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The European Union and Space — Space for Competition?

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Abstract

From the inception of European integration, a regime trying to regulate and arrange competition as much as considered necessary for the benefit of society at large has been one of the core elements of the European Union’s legal order. While the European Union has over the past few decades become more and more involved in the European space effort, this has so far hardly given rise to fundamental application of this competition regime to space activities, even if space also in Europe increasingly has become commercialized and privatized. The current paper investigates the reasons and rationale for this special situation, addressing *inter alia* the special character of outer space activities and the space industry and the role of the European Space Agency in this respect.

1. Introduction

During the last few decades the European Union has become interested in outer space, more particularly in the benefits which space activities could bring to the populations and economies of its member states.¹ Roughly in the same timeframe, the global commercialization and ensuing privatization of space activities started to take off in earnest, with the privatization of the major international satellite operators,² the take-off of an international commercial market for space launch services,³ and the involvement of a few private operators in the satellite remote sensing sector.⁴ Noting that the heart of the European Union’s legal order concerns the creation of an Internal Market with common external borders constituting a level playing field for private companies—read: the establishment of fair and free competition—it may come as a surprise to many that the Union’s involvement with

space has not given rise to full-fledged application of its competition regime in the context of those space sectors. The current paper investigates the reasons and rationale for this special situation. Following a brief reminder of the special nature of the European Union, it will then focus on the special character of space activities and the space industry, before addressing the more detailed peculiarities of the European “spacescape” which gave rise to the current situation. Such peculiarities concern the nature of EU law, the special role of the European Space Agency (ESA) as a separate player in that “spacescape,” and the approach to the regulation of competition in European space activities resulting from these two premises.

2. The special nature of the European Union

In the context of the political discourse over the last decades the impression often arises that the European Union has become a “super state,” a kind of “United States of Europe” which has “demoted” its member states to a status of semiautonomous provinces within some kind of large empire. This might perhaps be understandable, given the active role of the European Commission as the leading and most visible EU organ supervising the implementation of the EU “project,” the existence of a proper European Parliament discussing legislation which is applicable EU-wide, and the judgements of a Court of Justice which can enforce such legislation against the will of individual member states and/or overriding any particular national legislation on the issue.⁵

However, as the impending “Brexit” makes all too clear, the Union at the heart is still an intergovernmental construct of sovereign states which also retain the ultimate sovereign right to step out of that construct. In the last resort, the Union goes back to the three founding treaties of the 1950s (including the most important one establishing the European Economic Community),⁶ with the 1992 Treaty on European Union⁷ finalizing the process of merging the three resulting communities in the framework of an all-encompassing European Union. Many more treaties between the member states both before and after the Treaty on European Union added to the ever-increasing integration of the member states, but the essence remained that *all* of the member states at the time of conclusion of such a particular treaty had to ratify it before the additional measure of further integration would become a matter of law.⁸

Not only “Brexit” and the famous Article 50 of the current version of the Treaty on European Union on the basis of which “Brexit” would take place⁹ but also the general construct of the Union’s legal framework is clear about this: whatever EU law results from the EU administrative machinery, it is ultimately based on competences of EU organs and processes involving those organs agreed to by the member states by way of the treaties.

The legal and legislative competences of the European Commission are thus limited to those spelled out by Article 17 of the Consolidated version of the Treaty on European Union and Articles 244–250 of the Treaty on the Functioning of the European Union,¹⁰ to which *all* member states have consented as per their ratification of the relevant treaties. Likewise, the competences of the European Parliament and the Court of Justice are confined to those provided by the treaties.¹¹ The competence of the Council of Ministers finally, representing the individual member states directly, ensures that no EU legislation

can get enacted without at least the consent of a majority, usually a qualified majority and occasionally even unanimity, of those member states.¹² Even where there is, due to margins of interpretation or unclarity of certain provisions, room for discussion as to whether the EU organs have actually been given the competence to enact EU law (in particular of course if against the wishes of one or more specific member states), the default approach is unequivocal. As expressed most fundamentally through the three key principles of “conferral,” “subsidiarity,” and “proportionality,” as a baseline it should be assumed that relevant issues, scenarios, and developments should be dealt with legally at the national level rather than at the EU level.¹³ Only if specific parameters dictate otherwise, would EU-level jurisdiction come into play.

In short: whether it concerns space activities or anything else, the EU organs can only exercise their competences to enact binding law over and above that of individual member states to the extent that the treaties, further law enacted on the basis thereof, and the principles of “conferral,” “subsidiarity,” and “proportionality” allow for. This brings us to the question what possibilities to exercise jurisdiction with respect to outer space activities individual states would have to begin with. After all, following the maxim *nemo dat quod non habet* or its more extended continental version *nemo plus iuris ad alium transferre potest quam ipse habet*¹⁴ individual states could never provide a joint construct such as the European Union with more competences than such states would have themselves pursuant to international space law.

