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## **Session 1**

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# The Impact of National Space Legislation on Private Space Undertakings

## *A Regulatory Competition between States?*

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### **Abstract**

With the growing trend of privatisation and commercialisation of space activities, states have deemed the adoption of national space legislation the most suitable way to regulate and control private space initiatives in order to ensure compliance with international space law principles. Several states have thus far enacted national space laws, which diverge in their substances. Considering these differences in national space laws, the idea of regulatory competition is discussed and is contrasted with harmonisation of national space legislation. While harmonisation is explicitly excluded in the European Union's space competence, there seem to be other ways to provide a more centralised approach to space legislation in Europe. These include the use of different legal bases, non-binding measures, the 'enhanced cooperation' mechanism, the 'approximation of laws' basis, the flexibility clause *ex* article 352 TFEU, and the 'open method of coordination'. Harmonisation in this context can be desirable when keeping objectives such as the prevention of 'flags of convenience' and 'forum shopping' phenomena, increased technical safety through the harmonisation of quality standards, mutual cross-border recognition of authorisations, and increased consistency in the interpretation of international space law, in mind. The harmonisation of the registration of space objects should be encouraged as to ensure that all necessary information about space activities is transparently available. On the other hand, aspects like the national political sensitivity of space activities and the diversity in market characteristics in the space sector, contradict harmonisation. Current discretionary powers of states with regard to licensing, export control, and other regulatory aspects could make these states more reluctant to opt for harmonisation in these areas.

### **I. Introduction**

The existing body of international space law was enacted in a time frame where nation states were the main actors in space, so logically, the international *corpus iuris spatialis* generally addresses state actors. However, the

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growing trend of privatisation and commercialisation of space activities brought (and still brings) legal challenges to space law. With this emergence, it soon became clear that adopting national space legislation was the best suited instrument to regulate and to control private space initiatives. This finding was supported by the fact that states are responsible for ensuring that national space activities (including those conducted by private companies) are in compliance with international space law principles. In this regard, it seemed more appropriate for states to govern the involvement of their nationals in space domestically, rather than developing new internationally concluded rules.<sup>1</sup> But this adoption of national space legislations is not only the practical result of the legal obligations arising out of the international space law treaties. This ‘legalisation’ of space activities is the logical step forward given the ever-increasing participation of private actors in the space industry.<sup>2</sup> Greater regulation will provide increased certainty for all concerned parties, which in turn will encourage other interested parties to take the leap as well.<sup>3</sup> So far, the adopted national space legislations tend to differ in scope and content. These differences are the product of the intrinsic characteristics and extent of the space activities carried out under the supervision of the state in question.<sup>4</sup> The diversity in national space laws creates an expanding pool of regulatory frameworks to choose from. This choice may well be crucial for the success and profitability of the business at hand.<sup>5</sup> In light of this, it is possible that competition between regulatory environments will develop, as states profit from private undertakings establishing themselves in their territory. For states, this will lead to increased economic activity, which in turn decreases unemployment, lowers social welfare costs, and raises tax revenues.<sup>6</sup> It is not surprising, then, that states would want to attract these private firms to their territory through their national space laws. Talking about regulatory competition inevitably brings up the question of harmonisation, which resides at the other side of the spectrum. To provide contrast with regulatory competition in national space laws, this research delves deeper into the legality and desirability of harmonising national space legislation, with a focus on the European Union (EU).

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1 F. TRONCHETTI, *Fundamentals of Space Law and Policy*, Springer, 2013, 26.

2 I. MARBOE, “National space law” in F. G. VON DER DUNK and F. TRONCHETTI, eds., *Handbook of Space Law*, Edward Elgar Publishing, 2015, 127-130.

3 S. FREELAND, “The Australian Regulatory Regime for Space Launch Activities: Out to Launch?”, *Proceedings of the Forty-seventh Colloquium on the Law of Outer Space*, 2004, 57.

4 F. TRONCHETTI, *Fundamentals of Space Law and Policy*, Springer, 2013, 26.

5 T. AGANABA, “Legal Framework in Support of Commercialization of Outer Space: the Case of the Isle of Man”, *International Institute of Space Law*, Vol. 5, 2008, 1.

6 W. SCHÖN, “Playing Different Games? Regulatory Competition in Tax and Company Law Compared”, *Common Market Law Review*, Vol. 42, 2005, 331-332.

## II. Regulatory Competition, Harmonisation, and National Space Legislation

To introduce the topic of regulatory competition and harmonisation, some theoretical background is given in order to provide an adequate basis that can be used when assessing these issues specifically with regard to space law. The forms, conditions, advantages, and disadvantages will be explored accordingly. In the end, several examples will be given of how both types of regulation appear in practice. Afterwards, the focus is put back on national space legislation when it is examined if harmonisation of national space laws is legally possible and/or desirable.

### II.1. Regulatory Competition vs. Harmonisation

#### II.1.1. Regulatory Competition

Regulatory, institutional, or rules-based competition occurs when states compete with each other, in their capacity as regulators, to attract resources and mobile factors of production (e.g. undertakings) by providing these potential legal subjects the possibility to use their attractive regulations. Regulatory competition is one of the reasons that domestic laws are not only the result of a natural and purely domestic evolution of their systems. External factors, such as the success of foreign systems, also have a part in this. For regulatory competition to take place, both the opportunity for and the perceived benefits of such competition have to exist. The opportunity exists when there is actual or possible access to the market where the regulators are present. In this context, mobility is important: citizens should be able to choose the jurisdiction whose principles are to apply to their transactions.<sup>7</sup> Besides mobility, regulatory competition also requires information on the substance of foreign rules. Measures to improve information flow include standardisation, which would be helpful to make regulatory competition work. Likewise, the legal possibility for potential legal subjects to demand and exploit competitive advantages and the legal possibility for regulators to respond to market forces by enacting regulations as demanded, are required for regulatory competition to work.<sup>8</sup> Additionally, the potentially competing regulator must be convinced of the benefits that he will gain by entering the regulatory competition. Besides being economic, these benefits may also be political or social.<sup>9</sup>

7 V. HEYVAERT, "Regulatory Competition – Accounting For the Transnational Dimension of Environmental Regulation", *Journal of Environmental Law*, Vol. 25(1), 2013, 5-6.

