTS 1964 No. 56; Cmnd. 2489.
6. ELDO comprised Australia, Belgium, France, Italy, the Netherlands, the UK and West Germany; whereas ESRO comprised Belgium, Denmark, France, Italy, the Netherlands, Spain, Sweden, Switzerland, the UK and West Germany.
7. As per the Convention for the Establishment of a European Space Agency (hereafter ESA Convention), Paris, done May 30, 1975, entered into force October 30, 1980; 1297 UNTS 161; UKTS 1981 No. 30; Cmnd. 8200; 14 ILM 864 (1975); *Space Law – Basic Legal Documents*, C.I.I. See further, e.g. F.G. von der Dunk, “European Space Law”, in F.G. von

- der Dunk and F. Tronchetti (eds.), No. 3, pp. 208-11; K. Madders, *A New Force at a New Frontier: Europe's Development in the Space Field in the Light of Its Main Actors, Policies, Law and Activities from Its Beginnings up to the Present*, Cambridge University Press, Cambridge, 1997, pp. 39-178; G. Lafferranderie, *European Space Agency*, in J. Wouters (ed.), *International Encyclopaedia of Laws: Intergovernmental Organisations*, Kluwer Law International, Alphen aan den Rijn, 2005, pp. 17-24.
8. See "European Space Agency", *Wikipedia*, at https://en.wikipedia.org/wiki/European_Space_Agency (Accessed July 22, 2016).
 9. ESA Convention, No. 7, Art. II; emphasis added.
 10. See F.G. von der Dunk, No. 7, pp. 228-32; K. Madders, No. 7, pp. 235-41, 520-6. Arianespace was created by the *Statuts de la Société Arianespace* of March 26, 1980.
 11. See F.G. von der Dunk, No. 7, pp. 232-6; K. Madders, No. 7, pp. 252-60, 504-14; EUTELSAT was originally established as a separate international organization by the Convention Establishing the European Telecommunications Satellite Organisation (EUTELSAT), Paris, done July 15, 1982, entered into force September 1, 1985; UKTS 1990 No. 15; Cm. 956; Cmnd. 9069; *Space Law – Basic Legal Documents*, C.II.1. In 1999, its constitutional structure was fundamentally changed so as to turn it into a basically private satellite communication provider Eutelsat overseen by a rudimentary EUTELSAT IGO; see F.G. von der Dunk, "International Organizations in Space Law", in F.G. von der Dunk and F. Tronchetti (eds.), No. 3, pp. 317 ff.
 12. See F.G. von der Dunk, No. 7, pp. 236-8; K. Madders, No. 7, pp. 264-70, 516-20. EUMETSAT was established by the Convention for the Establishment of a European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT), Geneva, done May 24, 1983, entered into force June 19, 1986; as amended July 14, 1994, entered into force July 27, 1994; UKTS 1999 No. 32; Cm. 1067; Cmnd. 9483; 44 ZLW 68 (1995).
 13. See F.G. von der Dunk, No. 7, pp. 258-62.
 14. *Ibid.*, pp. 262-5.
 15. As for Galileo, already a GNSS Supervisory Authority (GSA) has been established by means of Council Regulation on the establishment of structures for the management of the European satellite radio-navigation programmes, No. 1321/2004/EC, of July 12, 2004; as for Copernicus (originally labelled Global Monitoring for Environment and Security; GMES), so far it is directly coordinated and managed by the European Commission itself.
 16. The ECSC was established by the Treaty establishing the European Coal and Steel Community, Paris, done April 18, 1951, entered into force July 23, 1952, expired July 23, 2002; 126 UNTS 140.
 17. The EAEC was established by the Treaty establishing the European Atomic Energy Community, Rome, done March 25, 1957, entered into force January 1, 1958; 298 UNTS 167.
 18. The EEC was established by the Treaty of Rome, or Treaty establishing the European Economic Community, Rome, done March 25, 1957, entered into force January 1, 1958; 298 UNTS 11.
 19. See F.G. von der Dunk, No. 7, pp. 239-44; R.H. Lauwaars, "Institutional Structure", in P.J.G. Kapteyn et al. (eds.), *The Law of the European Union and the European Communities*, 4th ed., Kluwer Law International, Alphen aan den Rijn, 2008, pp. 180-252; A. Arnulf et al., *Wyatt & Dashwood's European Union Law*, 5th ed., Sweet & Maxwell, London, 2006, pp. 32-51, 387 ff.
 20. See esp. Treaty on European Union, Maastricht, done February 7, 1992, entered into force November 1, 1993; 31 ILM 247 (1992); OJ C 191/1 (1992).

21. See further F.G. von der Dunk, No. 7, pp. 244-5; K. Madders, No. 7, pp. 566-86; G. Lafferranderie, No. 7, pp. 139-54.