3. The special character of outer space and space activities

When it comes to states’ legal possibilities (including those of EU member states in view of the foregoing) to exercise control over space activities, outer space amounts to what can be termed a “global commons”: an area outside of national jurisdiction¹⁵ and, contrary to the *terra nullius* which historically could be found on Earth, not susceptible to ever becoming part of national territory.¹⁶

Thus, not being able to exercise territorial jurisdiction over any part of outer space, states are basically left with three options to exercise jurisdiction over outer space activities. This notably of course concerns space activities by private enterprise, as states are internationally responsible and liable for those pursuant to Articles VI and VII of the Outer Space Treaty.¹⁷

First, to the extent that such private space activities are remote-controlled, that is with the key actor somewhere on earth, normally territorial jurisdiction can still be applied as it were through the backdoor—namely *to actors on national territory even if the activities themselves take place in outer space*.¹⁸ The crucial difference is that such an exercise of jurisdiction is not “exclusive” in that *other* states can equally authorize, prohibit, or condition activities in the *same* area of outer space—as long as conducted from *their* respective territories.

Many states indeed have enunciated national space laws using territorial jurisdiction in the above manner in order to exercise legal control over space activities conducted by private operators.¹⁹ This applies to all eight EU member states so far having established an all-encompassing national space law:²⁰ Sweden,²¹ Belgium,²² the Netherlands,²³ France,²⁴ Austria,²⁵ Denmark,²⁶ Finland,²⁷ and the United Kingdom.²⁸

Second, states can (continue to) exercise jurisdiction on the basis of the nationality of the actors, whether natural or legal persons. While there may be issues with enforcing such jurisdiction if such nationals are physically outside of the country, in principle nationality-based jurisdiction can be exercised *vis-à-vis* their activities regardless of where they would be undertaken. This also applies in outer space, noting again that by definition this does not amount to “exclusive” jurisdiction as no particular state could exercise any legal control over the nationals of other states active in the same area.

Once again, pursuant to the above many of the states with national space legislation have chosen to apply it fundamentally to space activities conducted by their nationals, usually in addition to application to those conducted from their territory. Among the EU member states, Sweden,²⁹ the United Kingdom,³⁰ France,³¹ Austria,³² Denmark,³³ and Finland³⁴ comprehensively apply their nationality-based jurisdiction as per their respective national space laws, whereas Belgium³⁵ and the Netherlands³⁶ allow for such application under certain, specifically indicated circumstances.

Third, following the provisions of Article VIII of the Outer Space Treaty and the Registration Convention,³⁷ states can exercise quasiterritorial jurisdiction over space objects registered by them (as well as over “any personnel thereof,”³⁸ which, however, is relevant for manned spaceflight only).

A number of states have more or less explicitly included such a reference to quasiterritorial jurisdiction over registered space objects in their national laws, including, as for EU member states, Belgium³⁹ and Denmark.⁴⁰ The other six EU member states discussed here (Sweden,⁴¹ the United Kingdom,⁴² the Netherlands,⁴³ France,⁴⁴ Austria,⁴⁵ and Finland⁴⁶) have at least provided for national registration of relevant space objects. By that token, the exercise of jurisdiction over these space objects (at least potentially) may be presumed, as the registration processes as detailed in the legislation provide for considerable detail regarding the information to be provided, which would logically also impact the actual grant or refusal of a license in the first place.

Obviously, once more such jurisdiction is not “exclusive” *vis-à-vis* the area of outer space as such, since it does not at all impact the right of other states to prohibit, allow or condition *their* space objects and personnel thereof to be active in outer space.

Clearly, then, following from the above analysis the collective EU member states *could* transfer the competence to use jurisdiction applicable to space activities conducted from the territories of EU member states, and/or conducted by EU nationals (including companies), and/or involving EU-registered space objects, to the EU institutional machinery—should they desire to do so.

4. The European Union and space: the baseline legal situation

The first problem with EU jurisdiction over space activities in general, however, is that the European Union itself is not a party to the space treaties. As far as the Outer Space Treaty is concerned, the most fundamental and comprehensive of the space treaties, this is even excluded by the very terms of the Treaty.⁴⁷ Neither would it make much sense to the extent that the Treaty addresses entities actually undertaking space activities, whereas the Union has so far refrained from doing that itself.⁴⁸

As for the other space treaties, the Rescue Agreement, the Liability Convention, and the Registration Convention do indeed allow the Union in principle to become a quasiparty to those conventions as an intergovernmental organization.⁴⁹

The European Union, however, has chosen not to opt for such a quasiparty status under any of the treaties concerned—which notably also prevents it from becoming a quasistate of registry under the Registration Convention so as to allow it to exercise jurisdiction in an internationally recognized fashion over space objects to be registered by the Union.⁵⁰

As such, this would still allow the Union, once properly authorized under the European treaties, to exercise jurisdiction over activities conducted from member-state territory (that is: territorial jurisdiction) or by member-state nationals (that is, nationality-based jurisdiction).