8 C. M. TIEBOUT, "A Pure Theory of Local Expenditures", *Journal of Political Economy*, Vol. 64(5), October 1956, 422 and 424; R. VAN DEN BERGH, "Towards an Institutional Legal Framework for Regulatory Competition in Europe", *KYKLOS*, Vol. 53(4), Winter 2000, 438-442.

9 A. M. SACHDEVA, "Regulatory competition in European company law", *European Journal of Law and Economics*, Vol. 30, 2010, 138 and 148; W. SCHÖN, "Playing

Globalisation is one factor for the growing trend of regulatory competition. The great increase in mobility of production factors (including human resources, besides capital) has stirred the dynamic forces that influence the market for regulatory frameworks applicable to firms. Another factor is the theoretical discussions. Regulatory competition takes up a prominent role in the debates on regulatory diversity vs. harmonisation in different areas of law.<sup>10</sup>

Advantages and justifications for regulatory competition include the effective matching of the substantive rules with the desires and preferences of the citizens. Different laws are able to satisfy more, distinct preferences of citizens. The more regulators compete, the more preferences may be satisfied (in theory). Logically, the more homogeneous the preferences are, the less advantageous regulatory competition will be. When preferences are more heterogeneous and mobility across jurisdiction is possible, it should be presumed that competition between legislators has a positive impact on (economic) society.<sup>11</sup> Other advantages are the promotion of diversity and experimentation in the quest of finding effective legal solutions and the promotion of information flow on law-making by providing means for preferences to be expressed and for alternative solutions to be compared. Proponents of regulatory competition argue that it stimulates innovation and product differentiation in regulation, amounting to the creation of more competitive, efficient, and qualitative laws. The dynamics of competition also apply to the market of regulations.<sup>12</sup>

Classically, theorisations have warned about ‘races to the bottom’ when dealing with regulatory competition. Generally, this phenomenon occurs under conditions of economic interdependency between jurisdictions, when one state lowers its regulatory standards in order to attract investments. The other states will then lose businesses, revenue, and labour, prompting them to react by lowering their own standards. This then creates a cycle of systematic lowering of regulatory standards that ends up with all states (and consumers) being in a position which is worse than the one they were in before this race

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Different Games? Regulatory Competition in Tax and Company Law Compared”, *Common Market Law Review*, Vol. 42, 2005, 332 and 364.

- 10 W. W. BRATTON and J. A. MCCAHERY, “The New Economies of Jurisdictional Competition: Devolutionary Federalism in a Second-Best World”, *Georgetown Law Journal*, Vol. 86(201), 1997, 213; W. SCHÖN, “Playing Different Games? Regulatory Competition in Tax and Company Law Compared”, *Common Market Law Review*, Vol. 42, 2005, 333.
- 11 R. VAN DEN BERGH, “Towards an Institutional Legal Framework for Regulatory Competition in Europe”, *KYKLOS*, Vol. 53(4), Winter 2000, 438-442.
- 12 C. BARNARD and S. DEAKIN, “Market Access and Regulatory Competition” in C. BARNARD and J. SCOTT, eds., *The Law of the Single European Market*, Hart Publishing, 2002, 198-199; P. B. STEPHAN, “Regulatory Competition and Anticorruption Law”, *Virginia Journal of International Law*, Vol. 53(1), 2012, 54-56.

to the bottom or by coordinating their policies.<sup>13</sup> Races to the bottom thus call for harmonisation and/or intervention on a centralised level. In the same manner, races to the top can also occur. States then respond to an initial raising of standards by raising their own regulatory standards in order to retain market access. Examples of such standards include the regulation of intellectual property, health and safety regulations, and environmental standards.<sup>14</sup>

### II.1.2. Harmonisation

At the other side of the spectrum, harmonisation or centralised regulation can be found. This implies the forced coordination of legislation by a centralised regulator. To justify such an approach, it is often argued that diverging legal norms create unequal conditions of competition and that such diversion should be minimised as to create a 'level playing field' for the market actors. Regulatory competition may lead to lower (quality) standards that have a negative effect on citizens.<sup>15</sup>

According to neo-classical welfare economics, factors in favour of centralised regulation include the avoidance of a race to the bottom, the need to internalise externalities across jurisdictions, the reduction of transaction costs, and the attainment of scale economies. Market imperfections for legislations may thus justify (quasi-)centralised rules. However, these advantages and their magnitude differ between areas of law. For example, a race-to-the-bottom scenario is more plausible and dangerous in the field of tax law. In any event, such a scenario has to be assessed empirically. Externalities, on the other hand, occur when parties are able to enter into (contractual) relationships that have detrimental effects on third parties or on the public in general. A good example of this can be found in environmental law: if a state lowers its environmental standards to attract businesses and, subsequently, the damage caused to the environment is not contained in the territory of the former state, other states bear the costs of this lowering of environmental stand-

13 P. B. STEPHAN, "Regulatory Competition and Anticorruption Law", *Virginia Journal of International Law*, Vol. 53(1), 2012, 55.

14 C. BARNARD and S. DEAKIN, "Market Access and Regulatory Competition" in C. BARNARD and J. SCOTT, eds., *The Law of the Single European Market*, Hart Publishing, 2002, 199-200; D. C. ESTY and D. GERADIN, "Regulatory Co-opetition" in D. C. ESTY and D. GERADIN, eds., *Regulatory Competition and Economic Integration: Comparative Perspectives*, Oxford University Press, 2001, 33; C. M. RADAELLI, "The Puzzle of Regulatory Competition", *Journal of Public Policy*, Vol. 24(1), May 2004, 2 and 6; A. M. SACHDEVA, "Regulatory competition in European company law", *European Journal of Law and Economics*, Vol. 30, 2010, 138-140.

