

# Transfer of Ownership In-Orbit: Shaking the Status Quo and Recalibrating the Registration and Liability Regimes

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## Abstract

The increased commercialization of space activities threatens to destabilize the foundations of international space law. This paper reviews the correlation between Articles VI, VII, and VIII OST and questions registration as the exclusive legal basis for jurisdiction while discussing alternative links, like ownership and effective control. It attempts, inter alia, to answer the question; which is the most “appropriate” State to become the State of Registry? Moreover, it is argued that the immutable link between launching and liability creates unnecessary obstacles for private space activities. In this context, an effort is made to challenge the launching State’s perpetual liability and to demonstrate the need to attribute liability to the actual responsible State. The paper concludes by examining the possibility of reinterpreting the corpus juris spatialis or adopting amendments.

## 1. Introduction; the dawn of the Commercial Space Age

The increased commercialization and privatization of space activities in light of the “NewSpace” era<sup>1</sup> has given rise to many questions regarding our traditional understanding of space ventures and – by extension – of international space law and policy. Admittedly, the growing emergence of

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1 U.M. Bohlmann, M. Burger, NewSpace: Putting an End to National Prestige and Accountability, 60 Proc.Int’l Inst. Space L., p.199.

modern spatial transactions threatens to destabilize the foundations of the *corpus juris spatialis*, ringing the bell for coordinated global action so as to bridge the legal gaps of the current system.

The present paper focuses on the in-orbit transfer of satellites' ownership and the subsequent change of supervision and control over their operation, specifically discussing said phenomenon in relation to non-launching States. In the course of examining the triangular connection between Articles VI, VII and VIII of the Outer Space Treaty (OST), this analysis aims at identifying the inherent fallacies of the registration and liability regimes, as established under the current realm, and attempts to identify possible and viable solutions that satisfy present-day needs.

## **2. The practice of in-orbit transfer of ownership**

At the time the Space Treaties were drafted, the engagement of private companies in space activities was closer to fiction than reality. Therefore, practices like in-orbit transfers of ownership had neither been conceptualized nor regulated. Although the existing legal framework makes no explicit reference, it is accepted that transfer of ownership is permitted in view of the "*freedom of use of Outer Space*" principle, as enshrined in Article I OST.<sup>2</sup>

### **2.1. Transfer between launching States**

The in-orbit transfer of ownership between "launching States" (i.e the State which launches or procures the launching of a space object or the State from whose territory or facility a space object is launched under Articles 1(a) Registration Convention (REG) and 1(b) Liability Convention (LIAB)) presents no obstacles with respect to registration and liability. Most prominently, only a launching State shall register a space object launched into Earth orbit or beyond, according to Article II(1) REG. Moreover, under Articles VII OST and II, III LIAB only the launching States shall bear liability for damages caused by space objects. It follows that, since "*de-registration*" is not explicitly prohibited, the acquiring state may become a State of Registry.<sup>3</sup> As evidenced by the Hong Kong precedent, this would not offer major difficulties. Indicatively, when Hong Kong reverted to China in 1997, satellites AsiaSat-1 and AsiaSat-2 were de-registered from the UK Registry and subsequently registered in China. China's status as an original launching State made the process easier and consequently, both states remained jointly and severally liable.<sup>4</sup>

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2 I. Marboe, National space law in: F. von der Dunk, F. Tronchetti, Handbook of Space Law, 2015, p.127, 727.

3 M.J. Sundahl, Legal status of spacecraft in: R.S. Jakhu, P.S. Dempsey, Routledge Handbook of Space Law, 2017, p.46.

4 J. Hermida, Legal Basis for a National Space Legislation, 2004, p.65.

## 2.2. Transfer to non-launching States; inconsistent state practice & implications

Similarly, the space conventions do not preclude states from purchasing and owning a space object which they did not launch.<sup>5</sup> State practice has even shown that registration can also be performed by non-launching States, when assuming ownership and control over the operation of a satellite. This was exactly the case with respect to the former BSkyB satellite, Marcopolo-1, renamed Sirius-1, which was purchased by a Swedish entity from the UK in 1996. Although Sweden was not a launching State, it did register the satellite in its national registry in 1999 and notified the UNSG accordingly.<sup>6</sup> The UK on its part moved the satellite to its supplementary registry, but omitted to inform the UN. When the satellite was moved to another orbit, the necessary additional information was furnished by Sweden.<sup>7</sup> However, oddly enough, when the satellite was ultimately removed to a graveyard orbit, it was the UK that notified the UN.<sup>8</sup> It is evident that, ultimately, there is a degree of uncertainty with respect to the notification duties of the State of Registry.