However, this is where the second problem arises, which goes to the heart of the EU legal order as established over time by its member states.

On the one hand, when it comes to competition, free trade, and market issues, the European treaties clearly provide for an overarching role of the EU institutions. An Internal Market has since long been established for the trade in goods⁵¹ and services⁵² (meaning obstacles to trade between EU member states such as import and export duties and quota have all been completely abolished), and with some caveats also for the free movement of capital⁵³ and persons for economic purposes.⁵⁴ Taxation is increasingly harmonized as between member states,⁵⁵ and also when it comes to external trade relations (between one or more EU member states on the one hand and one or more non-EU member states on the other) individual member states have handed over their erstwhile sovereign competences to the EU institutions⁵⁶—all within the parameters of EU lawmaking sketched earlier.

Most importantly, within that Internal Market, ensuring free and fair competition (as long as the threats thereto are of sufficient size and international impact) is now the primary domain for the EU institutions, notably the European Commission, to address through such mechanisms as the prohibitions on collusive conduct (“cartels”), abuse of dominant position (“monopolies”) and state aid.⁵⁷

On the other hand, however, this regime, going back all the way to the original EEC Treaty of 1957, never was contemplated to be applied in the space sector—which in 1957 was almost nonexistent in Europe even as to the public sector, whereas a European private space sector could be seen to arise at best as early as the 1980s with the first private European space operator SES.⁵⁸ As a consequence, the European Union only started to pay attention to outer space in a very general sense in that same timeframe.⁵⁹ It certainly did not undertake any initiatives to start using its standard legal and regulatory competences in this special realm, riddled with security-related issues from which the Union was supposed to steer clear for a long time.⁶⁰

Only when in the late 1990s within Europe the understanding became widespread that the potential benefits of space activities for humanity extended far beyond defense and science, did the Union seek more legal competences in the space arena—again, within the parameters of EU law-making sketched earlier.

The first—and so far main—result of that process was the enunciation in 1994 of the Satellite Directive,⁶¹ which had initiated the application of the competition regime to satellite telecommunication services and the consequent development of an Internal Market

also in that sector.⁶² It provided proof among others that for the EU institutions to be legitimately entitled to start legislating in an area hitherto essentially untouched by EU law, it required a specific process giving rise to specific baseline legislation such as the Satellite Directive—in this case explicitly justified by both its international and its increasingly commercial character.

For other space-related sectors, however, similar developments were not likely to happen anytime soon, as commercialization and privatization there turned out to be only partial, haphazard, idiosyncratic, and fraught with specific government concerns and interference. Still, the Union had come to understand that space technology and operations as a whole, not just those in the communications realm, would be crucial for Europe's position in the world also in the civil and commercial areas, and was looking to push ahead in those other realms as well.

The current result of this understanding in terms of the law⁶³ is Article 189(2) of the Treaty on the Functioning of the European Union. This clause provides that, in order to attain the objectives of promoting scientific and technical progress, industrial competitiveness, joint initiatives, and support for research and technological development, “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.”⁶⁴

As a result, it may now be safely said that the Union institutions are—at least in principle—able to assert their jurisdiction *in re* competition in *any* field of space activity (not just space communications). It was clear that the competition regime had already been harmonized as such for many decades, and none of the national space laws dealt with competition issues to any appreciable extent, so as to preclude harmonization thereof following the last sentence of Article 189(2).

5. The European Union and competition in space: the exceptions

Why then has the European Union, in spite of its competences being generally applicable now also beyond the satellite communications sector, so far refrained from applying its competition regime to other areas of space activities in view of the undeniable commercialization and privatization thereof?

There are three main, interconnected reasons for this.

First, the last sentence of Article 189(2) of the Treaty on the Functioning of the European Union—“excluding any harmonisation of the laws and regulations of the Member States”—*did* throw a bit of a wrench into the system, as it clearly left the competence of individual member states to license and supervise any private space activities untouched. Noting that some of the national laws did provide for possibilities of public-private partnerships broadly speaking (which from an orthodox EU-perspective would qualify as a form of state aid, in principle prohibited by EU law) in the context of their licensing regimes,⁶⁵ accurate, transparent, and equal implementation of any EU competence in the realm of competition would be considerably compromised, if not in the end impossible to achieve, jeopardizing

already the very principle underlying the EU competition regime—an Internal Market on equal terms across all of the EU member states.

Second, it should be noted that while the EU competition regime provides, as indicated, for prohibitions of collusive conduct and abuse of dominant positions by companies as well as state aid as the major threats from that angle to free and fair competition, it *also* provides for exceptions to the illegitimacy of such activities.