15 S. MOCK, "Harmonization, Regulation and Legislative Competition in European Corporate Law", *German Law Journal*, Vol. 3(12), 2002; R. VAN DEN BERGH, "Towards an Institutional Legal Framework for Regulatory Competition in Europe", *KYKLOS*, Vol. 53(4), Winter 2000, 445.

ards.<sup>16</sup> On the other hand, negative points regarding harmonisation occur in the form of political distortions. Politicians and other pressure groups may pursue their own goals that can differ from the interests of citizens. Political economists therefore generally oppose harmonisation. It is also important that harmonisation and regulatory competition should not be seen as mutually exclusive. The optimal solution may well be a mix of both forms of governance. Regulatory quality should be the prime goal with regard to the level of decision-making and the actual substance of the enacted rules.<sup>17</sup>

When deciding what form of governance to adopt as to remedy economic distortions, an inclusive comparison of the legal options should be made (including investigating ‘doing nothing’ and concluding multilateral relationships between some states). The most adequate remedies to cure economic distortions depend on the properties of the specific economic distortion. For example, if an externality only affects some states, it may be better for said states to engage in multilateral discussions in order to adopt appropriate remedies, rather than trying to mend things at the highest level of governance. Otherwise there is a risk of only reducing the benefits of regulatory competition, without bringing any compensating advantages. When preferences of legal subjects are heterogeneous, full harmonisation should remain an *ultimum remedium* when regulatory competition creates substantial costs that are not compensated by benefits. Another technique is minimum harmonisation. This form of harmonisation is restricted to the adoption of minimum standards while still allowing for regulatory competition above these norms set by the centralised legislator.<sup>18</sup>

### II.1.3. Practice

Investors attach great importance to so-called ‘fundamentals’ when searching for appropriate places to invest or start projects. These fundamentals consist of market access and long-term growth potential, political and macroeconomic stability, the availability of adequately skilled workers, and the presence of necessary infrastructure. Remarkably, financial or fiscal incentives given by the host government are less important to them, but are still taken into consideration. For this reason, governments should enhance these fundamentals when being faced with intensifying regulatory competition.<sup>19</sup>

16 W. SCHÖN, “Playing Different Games? Regulatory Competition in Tax and Company Law Compared”, *Common Market Law Review*, Vol. 42, 2005, 349; J. P.

TRACHTMAN, “International Regulatory Competition, Externalization, and Jurisdiction”, *Harvard International Law Journal*, Vol. 34(1), Winter 1993, 56.

17 R. VAN DEN BERGH, “Towards an Institutional Legal Framework for Regulatory Competition in Europe”, *KYKLOS*, Vol. 53(4), Winter 2000, 436 and 445.

18 R. VAN DEN BERGH, “Towards an Institutional Legal Framework for Regulatory Competition in Europe”, *KYKLOS*, Vol. 53(4), Winter 2000, 446-447 and 461.

19 Y. AHARONI, *The Foreign Investment Decision Process*, Harvard University Press, 1966, 54-56; C. OMAN, “Policy Competition for Foreign Direct Investment: A Study



Financial and fiscal incentives (*i.e.* incentives-based competition) comprise a wide variety of measures offered by governments to attract investments. Common financial incentives consist of grants, subsidised loans, and loan guarantees. Often, these incentives are targeted: grants for wage subsidies, labour training, donations of land or facilities, rebates on the cost of water and electricity, and loan guarantees for international lines of credit. The reason for the targeting is to promote investment in certain types of activities or in specific regions. Fiscal incentives usually consist of reductions on the base (corporate) income tax rate that specific categories of investors have to pay (*e.g.* investments in certain types of activities or foreign investments), tax holidays (temporary reduction or elimination of a tax), exemptions from import duties, investment and re-investment allowances, accelerated depreciation allowances, deductions from social security contributions, and specific deductions from gross earnings for income tax purposes. Both of these incentives can be granted automatically when the granting conditions are met, or be subject to the discretionary powers of an administrative authority. In the latter case, transparency is reduced and room is given to negotiations by the potential investors as to efficiently target the incentives and allow for prompt responses to competition. Of course, this way of granting incentives increases the likelihood of abuse and corruption.<sup>20</sup>

A problem with financial and fiscal incentives can be that the increased public subsidies given by governments surpass the level that can be justifiable from the perspective of society, even when taking into account additional positive spillovers generated by the increased incentives. These increased public subsidies can be the result of intensifying regulatory competition and the perceived need by the government to go further and engage in costly ‘bidding wars’. Here, a ‘prisoner’s dilemma’ occurs: the collective interest of a society is to refrain from such bidding wars, yet governments do so out of fear of losing investments to other jurisdictions that offer more incentives. Potential investors can exploit this phenomenon by negotiating possible conditions for the incentives with different governments.<sup>21</sup>

Rules-based competition consists of broader, more diverging incentives. Two important fundamentals in this type of competition are the rules on workers’ rights and the protection of the environment. Other important rules-based

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of Competition among Governments to Attract FDI”, OECD, 2000, 17, available at [www.oecd.org/mena/investment/35275189.pdf](http://www.oecd.org/mena/investment/35275189.pdf).

20 C. OMAN, “Policy Competition for Foreign Direct Investment: A Study of Competition among Governments to Attract FDI”, OECD, 2000, 20-21, available at [www.oecd.org/mena/investment/35275189.pdf](http://www.oecd.org/mena/investment/35275189.pdf).

21 Y. AHARONI, *The Foreign Investment Decision Process*, Harvard University Press, 1966, 221-225; C. OMAN, “Policy Competition for Foreign Direct Investment: A Study of Competition among Governments to Attract FDI”, OECD, 2000, 18-19, available at [www.oecd.org/mena/investment/35275189.pdf](http://www.oecd.org/mena/investment/35275189.pdf).

forms include the greater protection of intellectual property rights, improved judicial systems and government accountability, strengthening the rule of law, market deregulation, and the liberalisation of trade and investment policies. Especially the protection of intellectual property may be relevant for this research, as it arguably attracts the inflow of advanced technology and know-how. The importance that investors attach to stability and predictability of the (regulatory) environment should also not be overlooked. Regulatory competition measures such as the strengthening of the judicial system go hand in hand with these fundamentals. A fair, consistent, independent, and authoritative judicial system is a powerful attractor to a lot of investors. More broadly, the government's credibility and its (transparent) policy are regarded as important as well.<sup>22</sup>

The United States (US), for example, is strong in technology and capital markets and generally adopts a business-friendly policy with modest tax burdens. Yet, these policies are not there to attract (foreign) investments. They are only the outcome of the long-standing pro-business tradition of the US and the political effectiveness of local entrepreneurs and investors who have lobbied for rules to promote and embed domestic investments. It is even so that many of the regulations that are important to investors do not stem from the federal level, but rather from the state-level and to a lesser degree from city and community governments. These rules are often enacted to attract investments. Going to Europe, similar phenomena can be observed. The sub-national governments of Scotland, Wales, and the Isle of Man in the United Kingdom (UK) are among the most active competitors to attract foreign direct investment.<sup>23</sup>

In the EU, the principle of subsidiarity contained in article 5 of the 'Consolidated version of the Treaty on European Union' (TEU) makes regulatory competition between legislators the rule and centralised regulation (*e.g.* harmonisation) the exception.<sup>24</sup> The principle promulgates that centralised institutions (the EU) should only intervene when powers cannot be satisfactorily exercised by decentralised authorities (*e.g.* EU member states). In the EU, most legislative measures were introduced by the need to achieve the objectives of market integration. The subsidiarity principle in the EU does not apply to exclusive competences of the EU; only to mixed competences. Decentralisation (being favoured by the subsidiarity principle) does not necessarily

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22 C. OMAN, "Policy Competition for Foreign Direct Investment: A Study of Competition among Governments to Attract FDI", OECD, 2000, 21-22, 26, 91, and 107, available at [www.oecd.org/mena/investment/35275189.pdf](http://www.oecd.org/mena/investment/35275189.pdf).