Another interesting, yet alarming example of an in-orbit transfer of ownership was when Spot-7, a satellite launched in 2014 by a French company on an Indian launch vehicle, was shortly after handed over to Azerbaijan. Whichever state could have qualified as the appropriate “*launching State*”, no registration was made at the time. This is mainly because Article VIII OST does not specify the consequences of non-registration nor does the REG.

Moreover, it remains unclear whether changes of supervision over space objects shall be communicated to the UNSG at all and, if so, by which state. This way, many satellites remain either unregistered or critical information regarding their operation goes unnoticed, thus compromising the transparency the UN Registry is trying to achieve. In response to this problem, there is a sophisticated tool, Resolution 62/101,<sup>9</sup> which underlines *inter alia*, the importance of the responsible State in furnishing said additional information.

## 3. Reviewing and re-adjusting the registration regime

In order to better illustrate the complex legal problems that arise with respect to registration, jurisdiction and control, the following fictional example will

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5 K.U. Horl, K. Gungaphul, Problems related to “change of ownership” with respect to registration - The Industry View in: S. Hobe, B. Schmidt-Tedd, K.U. Schrogl, Proceedings of the Project 2001 Plus Workshop “Current Issues in the Registration of Space Objects”, 2005, p.75.

6 ST/SG/SER.E/352.

7 ST/SG/SER.E/377.

8 ST/SG/SER.E/518.

9 A/RES/62/101.

be utilised. Supposing that Company A, incorporated in State B, has launched satellite X from the territory of State C. State B has registered satellite X both on its national registry and with the UNSG. Three years after the launch, satellite X is purchased by Company D, incorporated in State E, which had no involvement in the satellite launch. Based on the above, State E cannot register the object, thus resulting in the following paradox; the State of Registry, despite having *de jure* jurisdiction over the object, will not be the one having *de facto* control over it.

While unravelling the aforementioned paradox, the authors will attempt to distinguish jurisdiction from registration and answer the question of who should be the “*appropriate State*” to register a satellite.

### 3.1. Is registration the exclusive legal basis for jurisdiction?

The prevailing view in legal literature supports that registration constitutes the sole criterion for determining international responsibility *via* – supposedly – generating jurisdiction and control.<sup>10</sup> Control, in the sense of Article VIII OST refers both to a State’s capability and right to adopt technical means to direct and monitor the operation of the space object and its mission<sup>11</sup> and shall be based on legitimate jurisdiction.<sup>12</sup> Nevertheless, considering that the State of Registry would *in casu* remain unchanged, State B would continue being held responsible, despite not being in a position to issue or revoke a license, determine its requirements etc. In other words, State B would be required to authorise and supervise the operation of the satellite, while lacking both jurisdiction over the operator and physical control over the object. However, pursuant to the principle *impossibilium nulla obligatio est*,<sup>13</sup> this assertion is absurd, as no state can be obliged to perform the impossible.

On the other hand, this in-orbit transfer of ownership entails the subsequent shift of factual control to the private operator incorporated in State E. Pursuant to Article VI OST “*States Parties shall bear international responsibility for national activities in outer space, whether such activities are carried on by governmental agencies or non-governmental entities*” and for assuring their conformity with the provisions set forth in the Treaty. Space

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10 S. Hobe, Die rechtlichen Rahmenbedingungen der wirtschaftlichen Nutzung des Weltraums, 1992, p.158; V. Kayser, An achievement of domestic law, XVII Annals of Air and Space Law 1991, p.341.

11 G. Lafferranderie, Jurisdiction and Control of Space Objects and the Case of an International Intergovernmental Organisation (ESA), 54 ZLW, pp.230-1.

12 B.S. Tedd, S. Mick, Article VIII in: S. Hobe, B. Schmidt-Tedd, K.U. Schrogl, Cologne Commentary on Space Law 1, 2009, p.157.