As for collusive conduct for example, it may be condoned if the conduct “contributes to improving the production or distribution of goods or to promoting technical or economic progress, while allowing consumers a fair share of the resulting benefit.”⁶⁶

And as to state aid, a tool also outlawed in principle by the EU competition regime since a level playing field for free and fair competition would be an illusion if some States are allowed to support their companies with all sorts of financial aid, it may nevertheless be condoned if it concerns, for instance, “aid to promote the execution of an important project of common European interest” or “aid to facilitate the development of certain economic activities.”⁶⁷

Such European flagship projects as Galileo and Copernicus could clearly qualify as “important project[s] of common interest” and even more easily as “certain economic activities.” Still, this has never been formally so stated by the EU institutions, which might as such leave the question open as to any future reassessment of the situation.

However, as for Galileo, the earlier of the two flagship projects, it has so far been proven impossible to convince the private sector to take any leading role in that respect; the intended privatization of system operation, service provision and system maintenance has not materialized.⁶⁸ As a consequence, the approach not only for Galileo but (so far at least) also for Copernicus remains one driven by public institutions, making the potential application of competition rules a rather moot question.

More broadly, it can be said that apart from satellite communications, in Europe no space activities as of yet could be operated as “normal” private commercial enterprises.

In the launch sector, there was only one European commercial launch service provider, Arianespace, which moreover, though a private company in law, in fact enjoyed very substantial support of the European Space Agency and its member states in the R&D as well as policy realms.⁶⁹

In the satellite remote sensing sector, until the advent of TerraSAR-X there was also only one private company fundamentally involved, SpotImage, which moreover more or less until now depends also on fundamental support in terms of the space operations from, in particular, the French space agency CNES.⁷⁰

This is also where the third element in the mix comes in: the unique role of the European Space Agency (ESA) in the European “spacescape,” which took care of almost all nonmilitary and nonnational space activities other than satellite communications and embodied living proof that even in the space *manufacturing* industry a “normal” commercial market environment was largely missing.

ESA had, ever since its establishment in 1975 by way of the ESA Convention,⁷¹ fundamentally incorporated the European manufacturing industry in undertaking the space activities it was mandated to undertake by its member states. The system used to engage such private industries was premised on the concepts of “geographical distribution” and

“fair return,” which in their essence amounted to assuring every ESA member state that “ideally [it] should see 100 per cent of its committed financial contribution to an ESA programme returned to its industry in the form of contracts”⁷²—and in reality should at least end up as closely as possible to that ideal.

There can be no question that this system ensured the interests of ESA member states in financially contributing to ESA programs as well as in ESA’s success in general, and thus can be deemed crucial for the European role in outer space.⁷³

However, from the perspective of EU competition law this system could also be judged as either veiled collusion between the companies concerned, using their respective member states as proxies (“if you convince your government you are not interested in this particular contract, we will tell our government not to compete with you in respect of that other contract”), or as indirect state aid (states using ESA as a conduit to make sure their industries receive certain contracts without too much competition)—or even both; which would obviously be in principled violation of such provisions as Articles 101 and 107 of the Treaty on the Functioning of the European Union as discussed above.⁷⁴

The EU institutions then were wise enough not to officially challenge “geographical distribution” and “fair return,” realizing the importance of having ESA continue its central role in enhancing Europe’s efforts and role in outer space. This included also prominently the overarching need to allow European industry to compete on a global scale with the giant industries of especially the United States, Russia, and China—which called for a huge measure of concentration of European industrial efforts with reference to space rather than the guarantee of competition within Europe, which might arguably weaken such global competitiveness of the European industry.

It should once more be pointed out, that ESA is legally speaking an organization independent of the Union—it is *not* the EU’s space agency. Even the memberships do not completely align: eight EU member states are not members of ESA, *vice versa* two ESA member states (Norway and Switzerland) are not members of the Union.

This also means that the twenty European states members of both organizations, in case of an impossibility to comply with the EU legal regime *and* with the ESA legal regime at the same time, would be stuck between a rock and a hard place—the EU institutions could not simply overrule any relevant parts of the latter. While a deep politico-legal analysis would likely come to the conclusion that such states would in the end have to ensure that their obligations under the ESA Convention would be brought in line with those under the EU treaties (rather than the other way round), and in the last resort perhaps would have been forced to leave ESA,⁷⁵ in reality those member states have shied away from providing the EU institutions with the requisite political support to do so—meaning relevant legislative initiatives would never have passed the EU Council of Ministers.

When, in addition, the increased cooperation and coordination in matters of outer space between the Union and ESA did *not* result in any subjugation of the former to the latter,⁷⁶ it was clear which way wind was blowing here. Applying EU competition law even merely in a formal sense (meaning, for the EU institutions to rubber stamp the ESA processes, exercising a so far largely theoretical authority) for the time being would be a bridge too far.

6. Concluding remarks

In conclusion, while the European Union following a long and winding road of policy and legal initiatives can, at least since the entry into force of the Treaty of Lisbon in 2009, can now assert competition jurisdiction in principle in all areas of space activity, and the European Commission could thus take the initiative to prepare for detailed EU-level legislation in that respect, it so happened that a few major practical and political factors still stand in the way of that actually happening as they still guide or even dictate any formation of EU law through the EU machinery.

