

Space Law and Arbitration

A Not-So-Outlandish Space Odyssey

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“The earth is the cradle of humanity, but mankind cannot stay in the cradle forever.”

Konstantin Tsiolkovsky

Commercial arbitration – Investment treaty arbitration – Space law – UN Treaties on Outer Space – Artemis accords – PCA Outer Space Rules – Telecommunications – Satellites – Space resources – Arbitral institutions – UNOOSA

Summary

The exploration and exploitation of space has attracted the attention of many States, as well as of private stakeholders. In the past couple of years, they have poured drastically increasing amounts of resources, financial and otherwise, into space-related activities. Despite the rapid economic and technological developments, however, the legal framework around space-related activities, including dispute settlement, has largely remained the same as the one first established in the 1960's. The question thus arises whether such a framework can harbor the increasing demand of space-related disputes, and if not, what changes could be made, particularly in international arbitration, to address the specificities and complexities of this fast-growing field.

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Over the years, space exploration has boosted the development of numerous fields, including telecommunications, climate monitoring, and navigation, to name a few. Commercial outer space activities are expected to intensify in an ever-closer future. Today, a wide variety of stakeholders are actively involved in outer space activities, including States, public entities, commercial companies (satellite manufacturers and operators, rocket launch firms, etc.), and a host of private-public entities. Private companies can indeed now also be said to participate in the space race and are for example working on crewed space flights for private persons. SpaceX (together with NASA) has already launched several crewed missions to the International Space Agency and space tourism appears ever more likely to take off in the coming years. Indicatively, Virgin Galactic and Blue Origin have already launched vehicles above the Earth's atmosphere boarding paying passengers. In fact, it is projected that by 2040 space-related businesses will generate USD 1 trn or more in revenue, compared to USD 350 bn today; and private investors poured over USD 46 bn into such space businesses in 2021,¹ an amount that increased close to 60% compared to the previous year (USD 28 bn in 2020).²

As highlighted at a host of recent arbitration conferences, space law is under the headlights as the next frontier for arbitration. Questions raised include what disputes arise from space developments, whether the current legal framework can withstand the new demands, and whether arbitration, especially investment treaty arbitration, is suitable to address these disputes. This article touches on these issues as well as considers whether the current arbitral mechanism in place is properly equipped to harbor such disputes.

1. Challenge Accepted: A Legal Framework for Space law

In parallel with the scientific progresses made over the years, the legal status of outer space has been developed in international treaties, while States have also started regulating aspects of the exploration of outer space in their national laws.³ Although from a geophysical perspective outer space has not been legally defined to this day due to the difficulty of physically identifying the boundary between Earth's airspace and outer space, it constitutes the "part of the universe which is simultaneously beyond the airspace of planet Earth and

¹ See "Space Capital" application, at <https://www.spacecapital.com/quarterly>.

² The Economist, "Will Sir Richard Branson's Virgin Galactic jaunt boost space tourism?", dated 13 July 2021, p. 2.

³ In parallel, some States have developed their own domestic legal framework to address issues of space exploration and the civil use of resources from space. See *e.g.*, the USA National Aeronautics and Space Act of 1958.

accessible to human activity”.⁴ No international convention or treaty has attempted to clearly define outer space, a reason being the fast outward expansion of human activity in space.⁵ As space still remains largely uncharted “territory”, States do not want to limit its exploration (and exploitation) in any way. Nevertheless, space law covers a wide span of rules governing space-related activities, such as environmental protection, rescue of astronauts, liability for damage caused by space objects, dispute settlement, etc.

The core of “space law” is made of and builds on “the five United Nations treaties on outer space”.⁶ These treaties reaffirm the fundamental principles of freedom of outer space, as well as its peaceful exploration and use, and provide that no State may claim sovereignty over outer space, which is “the province of all mankind”.⁷ Given the fast-moving developments in the space field, the update of these treaties dating from the 1960’s and 1970’s seems appropriate, if not necessary.

To that effect, in 2019, the Hague International Space Resources Governance Working Group released the Building Blocks for the Development of an International Framework on Space Resource Activities, which consists of 20 provisions (*i.e.*, the “Building Blocks”) that should be considered in the development of international law to enable the utilization of space resources (including mineral and volatile materials).⁸

In a similar vein, NASA has recently spearheaded the signing of the “Artemis Accords”, which constitutes a set of principles governing the exploration, exploitation and use of outer space through the cooperation of its signatories.⁹ These principles have been signed by 18 States so far,¹⁰ and aim

⁴ Michael Byers, Andrew Simon-Butler, “Outer Space”, Max Planck Encyclopedia of International Law (2020).

⁵ *Ibid.*

⁶ Comprising the “Outer Space Treaty” of 1967, the “Rescue Agreement” of 1968, the “Liability Convention” of 1972, the “Registration Convention” of 1975, and the “Moon Agreement” of 1979. See <https://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties.html>.

⁷ Outer Space Treaty, Arts. 1 and 2.