23 C. OMAN, "Policy Competition for Foreign Direct Investment: A Study of Competition among Governments to Attract FDI", OECD, 2000, 59-60 and 67, available at [www.oecd.org/mena/investment/35275189.pdf](http://www.oecd.org/mena/investment/35275189.pdf).

24 Consolidated version of the Treaty on European Union, OJ C 326, 26.10.2012.

mean that there will be competition between legal rules. For real competition to happen, mobility between jurisdictions needs to be possible.<sup>25</sup>

One particular form of regulatory competition is ‘vertical competition’. With vertical competition, economic actors have the ability to choose whether they want to be governed by local rules and authorities or by more centralised, federal rules and authorities. In the EU, practically, this would mean a choice between being regulated by the member states or by EU rules and institutions. In theory, this should combine both advantages of legal diversity (*i.e.* market pressure, political responsibility, and innovation) and harmonisation (*i.e.* simplicity, transparency, and cross-border applicability).<sup>26</sup>

## II.2. Harmonisation of National Space Legislation

The ongoing doctrinal discussions concerning international responsibility *ex* article VI of the Outer Space Treaty are a good example to introduce the topic of harmonisation of national space laws.<sup>27</sup> While until recently these discussions could safely be treated in the realms of the doctrine, the growing number of adoptions of national space legislations demand a more pragmatic view of the issue. When implementing the international rights and duties into national space laws, states can freely interpret the wordings of the international space law treaties, which have led (and may lead) to divergent sets of national provisions and solutions taking into account the states’ own economic, infrastructural, legal, and technological culture. But beyond the sovereign prerogatives of states, it is to be stimulated that legal differences or gaps (created by the implementation of international space law) between national systems are avoided as much as possible. This is especially true when keeping multinational activities in mind; a flexible interface with foreign legislation is needed to provide a workable environment. Common regulatory conditions provide for legal certainty and comparable conditions for space operators in distinct states.<sup>28</sup> One way to accomplish this is to harmonise national space laws. Another – less drastic – way to do this is to conclude international

25 Cf. *supra* Regulatory competition; R. VAN DEN BERGH, “Towards an Institutional Legal Framework for Regulatory Competition in Europe”, *KYKLOS*, Vol. 53(4), Winter 2000, 435.

26 W. SCHÖN, “Playing Different Games? Regulatory Competition in Tax and Company Law Compared”, *Common Market Law Review*, Vol. 42, 2005, 360-361 and 365.

27 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies (Washington, 27 Jan. 1967), 610 U.N.T.S. 205, *entered into force* 10 Oct. 1967.

28 M. SANCHEZ ARANZAMENDI, “Economic and Policy Aspects of Space Regulations”, European Space Policy Institute, 2009, 35, available at [www.espi.or.at/images/stories/dokumente/studies/epsi%20report%2021.pdf](http://www.espi.or.at/images/stories/dokumente/studies/epsi%20report%2021.pdf).

agreements in order to fill those gaps and make sure that these provisions ensure technical and legal security for the space activities.<sup>29</sup>

When talking about harmonisation in Europe, it is an understandable reflex to consider harmonisation in the framework of the EU, as has been done in other areas. The EU could possibly make use of its legislative or regulatory powers to achieve harmonisation of the space regimes of its member states. A benefit for the EU of such regulatory intervention would be to reinforce the European position in the world with regard to its space partners and/or competition. This would be in line with Europe's wish to have independent capabilities in all major areas of space as to be on par with other space-faring states or regions.<sup>30</sup>

### II.2.1. Legality and Forms of Harmonisation

Before the explicit space competence introduced in the form of article 189 of the 'Consolidated version of the Treaty on the Functioning of the European Union' (TFEU), the EU has not been inactive in the field of space.<sup>31</sup> Already in its first Communication on "The Community and space: a coherent approach" of 1988, the European Commission found that

"there are many different areas in which the Community has exclusive or joint competences and ambitions, and on which space activities have or are likely to have a bearing: these include research, telecommunications, industrial development, agriculture, the environment, development and aid and regional development".<sup>32</sup>

For example, the deployment and exploitation of the EU's flagship project Galileo, a space-based navigation system, is based on the Trans-European Networks competence.<sup>33</sup> For the Global Monitoring for Environment and Security (GMES) programme, the related components are managed through the 7<sup>th</sup> Framework Programme for Research and Technological Development

29 J. F. MAYENCE, "Granting Access to Outer Space: Rights and Responsibilities for States and their Citizens – An Alternative Approach to Article VI of the Outer Space Treaty, Notably Through the Belgian Space Legislation" in F. G. VON DER DUNK, ed., *National Space Legislation in Europe*, Martinus Nijhoff Publishers, 2011, 114-115.

30 COM(2003) 673, 26; J. F. MAYENCE, "Granting Access to Outer Space: Rights and Responsibilities for States and their Citizens – An Alternative Approach to Article VI of the Outer Space Treaty, Notably Through the Belgian Space Legislation" in F. G. VON DER DUNK, ed., *National Space Legislation in Europe*, Martinus Nijhoff Publishers, 2011, 116.

31 Consolidated version of the Treaty on the Functioning of the European Union, OJ C 326, 26.10.2012.

32 COM (88) 417, 10.

33 Regulation 683/2008 on the further implementation of the European satellite navigation programmes (EGNOS and Galileo), OJ L 196/1, 24.7.2008, 1.