22. See Single European Act, Luxembourg/The Hague, done February 17/28, 1986, entered into force July 1, 1987, Art. 24; UKTS 1988 No. 31; Cm. 372; OJ L 169/1 (1987); 25 ILM 506 (1986).
23. Commission Directive amending Directive 88/301/EEC and Directive 90/388/EEC in particular with regard to satellite communications (hereafter Satellite Directive), 94/46/EC, of October 13, 1994; OJ L 268/15 (1994). See further, e.g. F.G. von der Dunk, No. 7, pp. 246-9.
24. Cf. Satellite Directive, No. 23, Art. 3.
25. Directive of the European Parliament and of the Council on the legal protection of databases, 96/9/EC, of March 11, 1996; OJ L 77/20 (1996). See further, e.g. F.G. von der Dunk, No. 7, pp. 249-50.
26. See further on this, F.G. von der Dunk, No. 7, pp. 251ff.
27. See L.J. Smith, "Legal Aspects of Satellite Navigation", in F.G. von der Dunk and F. Tronchetti (eds.), No. 3, pp. 561-5, 574-5; also F.G. von der Dunk, No. 7, pp. 258-62; G. Lafferranderie, No. 7, pp. 149-51; K. Madders, No. 7, pp. 547-550.
28. Notably, this concerns Council Regulation setting up the Galileo Joint Undertaking, No. 876/2002/EC, of May 21, 2002; OJ L 138/1 (2002); Council Regulation No. 1321/2004/EC, No. 15; Regulation of the European Parliament and of the Council on the further implementation of the European satellite navigation programmes (EGNOS and Galileo), No. 683/2008/EC, of July 9, 2008; (OJ L 196/1 (2008); Regulation of the European Parliament and of the Council setting up the European GNSS Agency, repealing Council Regulation (EC) No 1321/2004 on the establishment of structures for the management of the European satellite radio navigation programmes and amending Regulation (EC) No 683/2008 of the European Parliament and of the Council, No. 912/2010/EU, of September 22, 2010; OJ L 276/11 (2010); Decision of the European Parliament and of the Council on the rules for access to the public regulated service provided by the global navigation satellite system established under the Galileo programme, No. 1104/2011/EU, of October 25, 2011; OJ L 287/1 (2011); and Regulation of the European Parliament and of the Council on the implementation and exploitation of European satellite navigation systems and repealing Council Regulation (EC) No. 876/2002 and Regulation (EC) No. 683/2008 of the European Parliament and of the Council, No. 1285/2013/EU, of December 11, 2013; OJ L 347/1 (2013).
29. See Regulation No. 1285/2013/EU, No. 28, Art. 15.
30. *Ibid.*, Art. 6.
31. See further F.G. von der Dunk, No. 7, pp. 262-5; G. Lafferranderie, No. 7, pp. 152-3.
32. Regulation of the European Parliament and of the Council on the European Earth monitoring programme (GMES) and its initial operations (2011 to 2013), No. 911/2010/EU, of September 22, 2010; OJ L 276/1 (2010); Commission Delegated Regulation supplementing Regulation (EU) No 911/2010 of the European Parliament and of the Council on the European Earth monitoring programme (GMES) by establishing registration and licensing conditions for GMES users and defining criteria for restricting access to GMES dedicated data and GMES service information, No. 1159/2013/EU, of July 12, 2013; OJ L 309/1 (2013); and Regulation of the European Parliament and of the Council establishing the Copernicus Programme and repealing Regulation (EU) No 911/2010, No. 377/2014/EU, of April 3, 2014; OJ L 122/44 (2014).
33. See Regulation No. 377/2014/EU, No. 32, Art. 10.

34. As per Art. 28, Regulation No. 377/2014/EU (*supra*, No. 32), the Union again will own all assets associated with the Copernicus programme, and as per Art. 9 will maintain general control over the process of developing, deploying and operating the space infrastructure.
35. Cf. e.g. F.G. von der Dunk, “Towards One Captain on the European Spaceship – Why the EU Should Join ESA”, *Space Policy*, 19, 2003, pp. 83-6.
36. See further on this, F.G. von der Dunk, No. 7, pp. 251-5.
37. Framework Agreement between the European Community and the European Space Agency, Brussels, done November 25, 2003, entered into force May 28, 2004; OJ L 261/64 (2004); *Zeitschrift für Luft- und Weltraumrecht*, 53, 2004, p. 89.
38. See further on this, Von der Dunk, No. 7, pp. 255-8.
39. Treaty of Lisbon amending the Treaty on European Union and the Treaty establishing the European Community (hereafter Treaty of Lisbon), Lisbon, done December 13, 2007, entered into force December 1, 2009; OJ C 306/1 (2007).
40. Treaty establishing the European Community as amended by the Treaty of Lisbon amending the Treaty on European Union and the Treaty establishing the European Community, Lisbon, done December 13, 2007, entered into force December 1, 2009, Art. 189; OJ C 326/47 (2012); emphasis added.