Other than for satellite communications, not accidentally the area of space activity where ESA's role ever since the early stage of experimental communication satellites is negligible, the various sectors superficially being commercialized and privatized were, in reality, far from mature enough to apply any Internal Market principles.

In launching and satellite remote sensing, at least until recently only one private operator was engaged in a full-fledged manner, whereas in satellite navigation the Union has so far failed to find a private consortium sufficiently interested to buy a place in the drivers' seat of Galileo and any possible plans to adopt a similar approach for Copernicus would make little sense ever since.

ESA's role itself further compounded the policy problems for the Union in pressing for any application of the competition regime in the space sector, most tellingly in the manufacturing industry where at least several major consortia could be seen to operate—under a regime which was anathema for any true believer in competition. As no subjugation of ESA to the Union materialized, reflecting the wishes of ESA member states—which included the major EU member states as well—to keep ESA operating more or less as it used to for decades, it became clear that there would be little or no political support for any Commission legislative initiatives in this area.

And finally, also the Commission recognized that the overall interest in allowing the European space industry to compete on a global scale outweighed any interest in creating competition where the natural environment for competition would be largely lacking—as duly reflected also in both ESA and EU rules allowing for exceptions to the suspiciousness, respectively prohibition, of anticompetitive behavior.

Notes

1. See for a more extended overview and analysis, e.g., F. G. von der Dunk, European space law, in *Handbook of Space Law* (Ed. F. G. von der Dunk) (2015), 239ff.; F. G. von der Dunk, The European Union and the Outer Space Treaty: Will the Twain Ever Meet?, in *Fifty Years of the Outer Space Treaty: Tracing the Journey* (Ed. Ajey Lele) (2017), 75–90.
2. See for an extended overview and analysis *The Transformation of Intergovernmental Satellite Organisations* (Eds. P. K. McCormick & M. J. Mechanick) (2013); more succinctly F. G. von der Dunk, International organizations in space law, in *Handbook of Space Law* (Ed. F. G. von der Dunk) (2015), esp. 287–90, 293–95, 297–301.
3. See for an extended overview, e.g., H. P. van Fenema, Legal aspects of launch services and space transportation, in *Handbook of Space Law* (Ed. F. G. von der Dunk) (2015), 382ff.; earlier J. L. Reed,