13 Case concerning Pulp Mills on the River Uruguay (Argentina v. Uruguay) (Judgement) 2010 I.C.J. 254 (Apr. 1) Judge Torres Bernárdez, dissenting opinion; 12 (2009); A. Fellmeth, M. Hoewitz, Guide to Latin in International Law, 2009, p.122.

law, which constitutes *lex specialis*,<sup>14</sup> exceptionally establishes direct responsibility for private space activities. What constitutes a national activity, though, shall be determined under the general principles of public international law,<sup>15</sup> which apply in space activities pursuant to Article III OST. Specifically, a state shall bear international responsibility for activities over which it exercises effective control, in light of the doctrine of jurisdiction.<sup>16</sup> Based on the principle of nationality, such activities also include those performed by its nationals.<sup>17</sup> Article VI OST should be read in conjunction with Article IX OST, which seems to support the interpretation of the term as “*activities carried out by nationals*”, evidently including private companies.<sup>18</sup> Accordingly, the operation of satellite X will constitute a “*national activity*” of State E. International responsibility will be vested with State E, in the sense of ensuring compliance with international law. Consequently, State E will be required to authorise and supervise the operation of the satellite and exercise legal control over it.

Overall, in a case like this, the link between the State of Registry and the responsible State, which is supposedly established by the REG, is nullified. That is why ownership and actual control shall function as stronger links between the object and the responsible State, and should be used to identify the state exercising jurisdiction.<sup>19</sup> This is also confirmed by the use of the pronoun “*their*” in Article 12 of the MOON,<sup>20</sup> which constitutes subsequent state practice. This position is further supported by the wording “*shall retain jurisdiction and control*” of Art. VIII OST, as it presupposes that the State of Registry *a fortiori* has jurisdiction over its spacecraft. Hence, registration

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14 Fragmentation of International Law: Difficulties arising from the diversification and expansion of international law, Report of the Study Group of the I.L.C, 58th Sess., A/CN.4/L.682, 68 (2006).

15 M. Gerhard, Article VI in: S. Hobe, B. Schmidt-Tedd, K.U. Schrogl, Cologne Commentary on Space Law 1, 2009, p.112.

16 F. von der Dunk, Public Space Law and Private Enterprise: The Fitness of International Space Law Instruments for Private Space Activities, Proceedings of the Project 2001 Workshop on Legal Issues of Privatizing Space Activities, IISL 4 (1998).

17 W.B. Wirin, Practical Implications of Launching State-Appropriate State Definitions, 37 Proc.on L.Outer Space 109, 1994; S. Gorove, Annals of Air and Space Law VIII (1984) p.377.

18 F. von der Dunk, The Origins of Authorisation: Article VI of the Outer Space Treaty and International Space Law, Space, Cyber, and Telecommunications Law Program Faculty Publications 69 (2011), pp.5-6.

19 S. Aoki, In Search of the Current Legal Status of the Registration of Space Objects, IAC-10-E7.4.4, 61st IAC 2010, Czech Republic, p.11.

20 Agreement Governing the Activities of States on the Moon and Other Celestial Bodies, *entered into force* July 11, 1984, 1363 U.N.T.S. 3 [MOON].

shall constitute *prima facie* evidence of jurisdiction,<sup>21</sup> which derives from ownership and effective control,<sup>22</sup> and generates responsibility.

### 3.2. The “appropriate state” to register the space object

It follows that in case of transfer of ownership, the State of the new owner (i.e. responsible under VI OST) shall be the logical first candidate to register the object and subsequently, “retain” jurisdiction and control.<sup>23</sup> This is further supported by Recommendation No.3 RES 62/101, which considers the acquiring-responsible State as the most appropriate one to carry the object in its national registry. Likewise, in case of joint launches, Article II(2) REG provides the possibility for separate agreements regarding jurisdiction and control and allows the States concerned to freely determine which one shall register the object.<sup>24</sup> As the wording of the provision suggests, registration is separated from jurisdiction and control<sup>25</sup> and cannot be considered the sole connecting factor with the responsible State.

An often cited example that showcases that the act of registration is not necessarily the sole constitutive factor for jurisdiction and that states rather seem to exert jurisdiction based on effective control, is the in-orbit transfer of four INTELSAT satellites to New Skies Satellites, a company incorporated in the Netherlands. Interestingly, in a *note verbale* sent to the UNSG, the Netherlands asserted that it bears international responsibility for the operation of the four satellites under Article VI OST and has jurisdiction and control as per Article VIII OST,<sup>26</sup> as the national State of their new owner.