(FP7).<sup>34</sup> Other initiatives, such as the Directive Establishing an Infrastructure for Spatial Information in the European Community (INSPIRE), have been adopted on the basis of special competences like environmental policy.<sup>35</sup>

The space competence enshrined in article 189 TFEU is of a different nature. It somewhat falls in a sub-category of the shared competences under article 4 (3) TFEU, which states that the EU has competence to carry out activities in the area of space, but this exercise does not prevent member states from exercising theirs. So, *de facto*, it could be seen as a parallel competence or a support or coordination competence.<sup>36</sup> Of course, the EU should not violate the principle of subsidiarity when exercising its competence.<sup>37</sup> As a reminder, in the framework of the EU, it is also important to keep the principle of proportionality in mind.<sup>38</sup> EU legislative action should not go further than what is necessary for the aim to be achieved. In the present case, this could be interpreted as a certain safeguard for regulatory competition between member states.<sup>39</sup>

An interesting and clear wording in the new space competence is the fact that any harmonisation of laws and regulations of the member states is explicitly excluded, which was different in the first draft of the EU's space competence.<sup>40</sup> This shows that there was unwillingness among the member states to give up their sovereignty in the area of space. Member states thus have the possibility to elaborate a national space policy with independent priorities

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34 Article 2 of Regulation 911/2010 on the European Earth monitoring programme (GMES) and its initial operations (2011 to 2013), OJ L 276/1, 20.10.2010.

35 Directive of the European Parliament and the Council establishing an Infrastructure for Spatial Information in the European Community (INSPIRE), OJ L 108, 25.4.2007, 1-14; M. SANCHEZ ARANZAMENDI, "Economic and Policy Aspects of Space Regulations", European Space Policy Institute, 2009, 38, available at [www.espi.or.at/images/stories/dokumente/studies/espi%20report%2021.pdf](http://www.espi.or.at/images/stories/dokumente/studies/espi%20report%2021.pdf); B. SCHMIDT-TEDD, "Authorisation of Space Activities after the Entry into Force of the EU Reform Treaty" in F. G. VON DER DUNK, ed., *National Space Legislation in Europe*, Martinus Nijhoff Publishers, 2011, 299-302.

36 See also article 2 (5) TFEU; J. BECLARD, "The Lisbon Treaty and the Evolution of European Space Governance", *The Europe & Space Series*, Vol. 12, July 2013, 2; J. WOUTERS, "Space in the Treaty of Lisbon" in K.-U. SCHROGL, C. MATHIEU, and N. PETER, eds., *Yearbook on Space Policy 2007/2008: From Policies to Programmes*, Springer Wien New York, 2009, 120-121.

37 Cf. *supra* Practice; B. SCHMIDT-TEDD, "Authorisation of Space Activities after the Entry into Force of the EU Reform Treaty" in F. G. VON DER DUNK, ed., *National Space Legislation in Europe*, Martinus Nijhoff Publishers, 2011, 299-302.

38 Article 5 (3) TEU; F. G. VON DER DUNK, "European space law" in F. G. VON DER DUNK and F. TRONCHETTI, eds., *Handbook of Space Law*, Edward Elgar Publishing, 2015, 241-243.

39 B. GUYOT, *Droit spatial européen*, Helbing Lichtenhahn, Bâle, Bruylant, 2011, 69-70.

40 Article 189 (2) *in fine* TFEU. Cf. article III-254 (2) Treaty establishing a Constitution for Europe.

and programmes. When looking at the long-term European Space Agency (ESA) experience, this seems to be a good solution, considering the success of leaving leeway for decision-making with the member states.<sup>41</sup>

However, the wording of the article (“establish the necessary measures”) leaves enough possibilities for taking up other initiatives. Decisions, model laws, best practices, and benchmarks should, for example, still be possible.<sup>42</sup> This exclusion may prompt policymakers to search for alternatives for ‘hard’ harmonisation. For example, the space sector can be affected through regulations in the context of other policies that have a relation with the space sector, as has been done in the past (e.g. through the Trans-European Networks competence).<sup>43</sup> The use of these connected policy domains may enable the EU to harmonise regulations that impact space, in spite of article 189 (2) TFEU. The type of the competence determines the power for the EU in this regard.<sup>44</sup> The negative side of this is that it may lead to a confusing and decentralised regulatory regime for space.<sup>45</sup>

Secondly, EU member states may opt to use the ‘enhanced cooperation’ mechanism in the framework of the EU, creating a European institutional framework with a competence in space, much like was done with the Schengen Area and the Economic and Monetary Union. Enhanced cooperation aims to facilitate the fostering of EU objectives and strengthen the integration process, allowing (a minimum of nine) member states to opt for such enhanced integration in policy areas that are not of exclusive competence.<sup>46</sup> Thirdly, articles 114 and 115 TFEU may be used to “approximate” laws when actions in the context of the internal market have not been explicitly attributed. Recourse to these legal bases can only be done with the aim to ensure the functioning of the internal market. As stated in the *Tobacco Advertising II* case, article 114 TFEU can be used as an appropriate legal basis where there are differences between member state provisions that obstruct the fundamental freedoms and thus have a direct effect on the functioning of

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41 B. SCHMIDT-TEDD, “Authorisation of Space Activities after the Entry into Force of the EU Reform Treaty” in F. G. VON DER DUNK, ed., *National Space Legislation in Europe*, Martinus Nijhoff Publishers, 2011, 200-306.

42 J. WOUTERS, “Space in the Treaty of Lisbon” in K.-U. SCHROGL, C. MATHIEU, and N. PETER, eds., *Yearbook on Space Policy 2007/2008: From Policies to Programmes*, Springer Wien New York, 2009, 122.

43 *Cf. supra*.

44 B. GUYOT, *Droit spatial européen*, Helbing Lichtenhahn, Bâle, Bruylant, 2011, 70.

45 J. WOUTERS and R. HANSEN, “Strategic Autonomy in EU Space Policy: A Conceptual and Practical Exploration” in C. AL-EKABI, ed., *European Autonomy in Space*, Springer International Publishing, 2015, 58-59.