- The Commercial Space Launch Market and Bilateral Trade Agreements in Space Launch Services, 13 *American University International Law Review* (1997), 157–217.
4. See for an overview, e.g., F. Tronchetti, Legal aspects of satellite remote sensing, in *Handbook of Space Law* (Ed. F. G. von der Dunk) (2015), 509ff.; A. Ito, *Legal aspects of satellite remote sensing* (2011), esp. 11–16.
 5. See, e.g., succinctly von der Dunk, European space law, 239–43.
 6. This concerns the Treaty establishing the European Coal and Steel Community, Paris, done 18 April 1951, entered into force 23 July 1952, expired 23 July 2002; 126 UNTS 140; the Treaty establishing the European Atomic Energy Community, Rome, done 25 March 1957, entered into force 1 January 1958; 298 UNTS 167; and the Treaty of Rome, or Treaty establishing the European Economic Community (hereafter EEC Treaty), Rome, done 25 March 1957, entered into force 1 January 1958; 298 UNTS 11.
 7. Treaty on European Union, Maastricht, done 7 February 1992, entered into force 1 November 1993; 31 ILM 247 (1992); OJ C 191/1 (1992).
 8. This was, for instance, clearly illustrated by the failure of the Constitutional Treaty (Treaty establishing a Constitution for Europe, Rome, done 29 October 2004, not entered into force; OJ C 310/1 (2004)), due to a refusal of France and the Netherlands to ratify it. Extensive renegotiations and redrafting then gave rise to the Treaty of Lisbon (Treaty of Lisbon amending the Treaty on European Union and the Treaty establishing the European Community, Lisbon, done 13 December 2007, entered into force 1 December 2009; OJ C 306/1 (2007)) which *did* manage to carry the ratification of all then-27 member states.
 9. This concerns the Treaty on European Union as amended by the Treaty of Lisbon amending the Treaty on European Union and the Treaty establishing the European Community (hereafter Consolidated version of the Treaty on European Union), Lisbon, done 13 December 2007, entered into force 1 December 2009; OJ C 326/13 (2012). Art. 50(1) provides: “Any Member State may decide to withdraw from the Union in accordance with its own constitutional requirements.”
 10. 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 (hereafter Treaty on the Functioning of the European Union), Lisbon, done 13 December 2007, entered into force 1 December 2009; OJ C 326/47 (2012).
 11. This concerns Art. 14, Consolidated version of the Treaty on European Union, and Arts. 223–234, Treaty on the Functioning of the European Union; respectively Art. 19, Consolidated version of the Treaty on European Union, and Arts. 251–281, Treaty on the Functioning of the European Union.
 12. For the competences of the Council, see Art. 16, Consolidated version of the Treaty on European Union, and Arts. 237–243, Treaty on the Functioning of the European Union; Arts. 288, 294, Treaty on the Functioning of the European Union, provide the key clauses on how EU legislation, meaning Regulations, Directives and Decisions, can become enacted through a complicated interplay of Commission, Council, and Parliament.
 13. See esp. Art. 5, Consolidated version of the Treaty on European Union, and Art. 7, Treaty on the Functioning of the European Union.
 14. Literally, these maxims translate as “no one gives what he doesn’t have” respectively “one cannot transfer more rights than he has.”
 15. See esp. Art. II, 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 27 January 1967, entered into force 10 October 1967; 610 UNTS 205; TIAS 6347; 18 UST 2410; UKTS 1968 No. 10; Cmnd. 3198; ATS 1967 No. 24; 6 ILM 386 (1967), which states: “Outer space, including the Moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means.” See further, e.g., F. G. von der Dunk, International space law, in *Handbook of Space Law* (Ed. F. G. von der Dunk) (2015), 55–60; S. Freeland & R. Jakhu, Article II, in *Cologne Commentary on Space Law* (Eds. S. Hobe, B. Schmidt-Tedd & K. U. Schrogl) Vol. I (2009), 44–63.
16. It may be noted that the Outer Space Treaty, including this particular fundamental clause, is generally considered to reflect customary international law, so that neither denunciation of the treaty by existing parties nor refusal to ratify by current nonparties would negate the binding nature of this rule. Only a major change of opinion of the overwhelming majority of states, including in particular the major spacefaring countries, that this clause is somehow not appropriate and applicable anymore, could (at the earliest in a somewhat further future) change this summary conclusion. See on customary international law in outer space, including its relationship to the Outer Space Treaty, already V. S. Vereshchetin & G. M. Danilenko, Custom as a Source of International Law of Outer Space, 13 *Journal of Space Law* (1985), 113–26.
 17. See further von der Dunk, International space law, 50–55, 82–84; M. Gerhard, Article VI, in *Cologne Commentary on Space Law* (Eds. S. Hobe, B. Schmidt-Tedd & K. U. Schrogl) Vol. I (2009), esp. 111–120; A. Kerrest de Rozavel & L. J. Smith, Article VII, in *Cologne Commentary on Space Law* (Eds. S. Hobe, B. Schmidt-Tedd & K. U. Schrogl) Vol. I (2009), esp. 129–30, 139.
 18. States can thus use their territorial jurisdiction to determine who can undertake space activities on or from its territory and under what circumstances. Obviously, for remote-controlled space activities undertaken from the high seas or Antarctica, as “terrestrial global commons,” this option would not be available.
 19. See, e.g., I. Marboe, National space law, in *Handbook of Space Law* (Ed. F. G. von der Dunk) (2015), 133ff.; I. Marboe & F. Hafner, Brief Overview over National Authorization Mechanisms in Implementation of the UN International Space Treaties, in *National Space Legislation in Europe* (Ed. F. G. von der Dunk) (2011), 29–71.
 20. Note that Greece in 2017 apparently also adopted national legislation *inter alia* addressing the licensing of private space operators; see <https://www.hellenicparliament.gr/en/Nomothetiko-Ergo/Psifisthenta-Nomoschedia>, under “20/12/2017.” However, no English translation so far has been made accessible, so that it cannot be included in the present analysis.
 Note, furthermore, that Germany in 2007 enunciated an act addressing only private satellite remote sensing operations (Act Protecting Against the Endangerment of German Security Through the Proliferation of High Resolution Aerial Imagery of the Earth (*Satellitendatensicherheitsgesetz*), 23 November 2007, effective 1 December 2007; Federal Gazette (BGBl.) Year 2007 Part I No. 58, of 28 November 2007), whereas Luxembourg enacted a law addressing only private space mining activities (Law on the exploration and utilization of space resources (*Loi du 20 juillet 2017 sur l’exploration et l’utilisation des ressources de l’espace*); of 20 July 2017, published 28 July 2017; <http://legilux.public.lu/eli/etat/leg/loi/2017/07/20/a674/fo>); those two laws will not be discussed presently either.
 21. See Sec. 2, Act on Space Activities (hereafter Swedish Act on Space Activities), 1982: 963, 18 November 1982; *National Space Legislation of the World, Vol. I* (2001), at 398; *Space Law—Basic Legal Documents*, E.II.1; 36 *Zeitschrift für Luftund Weltraumrecht* (1987), 11.
 22. See Art. 2(1), Law on the Activities of Launching, Flight Operations or Guidance of Space Objects (hereafter Belgian Space Law), of 17 September 2005 (adopted 28 June 2005); *Nationales Weltraumrecht/National Space Law* (2008), at 183.