Notably, both the Netherlands and the UK maintain two national registries; one for the objects for which they are launching states and one for the objects over which they have jurisdiction and control without, however, qualifying as launching states.<sup>27</sup>

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21 I.A. Csabafi, *The Concept of State Jurisdiction in International Space Law*, 1971, p. 109.

22 B. Cheng, *The Commercial Development of Space: The Need for New Treaties*, 19 J. Space L. 17 (1991), p. 35.

23 F. von der Dunk, *The Illogical Line: Launching, Liability and Leasing*, IISL.4.-93-845, 36 Proc. on L. Outer Space 349 (1993), p. 351.

24 F. Lyall, P.B. Larsen, *Space Law: A Treatise*, 2018, p.81.

25 B. Cheng, *Article VI of the 1967 Space Treaty Revisited: International Responsibility, National Activities and the Appropriate State*, 26 J. Space Law 1 (1998), p.28; B. Cheng, *Studies in International Space Law*, 2004, p.485.

26 A/AC105/806, A/AC.105/824.

27 UK Registry (May 2021).

### 3.2.1. **The need to establish a “genuine link”**

As stated, Article II REG unintentionally opens the door to the possibility of having the equivalent of “*flags of convenience*” in space.<sup>28</sup> Registration is thoroughly designated not only in space law but also in the law of the sea and air law. The purpose of registration remains the same for all legal regimes; to identify the States which exercise effective jurisdiction and control over the vessels, aircrafts and space objects with regard to a higher degree of transparency and to enable the identification and accountability of the operators and their respective States.<sup>29</sup>

A feature unique to the law of the sea concerns the existence of a “*genuine link*” between ships and states, in order for registration to be performed and nationality to be granted.<sup>30</sup> According to ITLOS, the “*genuine link*” concept aims at securing a “*more effective implementation of the duties of the flag State*”.<sup>31</sup> Absent an internationally accepted definition of what the “*genuine link*” principle should consist of, it has been suggested that a minimum national element is required,<sup>32</sup> which usually exists when the state has ownership of the vessel.

Although such a requirement is not directly provided under the Chicago Convention 1944,<sup>33</sup> state practice indicates that the “*genuine link*” principle is also satisfied in aircraft registration, as in most cases aircrafts are registered in the national state of their owner.<sup>34</sup> Said principle operates to eliminate the use of flags of convenience.

Although this does not pose a real threat to the space sector yet, the increasing commercialization of space activities in the context of a competitive space economy may result in an attempt to reduce costs by escaping legal requirements as to supervision and liability.<sup>35</sup>

This is why the State responsible for the authorization and supervision of the space activity, which exercises its jurisdiction effectively and can ensure conformity with international obligations should also register the object.

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28 A. Taghdiri, *Flags of Convenience and the Commercial SpaceFlight Industry: The Inadequacy of Current International Law to Address the Opportune Registration of Space Vehicles in Flag States*, 19 B.U. J. Sci. & Tech. L. (2013) pp.405-431, p. 420.

29 Preamble REG.

30 Article 91(1) UNCLOS.

31 *The M/V 'Saiga' (No.2), St Vincent and the Grenadines v. Guinea*, 1 July 1999, ITLOS, Reports 1999, p.42, para. 83; A. Serdy, *Public International Law Aspects of Shipping Regulation in: Y. Baatz, Maritime Law, 2014*, p.318.

32 Report of the ILC covering the work of its Seventh Session, Yearbook ILC, 1955-II, p.22, UN Doc.A/2934.

33 Chicago Convention on International Civil Aviation, *entered into force* 4th April 1947, ICAO Doc.7300/9 [CC].

34 S. Aoki, *Nationality for Spacecraft? Revisited: Nationality to Be Found*, 44 J.Space L.373-404 (2020), p.383.

35 J. Hermida, *Transfer of Satellites in Orbit - An International Law Approach*, 46 Proc.on L.Outer Space (2003) p.191.

Indicatively, the national legislation of the UK, requires the existence of effective control over the space object in order to consider itself a procuring State and to register the space object.<sup>36</sup>

### 3.3. Proposals; recalibrating the registration regime

Towards establishing a more uniform approach to transfers of ownership to non-launching States, a possible first step could be the adoption of a resolution by consensus within COPUOS, urging the UNSG to accept changes of the State of Registry, so that the acquiring, non-launching State be able to perform registration.<sup>37</sup> However, it is acknowledged that reaching consensus is a time-consuming and quite uncertain process at this point. Besides, the UNSG has already accepted registration by non-launching States, as was the case with Sweden and Sirius-1.