46 Article 20 (1) TEU and article 329 (1) TFEU; J. M. BENEYTO *et al.*, *Unity and Flexibility in the future of the European Union: the challenge of the enhanced cooperation*, Fundación Universitaria San Pablo CEU, 2009, 9-10.

the internal market (*e.g.* to combat ‘forum shopping’).<sup>47</sup> Furthermore, it can be a possible legal basis to adopt measures that prevent future obstacles to trade that result from differences in national laws.<sup>48</sup> Depending on the kind of distortions on the internal market – and possibly some creativity – the EU could make a case as to adopt measures on the ground of these legal bases. A good example in this regard is the European Commission’s proposal for a Directive on the dissemination of earth observation satellite data for commercial purposes.<sup>49</sup> In the past, article 114 TFEU has already been used to initiate harmonisation in the coordination of frequency allocation, most notably in International Telecommunication Union conferences. This is dealt with by the ‘Radio Spectrum Decision’.<sup>50</sup>

Fourthly, when EU action is necessary to attain EU objectives and there is no competence provided to do so, article 352 TFEU grants the competence to adopt appropriate measures (excluding the possibility of harmonisation where harmonisation is prohibited, though).<sup>51</sup>

Finally, the intergovernmental policy mechanism ‘open method of coordination’ (OMC) may be used. The objectives of this instrument include encouraging cooperation by an exchange of best practices and the agreement of common targets and guidelines for member states. ‘Mutual learning processes’ are put in place in order to have periodic monitoring, evaluation, and peer review.<sup>52</sup> Borrás and Jacobsson have analysed this form of governance, concluding that it is a method that can be used to create unity in diversity.<sup>53</sup> It is a pragmatic policy instrument to find the balance between the diversity of member states and common EU action. Member states set common goals for a policy and evaluate each other. The OMC is a mechanism that does not entail legally binding measures. Given the discussion above, this instrument would fit the wish to have common EU action while still leaving the important remaining autonomy at member state level, amounting to a bot-

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47 Case C-380/03 *Germany v Parliament and Council* [2006] ECR, I-11573, para. 37.

48 Case C-380/03 *Germany v Parliament and Council* [2006] ECR, I-11573, para. 38.

49 COM(2014) 344, 4-5.

50 Decision 676/2002/EC on a regulatory framework for radio spectrum policy in the European Community (Radio Spectrum Decision), OJ L 108/1, 24.4.2002.

51 S. MARCHISIO, “Italian Space Legislation Between International Obligations and EU Law”, *Proceedings of the Forty-seventh Colloquium on the Law of Outer Space*, 2004, 114-115.

52 *Lisbon European Council 23 and 24 March 2000 – Presidency Conclusions*, EUROPEAN COUNCIL, para. 37, available at [www.europarl.europa.eu/summits/lis1\\_en.htm](http://www.europarl.europa.eu/summits/lis1_en.htm).

53 S. BORRAS and K. JACOBSSON, “The open method of coordination and new governance patterns in the EU”, *Journal of European Public Policy*, Vol. 11:2, 2004, 185-208, available at <http://eucenter.wisc.edu/OMC/Papers/borrasjacobssonJEPP.pdf>.

tom-up approach and a process of ‘collective self-coordination’.<sup>54</sup> It could be used to establish coherent common practices and guidelines in, for example, the areas of authorisation, supervision, and technical evaluation in space activities.<sup>55</sup> As an end note, states are, of course, not stopped to further cooperate outside the auspices of the EU.<sup>56</sup>

### II.2.2. Desirability of Harmonisation

The interest in harmonisation lies in the fact that it facilitates international cooperation and fosters national industries, since private firms face fewer differences in legal and administrative requirements. It creates a fair and competitive environment for all space operators.<sup>57</sup> Additionally, it also prevents the ‘flags of convenience’ and forum shopping phenomena, which should be avoided.<sup>58</sup> Space entrepreneurs could take advantage of regulatory competition by creating a sequence of companies in order to avoid the (more strict) supervision of their real home state. Because of the inherent dangers of space activities, it is in the interest of everyone that the highest standards are adhered to. Space actors may be inclined to take decisions on the basis of regulations rather than on market conditions.<sup>59</sup>

Another argument in favour of harmonisation is the fact that it would be counterproductive if national space legislations would use their own, distinct terms and interpretations when implementing the international space law treaties. It would thus be optimal to make reference to the terms and definitions of the international space law treaties in the national space legislations.

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54 B. SCHMIDT-TEDD, “Authorisation of Space Activities after the Entry into Force of the EU Reform Treaty” in F. G. VON DER DUNK, ed., *National Space Legislation in Europe*, Martinus Nijhoff Publishers, 2011, 315-316.

55 C. BARNARD and S. DEAKIN, “Market Access and Regulatory Competition” in C. BARNARD and J. SCOTT, eds., *The Law of the Single European Market*, Hart Publishing, 2002, 221; M. SANCHEZ ARANZAMENDI, “Economic and Policy Aspects of Space Regulations”, European Space Policy Institute, 2009, 41-42, available at [www.espi.or.at/images/stories/dokumente/studies/espi%20report%2021.pdf](http://www.espi.or.at/images/stories/dokumente/studies/espi%20report%2021.pdf).

56 M. SANCHEZ ARANZAMENDI, “Economic and Policy Aspects of Space Regulations”, European Space Policy Institute, 2009, 5-6 and 43, available at [www.espi.or.at/images/stories/dokumente/studies/espi%20report%2021.pdf](http://www.espi.or.at/images/stories/dokumente/studies/espi%20report%2021.pdf).

57 M. GERHARD, “National Space Legislation – Perspectives for Regulating Private Space Activities” in M. BENKÖ and K.-U. SCHROGL, eds., *Essential Air and Space Law, Volume 2*, Eleven International Publishing, 2005, 84.

58 F. LYALL and P. B. LARSEN, *Space Law: A Treatise*, Ashgate Publishing, 2009, 68-69; M. GERHARD and K. MOLL, “The Gradual Change from “Building Blocks” to a Common Shape of National Space Legislation in Europe – Summary of Findings and Conclusions” in S. HOBE, B. SCHMIDT-TEDD, and K.-U. SCHROGL, eds., *Towards a Harmonised Approach for National Space Legislation in Europe*, Cologne, 2004, 9-11.

59 M. SANCHEZ ARANZAMENDI, “Economic and Policy Aspects of Space Regulations”, European Space Policy Institute, 2009, 5, available at [www.espi.or.at/images/stories/dokumente/studies/espi%20report%2021.pdf](http://www.espi.or.at/images/stories/dokumente/studies/espi%20report%2021.pdf).