23. See Sec. 2(1), Law Incorporating Rules Concerning Space Activities and the Establishment of a Registry of Space Objects (hereafter Dutch Space Law), 24 January 2007; 80 *Staatsblad* (2007), at 1; *Nationales Weltraumrecht/National Space Law* (2008), at 201.
24. See Art. 2(1), Law on Space Operations (*Loi relative aux opérations spatiales*; hereafter French Law on Space Operations); *Loi n° 2008-518 du 3 juin 2008*; unofficial English version 34 *Journal of Space Law* (2008), 453.
25. See Sec. 1(1(1)), 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)*, hereafter Austrian Outer Space Act), as adopted by Parliament on 6 December 2011; Federal Law Gazette of 27 December 2011; 61 *Zeitschrift für Luftund Weltraumrecht* (2012), 37–42, 56–61.
26. See Sec. 2(1), Law on activities in outer space (*Lov om aktiviteter i det ydre rum*) (hereafter Danish Law on Activities in Outer Space), passed by Parliament with the third treatment, 3 May 2016; Parliament Gazette, 2015–17, No. L 128.
27. See Sec. 1, Act on space activities (hereafter Finnish Act on Space Activities), 63/2018, of 23 January 2018; <http://tem.fi/documents/1410877/3227301/Act+on+Space+Activities/a3f9c6c9-18fd-4504-8ea9-bff1986fff28/Act+on+Space+Activities.pdf>.
28. See Sec. 1(1), Space Industry Act (hereafter UK Space Industry Act), 15 March 2018, 2018 Chapter 5; <http://www.legislation.gov.uk/ukpga/2018/5/contents/enacted>.
29. See Sec. 2, Swedish Act on Space Activities.
30. See Sec. 2, Outer Space Act (hereafter UK Outer Space Act), 18 July 1986, 1986 Chapter 38; *National Space Legislation of the World*, Vol. I (2001), at 293; *Space Law – Basic Legal Documents*, E.I; 36 *Zeitschrift für Luftund Weltraumrecht* (1987), 12.
31. See Art. 2(2) & (3), French Law on Space Operations.
32. See Sec. 1(1(3)), Austrian Outer Space Act.
33. See Sec. 2(2(2)), Danish Law on Activities in Outer Space.
34. See Sec. 1(2), Finnish Act on Space Activities.
35. Cf. Art. 2(2), Belgian Space Law.
36. Cf. Sec. 2(2), Dutch Space Law.
37. Convention on Registration of Objects Launched into Outer Space (hereafter Registration Convention), New York, done 14 January 1975, entered into force 15 September 1976; 1023 UNTS 15; TIAS 8480; 28 UST 695; UKTS 1978 No. 70; Cmnd. 6256; ATS 1986 No. 5; 14 ILM 43 (1975).
38. Art. VIII, Outer Space Treaty.
39. See Arts. 2(1), 14, Belgian Space Law.
40. See Sec. 2(2(1)), Danish Law on Activities in Outer Space.
41. See Sec. 4, Decree on Space Activities, 1982: 1069; *National Space Legislation of the World*, Vol. I (2001), at 399; *Space Law – Basic Legal Documents*, E.II.2; 36 *Zeitschrift für Luftund Weltraumrecht* (1987), 11.
42. See Sec. 7, UK Outer Space Act; Sec. 61, UK Space Industry Act.
43. See Sec. 11, Dutch Space Law.
44. See Art. 12, French Law on Space Operations.
45. See Secs. 9, 10, Austrian Outer Space Act.
46. See Sec. 6, Finnish Act on Space Activities.