#### 3.3.1 Evolutionary interpretation of the term “launching State”

Moreover, many scholars propose the re-interpretation of the term “*launching State*”,<sup>38</sup> so as to allow the acquiring State to register the transferred object and become directly liable under LIAB. According to Articles 31 and 32 VCLT,<sup>39</sup> “*a treaty shall be interpreted in the light of its object and purpose*”,<sup>40</sup> and in such a manner so as to assure the *effet utile* of a provision.<sup>41</sup> Besides, as the I.C.J. stipulated in several occasions,<sup>42</sup> the meaning of a treaty’s terms must be seen in the light of present-day conditions<sup>43</sup> and within the legal framework prevailing at the time of the interpretation.<sup>44</sup>

The ordinary meaning of the “*launching State*” is founded in four criteria. While three of these criteria are straightforward and closely connected with

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36 *Supra note* 34, p.397.

37 A. Kerrest, Legal Aspects of Transfer of Ownership and Transfer of Activities, 55 Proc.Int’l Inst.Space L.794 (2012), pp.799-800.

38 M. Chatzipanagiotis, Registration of Space Objects and Transfer of Ownership in Orbit, 56 ZLW (2007), p.235.

39 Vienna Convention on the Law of Treaties, entered into force Jan.27, 1980, 1155 U.N.T.S.331 [VCLT].

40 Territorial Dispute (Libyan Arab Jamahiriya v. Chad) 1994 I.C.J. (Feb. 3); M.E. Villiger, Commentary on the 1969 VCLT, 2009, p.427.

41 Question of the Delimitation of the Continental Shelf between Nicaragua and Colombia (Nicaragua v. Colombia) 2016 I.C.J 119 (March 17).

42 Dispute regarding navigational and related rights (Costa Rica v. Nicaragua) 2009 I.C.J 242 (July 13), Aegean Sea Continental Shelf Case (Greece v. Turkey) 1976 I.C.J. 32 (Sept. 11), Case Concerning Pulp Mills on the River Uruguay (Argentina v. Uruguay) 2010 I.C.J 83 (Apr. 20).

43 *Loizidou v. Turkey* (Preliminary Objections) 15318/89 [1995] ECHR 10 (March 1995), para.71.

44 Legal Consequences for States of the Continued Presence of South Africa in Namibia (South West Africa) (Advisory) 1971 I.C.J. 31 (June 21).



the launch activities, the fourth criterion, referring to the “*state procuring the launch*”, is more complex and open to interpretation. Absent an official definition, there is a common consensus that procurement entails an active involvement, in the sense of initiating, authorizing and financially contributing to the launch, as well as obtaining benefit from the launch.<sup>45</sup>

When the Space Treaties were drafted, only a limited number of space faring nations could have been involved in the launch of a space object. The purpose of the space treaties through the inclusion of this fourth criterion was to assign the space activity to the appropriate State, as defined in Article VI OST, thus establishing a connection between responsibility/liability, jurisdiction and factual control over the space object.

It derives that, the state which has the strongest connection with the operation of the space object,<sup>46</sup> even if that connection is established after the object has been launched, should also be included in the concept of the “*procuring State*”. Given the purpose of the Space Treaties, and according to a teleological interpretation thereof, the status of the launching State should not only be acquired at the moment of the launch, but also later by the State that authorized and supervised its activity. Thus, the acquiring State would become a launching State, according to REG and LIAB.

### **3.3.2 Inter-state agreements on jurisdiction and control**

In any case, under Article II (2) REG, certain jurisdictional rights may be transferred to states other than the State of Registry by means of special agreements.<sup>47</sup> Article 34 VCLT provides that rights and responsibilities may be created for third parties as well, provided they so consent. Thus, State E in our scenario would have to enter into an agreement with both States B and C so as to officially acquire jurisdiction, without having to register the object. This solution seems unsatisfactory as it creates complex legal scenarios and perplexes the relations between the parties concerned.