If done well, this minimises further issues regarding interpretation and *de facto* constitutes a form of ‘soft’ harmonisation by means of consistency in the formulations.<sup>60</sup>

With regard to technical safety evaluation, there are two distinct interests to reconcile: states want to elaborate procedures in order to prevent any damage and being internationally liable, while the industry claims for less regulation to avoid disproportionateness with possibly less regulated foreign industries. It is nonetheless important that a proper, adequate assessment of technical safety is put in place, given the inherent risks of space activities. Regulatory competition can possibly be dangerous for safety and environmental standards if races to the bottom would occur.<sup>61</sup> As this assessment should ideally be done in the authorisation process, quality standards could be elaborated with standardisation organisations (such as the European Cooperation of Space Standardization) in order to agree on common goals in technical safety. These standards can be used when harmonising and when drafting national space laws, like it has been done in the UK.<sup>62</sup>

Another critical point in the discussion of regulatory competition vs. harmonisation may prove to be the insurance question. Ideally, national space laws should include the obligation for private undertakings to take up insurance before they are granted authorisation. This may be a crucial part in the financial assessment of aspirant space operators and will probably be considered thoroughly before the state of incorporation is decided. Differences in insurance requirements can possibly be decisive in the contemplation which state will be chosen. So, to avoid forum shopping, some harmonisation can reduce such behaviour.<sup>63</sup>

One aspect that would definitely benefit from harmonisation is the registration of space objects. It is in the interest of all that space activities are adequately registered in national space registers, as well as in the registers on the

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60 B. SCHMIDT-TEDD, “Authorisation of Space Activities after the Entry into Force of the EU Reform Treaty” in F. G. VON DER DUNK, ed., *National Space Legislation in Europe*, Martinus Nijhoff Publishers, 2011, 311-312.

61 Cf. *supra* Regulatory competition.

62 Report on the Legal Aspects of the Privatisation and Commercialisation of Space Activities, INTERNATIONAL LAW ASSOCIATION, 2004, 18-19, available at [www.ila-hq.org/download.cfm/docid/A6D5FB43-DC67-4A15-A08F13A01BEE1CBB](http://www.ila-hq.org/download.cfm/docid/A6D5FB43-DC67-4A15-A08F13A01BEE1CBB); M. GERHARD and K.-U. SCHROGL, “A Common Shape for National Space Legislation in Europe – Summary of Findings and Conclusions of the Project 2001 Plus Workshop”, *Proceedings of the Forty-seventh Colloquium on the Law of Outer Space*, 2004, 82-85; M. SANCHEZ ARANZAMENDI, “Economic and Policy Aspects of Space Regulations”, European Space Policy Institute, 2009, 42, available at [www.espi.or.at/images/stories/dokumente/studies/espi%20report%2021.pdf](http://www.espi.or.at/images/stories/dokumente/studies/espi%20report%2021.pdf).

63 M. GERHARD and K. MOLL, “The Gradual Change from “Building Blocks” to a Common Shape of National Space Legislation in Europe – Summary of Findings and Conclusions” in S. HOBE, B. SCHMIDT-TEDD, and K.-U. SCHROGL, eds., *Towards a Harmonised Approach for National Space Legislation in Europe*, Cologne, 2004, 28-30.

international level. Harmonisation should oblige states to have all necessary information and parameters of their space activities contained in their national register. Additionally, states should make sure that the register is promptly updated when there are changes in the characteristics of their space objects.<sup>64</sup> The prospect of building a competitive and competent European space sector can be an argument in favour of harmonisation. A competitive space sector serves the intent of Europe having independent access to space and may also contribute to the objective of having an innovation-based economy.<sup>65</sup> In an early Communication, the European Commission mentioned the shift to a market-based approach, the importance of developing a competent industry, the capability of having sustained independent access to space, and the need to create conditions for a space industry to compete worldwide. It saw the EU as the coordinator of authorisation conditions and procedures.<sup>66</sup> An argument could be made that strong and far-reaching forms of harmonisation would not be welcome when taking the differences between EU member states and their industries in their involvement in space endeavours into account. For example, while a centralised single market authorisation or licensing system may seem attractive when keeping simplicity and transparency in mind, it ignores the major discretionary state powers of licensing, export control, and other regulatory aspects such as monitoring, which are currently exercised by the states themselves as part of their sovereign powers.<sup>67</sup> Following this, harmonisation should be understood in a looser way, to ensure compatibility between national space laws, rather than to create uniformity or similarity. However, fundamental principles of the EU (*e.g.* free movement of goods and services and the freedom of establishment) should be guaranteed in any event.<sup>68</sup> In line with these principles, it would be beneficial to create mutual cross-border recognition of authorisations of space activities, as

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64 Cf. G.A. Res. 62/101 Recommendation on enhancing the practice of States and international intergovernmental organizations in registering space objects, A/RES/62/101 (10 January 2008); S. HOBE, B. SCHMIDT-TEDD, and K.-U. SCHROGL, eds., *Cologne Commentary on Space Law, Volume III*, Carl Heymanns Verlag, 2015, 415-462; S. MICK, "Project 2001 Plus Workshop on "Current Issues in the Registration of Space Objects" – Summary of Findings and Conclusions" in S. HOBE, B. SCHMIDT-TEDD, and K.-U. SCHROGL, eds., *Current Issues in the Registration of Space Objects*, Cologne, 2005, 11-12 and 35.

65 Cf. COM(2013) 108 *passim*.

66 COM(2003) 673, 26.

67 L. J. SMITH, "EU Competition Law and Issues of National Authorisation of Private Space Activities" in F. G. VON DER DUNK, ed., *National Space Legislation in Europe*, Martinus Nijhoff Publishers, 2011, 333.