47. The Outer Space Treaty allows only states as parties; see esp. Art. XIV. Arts. VI and XIII, moreover, provide that the international responsibility for space activities conducted by intergovernmental organizations ultimately (also) resides with the individual member states who have to properly address all complications arising from the involvement of such organizations in this regard.
48. Even the two EU flagship projects, Galileo and Copernicus, are ultimately, as for the actual space operations conducted in their framework, *directed* and *guided* by the Union rather than that the Union itself legally speaking *undertakes* those operations; see, e.g. von der Dunk, *European space law*, 258–65; as to navigation only also L. J. Smith, *Legal aspects of satellite navigation*, in *Handbook of Space Law* (Ed. F. G. von der Dunk) (2015), 561–65.
49. See resp. Art. 6, Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space (hereafter Rescue Agreement), London/Moscow/Washington, done 22 April 1968, entered into force 3 December 1968; 672 UNTS 119; TIAS 6599; 19 UST 7570; UKTS 1969 No. 56; Cmnd. 3786; ATS 1986 No. 8; 7 ILM 151 (1968); Art. XXII, Convention on International Liability for Damage Caused by Space Objects (hereafter Liability Convention), London/Moscow/Washington, done 29 March 1972, entered into force 1 September 1972; 961 UNTS 187; TIAS 7762; 24 UST 2389; UKTS 1974 No. 16; Cmnd. 5068; ATS 1975 No. 5; 10 ILM 965 (1971)), and Art. VII, Registration Convention. While following compliance with several conditions intergovernmental organizations could thereby enjoy substantive rights and obligations under the conventions, they cannot enjoy any of the procedural rights or obligations, such as pertaining to amendments or withdrawals, so they would qualify as “quasi-parties” to that extent.
50. Apparently, at least part of the reason was that the Union was considered a unique *sui generis* international legal entity not on a par with “normal” intergovernmental organizations. This, however, is essentially a *political* argument; as the above analysis has clearly shown, in spite of its many special and partly indeed supranational features the Union at the core is still based legally speaking on a series of treaties ratified by each and every one of the member states just like any “normal” intergovernmental organization. In that sense, nothing would stand in the way of the Union becoming a quasiparty to the three relevant conventions.
51. See Arts. 28–37, Treaty on the Functioning of the European Union.
52. See Arts. 56–62, Treaty on the Functioning of the European Union.
53. See Arts. 63–66, Treaty on the Functioning of the European Union.
54. See Arts. 45–55, Treaty on the Functioning of the European Union.
55. See Arts. 110–113, Treaty on the Functioning of the European Union.
56. Cf., e.g., Arts. 207, 211, 217–218, 352, Treaty on the Functioning of the European Union.
57. See Arts. 101–109, Treaty on the Functioning of the European Union.
58. See, e.g., K. Madders, *A New Force at a New Frontier* (1997), 528–32.
59. See further von der Dunk, *European space law*, 244ff.
60. See for a broader analysis of this issue F. G. von der Dunk, *Europe and Security Issues in Space: The Institutional Setting*, 4 *Space and Defense* (2010), 71–99.
61. 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 13 October 1994; OJ L 268/15 (1994).
62. See further. e.g., von der Dunk, *European space law*, 246–49.
63. See for a detailed account S. Hobe et al., *A New Chapter for Europe in Space*, 54 *Zeitschrift für Luftund Weltraumrecht* (2005), 336–56; F. G. von der Dunk, *The EU Space Competence as per the*

- Treaty of Lisbon: Sea Change or Empty Shell?, in *Proceedings of the International Institute of Space Law 2011* (2012), 382–92.
64. Art. 189(2), Treaty on the Functioning of the European Union; the objectives referred to are spelled out in Art. 189(1).
 65. Cf., e.g., Art. 2(1), Belgian Space Law; Sec. 3(2), Dutch Space Law; Art. 27, French Law on Space Operations; Sec. 18, Danish Law on Activities in Outer Space.
 66. Art. 101(3), Treaty on the Functioning of the European Union.
 67. Art. 107(3)(b) resp. (c), Treaty on the Functioning of the European Union. In addition, Art. 107(3)(e) provides for a general fallback clause referring to “such other categories of aid as may be specified by decision of the Council on a proposal from the Commission.”
 68. See, e.g. Smith, 562–65; von der Dunk, *European space law*, 260–61.
 69. See further von der Dunk, *European space law*, 228–32; Madders, 235–41, 520–26; G. Lafferranderie, *European Space Agency* (2005), 155ff.
 70. See further Madders, 488–89, 527–28; Tronchetti, 509, 538. Also TerraSAR-X actually is a heavily government-sponsored operation through a PPP between the private operator and DLR, the German space agency.
 71. Convention for the Establishment of a European Space Agency (hereafter ESA Convention), Paris, done 30 May 1975, entered into force 30 October 1980; 1297 UNTS 161; UKTS 1981 No. 30; Cmnd. 8200; 14 ILM 864 (1975); *Space Law – Basic Legal Documents*, C.I.1.
 72. von der Dunk, *European space law*, 222. The key clauses establishing this system are found in Art. VII(1), ESA Convention, and Art. IV, Annex V to the ESA Convention.
 73. See, e.g., Madders, 383ff.; Lafferranderie, 107ff.
 74. See further, e.g., von der Dunk, *European space law*, 265–67. It should be noted, that also the ESA Convention included in its general industrial policy principles the interest in creating and maintaining, as possible, a competitive environment in the space industry, but only to the extent that would not interfere with for instance the need to “improve world-wide competitiveness of European industry”; Art. VII(1)(b), ESA Convention.
 75. Cf. Art. 4(3), Consolidated version of the Treaty on European Union: “The Member States shall take any appropriate measure, general or particular, to ensure fulfilment of the obligations arising out of the Treaties or resulting from the acts of the institutions of the Union. The Member States shall facilitate the achievement of the Union’s tasks and refrain from any measure which could jeopardise the attainment of the Union’s objectives.”
 76. See also discussion at von der Dunk, *European space law*, 251–68.