41. S. Hobeet al., “A New Chapter for Europe in Space”, *Zeitschrift für Luft- und Weltraumrecht*, 54, 2005, p. 347.
42. Act on Space Activities, 1982: 963, November 18, 1982; *National Space Legislation of the World*, Vol. I (2001), at 398; *Space Law – Basic Legal Documents*, E.II.1; *Zeitschrift für Luft- und Weltraumrecht*, 36, 1987, p. 11.
43. Outer Space Act, July 18, 1986, 1986 Chapter 38; *National Space Legislation of the World*, Vol. I (2001), at 293; *Space Law – Basic Legal Documents*, E.I; *Zeitschrift für Luft- und Weltraumrecht*, 36, 1987, p. 12.
44. Law on the Activities of Launching, Flight Operations or Guidance of Space Objects, September 17, 2005, adopted June 28, 2005; *Nationales Weltraumrecht / National Space Law* (2008), at 183.
45. Law Incorporating Rules Concerning Space Activities and the Establishment of a Registry of Space Objects, January 24, 2007; 80 *Staatsblad* (2007), at 1; *Nationales Weltraumrecht / National Space Law* (2008), at 201.
46. Law on Space Operations (*Loi relative aux opérations spatiales*); *Loi n° 2008-518 du 3 juin 2008*; unofficial English version, *Journal of Space Law*, 34 (2), Winter 2008, p. 453.
47. Austrian Federal Law on the Authorisation of Space Activities and the Establishment of a National Space Registry (*Bundesgesetz über die Genehmigung von Weltraumaktivitäten und die Einrichtung eines Weltraumregisters (Weltraumgesetz)*), as adopted by Parliament on December 6, 2011; Federal Law Gazette of December 27, 2011; *Zeitschrift für Luft- und Weltraumrecht*, 61, 2012, pp. 37-42, 56-61.
48. Law on activities in outer space (*Lov om aktiviteter i det ydre rum*), Passed by Parliament with the third treatment, May 3, 2016; Parliament Gazette, 2015-17, No. L 128.
49. See F.G. von der Dunk, “The EU Space Competence as per the Treaty of Lisbon: Sea Change or Empty Shell?”, *Proceedings of the International Institute of Space Law 2011*, 2012, pp. 382-92.
50. See Treaty on European Union as amended by the Treaty of Lisbon amending the Treaty on European Union and the Treaty establishing the European Community, Lisbon, done December 13, 2007, entered into force December 1, 2009, Art. 2; OJ C 326/13 (2012).
51. See Outer Space Treaty, No. 2, Arts. I, II, III, IX, X, XI.
52. *Ibid.*, Art. IV.

53. Ibid., Art. V.
54. Ibid., Arts. VI, VII.
55. Ibid., Art. IX.
56. Ibid., Art. XII.
57. Ibid., Art. III.
58. This very elaborate and detailed regime stems from the three main constitutive documents of the ITU: the Constitution of the International Telecommunication Union, Geneva, done December 22, 1992, entered into force July 1, 1994; 1825 UNTS 1; UKTS 1996 No. 24; Cm. 2539; ATS 1994 No. 28; Final Acts of the Additional Plenipotentiary Conference, Geneva, 1992 (1993), at 1; the Convention of the International Telecommunication Union, Geneva, done December 22, 1992, entered into force 1 July 1994; 1825 UNTS 1; UKTS 1996 No. 24; Cm. 2539; ATS 1994 No. 28; Final Acts of the Additional Plenipotentiary Conference, Geneva, 1992 (1993), at 71; and the Radio Regulations, at www.itu.int/pub/R-REG-RR-2012 (Accessed July 21, 2016).
59. See in general M. Gerhard, "Article VI", in S. Hobe, B. Schmidt-Tedd and K.U. Schrogl (eds.), *Cologne Commentary on Space Law*, Vol. I, Carl Heymanns Verlag, Cologne, 2009, pp. 111-22.
60. Outer Space Treaty, No. 2, Art. XIII.
61. Outer Space Treaty, No. 2, Art. VI.
62. See e.g. P. Jankowitsch, No. 3, pp. 5-6.
63. Convention on International Liability for Damage Caused by Space Objects, London/Moscow/Washington, done March 29, 1972, entered into force September 1, 1972; 961 UNTS 187; TIAS 7762; 24 UST 2389; UKTS 1974 No. 16; Cmnd. 5068; ATS 1975 No. 5; 10 ILM 965 (1971).
64. Convention on Registration of Objects Launched into Outer Space, New York, done January 14, 1975, entered into force September 15, 1976; 1023 UNTS 15; TIAS 8480; 28 UST 695; UKTS 1978 No. 70; Cmnd. 6256; ATS 1986 No. 5; 14 ILM 43 (1975).