68 J. F. MAYENCE, "Granting Access to Outer Space: Rights and Responsibilities for States and their Citizens – An Alternative Approach to Article VI of the Outer Space Treaty, Notably Through the Belgian Space Legislation" in F. G. VON DER DUNK, ed., *National Space Legislation in Europe*, Martinus Nijhoff Publishers, 2011, 116.

has been done in Australia's and the UK's national space laws.<sup>69</sup> Authorisation should not be required for activities authorised by another state, granted that the other state has a comparable, adequate, and qualitative authorisation procedure in place. It would simplify national procedures and lessen the administrative burden.<sup>70</sup> This mutual acceptance of licences would in turn create a favourable environment for international cooperation and for the private space industry.<sup>71</sup> Mutual recognition is a technique to eliminate trade barriers and also leaves room for regulatory competition between member states. However, it is not an adequate alternative when cross-border externalities or races to the bottom are present.<sup>72</sup>

Harmonisation in the EU has a particular meaning in that it aims to abolish market barriers when basic principles of the internal market, such as the principles of free movement, 'common recognition', and workable competition, do not succeed in doing so.<sup>73</sup> However, this meaning seems difficult to consolidate with the association of space activities with state responsibility in the international space law treaties. In any event, history shows that this strict state responsibility is no obstacle for international cooperation. Additionally, with space being a specific strategic domain for states, they wish to strongly control space activities. In this regard, the internal market approach of the EU (*e.g.* through harmonisation) may not be the best approach for space activities.<sup>74</sup> Additionally, all space activities do not have the same market characteristics. For example, launch services belong to a particular and restricted market strongly linked to security concerns, where harmonisation with the traditional market-oriented concept would not fit in. By contrast, satellite and space-based

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69 Space Activities Act 1998 (Cth) section 11, 13, and 15; Outer Space Act 1986, c.38, s.3 (3).

70 M. GERHARD and K. MOLL, "The Gradual Change from "Building Blocks" to a Common Shape of National Space Legislation in Europe – Summary of Findings and Conclusions" in S. HOBE, B. SCHMIDT-TEDD, and K.-U. SCHROGL, eds., *Towards a Harmonised Approach for National Space Legislation in Europe*, Cologne, 2004, 17-20.

71 B. SCHMIDT-TEDD, "Authorisation of Space Activities after the Entry into Force of the EU Reform Treaty" in F. G. VON DER DUNK, ed., *National Space Legislation in Europe*, Martinus Nijhoff Publishers, 2011, 313.

72 *Cf. supra* Regulatory competition vs. harmonisation; M. SANCHEZ ARANZAMENDI, "Economic and Policy Aspects of Space Regulations", European Space Policy Institute, 2009, 42, available at [www.espi.or.at/images/stories/dokumente/studies/espi%20report%2021.pdf](http://www.espi.or.at/images/stories/dokumente/studies/espi%20report%2021.pdf).

73 M. SANCHEZ ARANZAMENDI, "Economic and Policy Aspects of Space Regulations", European Space Policy Institute, 2009, 9, available at [www.espi.or.at/images/stories/dokumente/studies/espi%20report%2021.pdf](http://www.espi.or.at/images/stories/dokumente/studies/espi%20report%2021.pdf).

74 B. SCHMIDT-TEDD, "Authorisation of Space Activities after the Entry into Force of the EU Reform Treaty" in F. G. VON DER DUNK, ed., *National Space Legislation in Europe*, Martinus Nijhoff Publishers, 2011, 313-315.

services belong to very competitive markets with an increasing need for common standards. Here, harmonisation seems more at place.<sup>75</sup>

In a more general way, harmonisation may not be feasible or practicable due to the peculiarities of space activities. On a factual basis, there are a lot of differences in the actual territories where space activities are conducted: from thinly populated launch areas such as in Australia to more densely populated areas such as in the UK. Also differences in the interests of promoting (specific) space endeavours and differences in the legal systems can mean that states would rather want to have discretion regarding the way they implement international obligations nationally.<sup>76</sup>

Vertical competition, when available, can *de facto* amount to harmonisation if private undertakings would opt for the centralised rules of the EU.<sup>77</sup> However, such regulation does not seem to fit the space sector. This becomes apparent when taking the example of the liability and insurance obligations. It would be illogical if private firms could choose the (possibly more beneficial) regime on EU level instead of the regime of their home state, because it is the member state that would be internationally responsible and liable in such a case, not the EU. Evaluation during the authorisation process is another example of the undesirability of this form of regulation. National authorities are often in a better place to assess and know the space activities being performed on their territories than authorities on the centralised level. It would be against safety and national interests to give space operators the choice to have this done at Union level. In short, national stakes are too prominent at this moment to justify vertical competition in the field of space.

### III. Conclusion

The international *corpus iuris spatialis* prompts state parties to enact national space legislation in order to cope with their obligations under these space law treaties and to organise their (non-)governmental space activities. Another reason for the adoption of national space legislation is the increasing participation of private actors in the commercialising space sector. Due to the increasing adoption of (diverging) national space laws, the possibility for regulatory competition arises.

The discussion of regulatory competition vs. harmonisation is relevant on both the doctrinal and pragmatic level for national space legislation. The EU's explicit space competence in article 189 TFEU prohibits the harmonisa-

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75 M. SANCHEZ ARANZAMENDI, "Economic and Policy Aspects of Space Regulations", European Space Policy Institute, 2009, 9, available at [www.espi.or.at/images/stories/dokumente/studies/espi%20report%2021.pdf](http://www.espi.or.at/images/stories/dokumente/studies/espi%20report%2021.pdf).

76 F. G. VON DER DUNK, "Towards 'Flags of Convenience' in Space?", *Space and Telecommunications Law Program Faculty Publications*, Paper 76, 2012, 16.

77 Cf. *supra* Practice.

tion of laws and regulations of its member states, but the particular wording of the article seems to leave enough possibilities to embrace other initiatives. These include the use of different legal bases, non-binding measures, the 'enhanced cooperation' mechanism, the 'approximation of laws' basis, the flexibility clause *ex* article 352 TFEU, and the OMC.

Focusing on the (different forms of) harmonisation of national space legislation, several benefits are identified. Reducing differences in legal and administrative requirements prevents the flags of convenience and forum shopping phenomena. Mutual cross-border recognition of authorisations would also be useful in this regard (given certain conditions are met). In the same way, the importance of liability and insurance questions may prove crucial if the goal is to avoid forum shopping. Another benefit is that the interpretation of international space law would be more consistent, which minimises interpretation issues. With the focus on the technical evaluation during the authorisation process, it would not be unfavourable to have some form of harmonisation of quality standards as well. The harmonisation of the registration of space objects is more straightforward: this should be applauded as to ensure that all necessary information and parameters of space activities are transparently available. On a more political level, harmonisation could assist the prospect of building a competitive and competent European space sector.

Contrarily, other aspects of space activities contradict strong forms of harmonisation. Currently, states have discretionary powers with regard to licensing, export control, and other regulatory aspects. Space activities are also still (politically) sensitive on a national level, which is evident from the exclusion of harmonisation in the EU's space competence. Another argument against harmonisation is the diversity in market characteristics in the space sector: some of these markets would not profit from harmonisation.