Adding to that, there are many scholars who support that the above mentioned agreements can only be concluded between launching States.<sup>48</sup> In order to resolve the practical implications of said assertion, amendments similar to Article 83 *bis* CC could be adopted to facilitate the conclusion of

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45 K.H. Boeckstiegel, The Terms “Appropriate State” and “Launching State” in the Space Treaties - Indicators of State Responsibility and Liability for State and Private Space Activities, 34 Proc.on L.Outer Space (1991) p.13; B. Schmidt-Tedd, M.Gerhard, How to Adapt the Present Regime for Registration of Space Objects to New Developments in Space Applications, 48 Proc.on L.Outer Space 353 (2005) p.359.

46 B. Schmidt-Tedd, A.Soucek, Registration of Space Objects, Oxford Research Encyclopedia of Planetary Science.

47 *Supra* note 4, p. 65.

48 U. Dasgupta, On-Orbit Transfer of Satellites between States - Legal Issues -With Special Emphasis on Liability and Registration, 59 Proc.Int’l Inst.Space L.641 (2016) p.664.

agreements on the transfer of jurisdictional rights over space objects. Specifically, the concept of “*transfer of control*” is well known to the aviation industry, whereby aircrafts are leased or operated under charter or similar arrangements by airlines, whose principal place of business is in a state other than the State of Registry. The aim is to ensure that the state which is in a better position to control the aircraft will bear the corresponding duties.<sup>49</sup>

#### 4. The perpetual liability of the launching State

According to Articles VII OST and the LIAB states are liable for damages caused by their space objects. The existing legal framework imposes a strong connection between the duty to compensate for damages and the launching phase, as the concept of the “*launching State*” is solely determined at the time of the launch.<sup>50</sup> However, the perpetuity of state liability places significant limitations to the future of spatial transactions, as it induces inefficient and unjust results.<sup>51</sup>

##### 4.1. Liability established through Responsibility

In the context of a transfer of ownership in-orbit, the initial launching States would remain perpetually liable for damages caused by a space object, pursuant to Articles II and III LIAB, irrespective of the fact that they may not have the capacity and the means to control its operation and properly exercise jurisdiction over it.<sup>52</sup> On the contrary, the acquiring state, having *de facto* control over the satellite, would not be considered liable under these provisions, merely due to its lack of involvement in the satellite’s launch and delivery into orbit.

In the aforesaid example of the in-orbit transfer of ownership of the four INTELSAT satellites, although the Netherlands accepted responsibility and jurisdiction over the satellites, only the initial launching States continued to bear international liability under the Space Treaties. This constitutes a logical anomaly. In any event, the Netherlands may be considered liable pursuant to the general principles of public international law. Customary international law on State responsibility,<sup>53</sup> as reflected to a large extent in the ARSIWA (the Draft Articles on the Responsibility of States for Internationally

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49 R. Abeyratne, *Convention on International Civil Aviation A Commentary*, 2014, pp. 272-273.

50 A. Kerrest, *National Space Legislation - Crafting Legal Engines for the Growth of Space Activities*, 53 *Proc. Int’l Inst. Space L.* 551 (2010) p.556.

51 G.E. Exarchou, Y. Vastaroucha, P.I. Ageridou, I. Griva, *Real-Time Challenges for the Registration Regime: Where to?*, IAC-18,E7,IP,18,x46633, 69th IAC, 2018, p.7.

52 *Supra note* 38, p. 230.

53 *Noble Ventures, Inc. (U.S. v. Romania)*, ICSID Case No. ARB/01/11, 69 (2005).

Wrongful Acts),<sup>54</sup> is directly applicable in space law as per Article III OST. Particularly, Articles 1, 2 and 12 ARSIWA provide that internationally wrongful acts of a State which constitute violations of international obligations and are attributable to it, entail the international responsibility of said State.<sup>55</sup> As aforementioned, Article VI OST prescribes that States Parties shall bear international responsibility for “*national activities*”, hence space-faring states become directly responsible in case one of their nationals violates their international obligations. In addition, Article 31 ARSIWA obliges the responsible State to compensate for injuries caused by its wrongful act,<sup>56</sup> irrespective of fault. Article VI OST does not provide for damage reparation. Therefore, this aspect is covered by the relevant customary norms enshrined in the ARSIWA. It becomes clear that these provisions establish liability through responsibility.<sup>57</sup> Thus, in the aforesaid example, the Netherlands would bear liability pursuant to the ARSIWA, provided that the necessary preconditions were fulfilled.

#### **4.2. The deconstruction of the axiom “once a launching state, always liable”**

The idea that “*once a launching State, always a launching State*” can be explained by the circumstances at the time the Space Treaties were drafted; the states involved in space activities would also usually own the launch facilities, launch vehicles and payloads and would have the exclusive capacity to control their operation. Since the purpose of the LIAB was to establish a victim-oriented system, considering the ultra-hazardous nature of Outer Space,<sup>58</sup> it was logical to expect states to remain liable throughout the satellite’s lifetime. However, as demonstrated above, in the present commercial reality the state responsible for the authorization and supervision of the satellite’s operation could change, following a transfer of ownership in-orbit.

##### **4.2.1. Reinstalling the link between responsibility and liability**

In order to overcome said limitations, it has been suggested that the life of a satellite shall be divided into two distinct phases; launch and operation.<sup>59</sup> The

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54 G.A. Res. 56/83, U.N. GAOR, 56th Sess., Annex, U.N. Doc. A/RES/56/83 (2002) [ARSIWA].

55 US Diplomatic and Consular Staff in Tehran 1980 I.C.J. 29 (May 24); Phosphates in Morocco (Italy v. France) 1938, P.C.I.J. 28 (Jun. 14); Case Concerning the Gabčíkovo-Nagymaros Project (Hungary v. Slovakia) 1997 I.C.J. 38 (Sep. 25)

56 Chorzów Factory (Germany v. Poland) (Merits) 1928 P.C.I.J. 21 (ser. A), No. 9 (Sep. 13).

57 A.E. Boyle, State Responsibility and International Liability for Injurious Consequences of Acts not Prohibited by International Law: A Necessary Distinction?, 39 Int. Comp.L. Quarterly (1990).

58 L.J. Smith, A. Kerrest, Preamble in: S. Hobe, B. Schmidt-Tedd, K.U. Schrogl, Cologne Commentary on Space Law 2, 2013, p.100.

59 R.J. Lee, Effects of Satellite Ownership Transfers on the Liability of the Launching States, 43 Proc.on L.Outer Space 148 (2000) p.153.

current regime of absolute liability serves the launch phase sufficiently, as all launching States are liable for potential damage due to their involvement in the launch. However, during the operation and disposal phase, the liable state should be equated to the state having the operational control of the satellite, so as to re-install the link of the duty to compensate for damages to the actor actually causing that damage (due to intentional or reckless conduct).<sup>60</sup> Besides, Article III LIAB establishes liability based on fault for damages caused in orbit. In this context, it would be impossible to prove fault on behalf of a launching State having transferred control over its space object. This proposal could only be accomplished by means of an amendment, which however is not feasible due to the demonstrated reluctance of States to do so.<sup>61</sup>

This is why, the re-interpretation of the term “*launching state*”, as analysed above, could serve perfectly so as to correct the unjust results that the current liability system creates.

## 5. Concluding remarks

It is obvious that the existing legal regime suffers from serious inconsistencies. The practice of transferring ownership -especially to non-launching States- reveals legal *lacunae* and raises questions on the competency of the existing national and international legal frameworks to regulate this complex commercial reality. In this context, it is more critical than ever to reconsider the registration and liability regimes, so as to facilitate commercial developments. In any case, finding a pragmatic solution, while considering both the interests of potential victims and the needs of the private space industry, is imperative.

As deduced from the previous analysis, registration shall function mainly as proof of attribution to a particular state of the rights and duties with regards to a space object. The ownership test and the criterion of “actual control” could instead enable a more effective application of the registration system and serve as a more solid foundation for responsibility and liability to arise. The authors support the idea that there is no need for fundamental changes, but rather for a more unified approach on the matter, as in the absence of a comprehensive international legal framework, private operators are inevitably exposed to different regimes and requirements. What the future holds remains to be seen.

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<sup>60</sup> *Supra note* 23, pp. 350, 352, 356.

<sup>61</sup> M. Gerhard, Transfer of Operation and Control with Respect to Space Objects - Problems of Responsibility and Liability of States, ZLW (2002) p.571; A. Kerrest, Remarks on the Notion of Launching State, 42 Proc.on L.Outer Space 308 (1999) p.309.