⁸ <https://www.universiteitleid.nl/binaries/content/assets/rechtsgeleerdheid/instituut-voor-publiekrecht/lucht--en-ruimterecht/space-resources/bb-thissrwg--cover.pdf>

⁹ Similar activities, on a more preliminary level, have also been ignited within the context of the European Union. For more information see, https://www.unoosa.org/documents/pdf/copuos/lsc/space-resources/Non-paper-on-the-Establishment-of-a-Working-Group-on-Space_Resources-at-COPUOS_LSC-27-05-2021.pdf.

¹⁰ At time of publication of the present article the following States had signed the Artemis Accords: Australia, Brazil, Canada, Israel, Italy, Japan, the Republic of Korea, the Kingdom of Bahrain, France, Luxembourg, Mexico, New Zealand, Poland, Republic of Singapore, Romania, Ukraine, the United Arab Emirates, the United Kingdom, Saudi Arabia and the United States.

to bring life to NASA's Artemis program, whose purpose is to land the first woman and first person of color on the Moon, heralding a new era for space exploration and utilization. These Accords not only concretize States' commitment to cooperate on outer space activities, but more specifically, envisage the conclusion of several other agreements (such as memoranda of understanding, implementing arrangements, etc.) to achieve this purpose. Interestingly, these agreements will not only involve States, but also include private parties, or public-private partnerships, such as government contracts, thereby expanding the pool of potential stakeholders.

2. Launching Dispute Resolution for Space Disputes

While the UN treaties on outer space refer to international cooperation and the application of international law, they do not expressly include any binding dispute resolution mechanism. For instance, the Liability Convention provides for diplomatic negotiations followed by the establishment of a Claims Commission, who issues a decision which the "parties shall consider in good faith". None of the Treaties provide for a mechanism open to non-State actors, although today space-related disputes involving such non-State actors are rapidly increasing.¹¹

National courts do not constitute a viable option for such cross-border disputes for several reasons, such as the lack of confidentiality, uncertainty in the recognition and enforcement of national court judgments across jurisdictions, the potential political pressure that accompanies such disputes, as well as claims of sovereign immunity by States.¹²

Over time, other dispute settlement regimes have been developed to address the space-related disputes, including notably arbitration. Some of the main attempts to establish a specialized and binding dispute resolution mechanism for space disputes include:

- The International Law Association (ILA)'s Draft Convention on the Settlement of Disputes Related to Space Activities (1984, revised in

¹¹ Vivasvat Dadwal, Macdonald Madeleine, "Arbitration of Space-Related Disputes: Case Trends and Analysis", 71st International Astronautical Congress (IAC) (2020), p. 5.

¹² *Ibid.*, p. 2.

1998),¹³ was largely inspired by the dispute resolution procedure of the UN Convention on the Law of the Sea, but was never ratified.¹⁴

- The International Telecommunications Union (ITU)’s Constitution and Convention (1992, amended in 2014) provides a general framework for the resolution of inter-State telecommunications disputes.¹⁵
- The Permanent Court of Arbitration (PCA)’s Rules on Outer Space Disputes (December 2011)¹⁶ are based on the 2010 UNCITRAL Arbitration Rules; although they have known limited traction to date, interest in these rules may grow considering the current evolution of the space sector.¹⁷ These Rules further include specialized provisions for the handling of information¹⁸ as well as a roster of arbitrators and experts experienced in space-related matters, which may prove to be more attractive in the future, given the potentially technical nature of these disputes.¹⁹

3. The Universe Is Calling for Space Arbitration

Space-related disputes are not a work of fiction. To the contrary, several commercial and investment arbitration proceedings concerning outer space

¹³ Draft Convention on the Settlement of Space Law Disputes, as revised by the Space Law Committee of the International Law Association 30 May 1998.

¹⁴ See *e.g.* Lotta Viikari, “International Law Association’s Draft Convention on the Settlement of Disputes Related to Space Activities”, in https://journal.arbitration.ru/upload/iblock/d12/Arbitration_ru_N2_26_March_April2021.pdf (p. 14 *et seq.*).

¹⁵ Constitution of the International Telecommunication Union, Article 56; Convention of the International Telecommunication Union, Article 41.

¹⁶ <https://docs.pca-cpa.org/2016/01/Permanent-Court-of-Arbitration-Optional-Rules-for-Arbitration-of-Disputes-Relating-to-Outter-Space-Activities.pdf>.

¹⁷ See *e.g.* Charles B. Rosenberg and Vivasvat Dadwal, “The 10 Year Anniversary of the PCA Outer Space Rules: A Failed Mission or The Next Generation?”, available at 3; Evgeniya Goriatheva and Mikhail Batsura, “Specialized Arbitration Rules for Disputes Relating to Outer Space Activities”, in https://journal.arbitration.ru/upload/iblock/d12/Arbitration_ru_N2_26_March_April2021.pdf (p. 18 *et seq.*). Indicatively, the Building Blocks include a provision on dispute settlement which expressly refers to the PCA’s Rules on Outer Space Disputes.

¹⁸ A party may request that certain information be kept confidential from the other side or even from the tribunal. See Kyriaki Karadelis, “Washington, DC: Will space rules take off?”, GAR, 1 June 2013, available at <https://globalarbitrationreview.com/washington-dc-will-space-rules-take>.

¹⁹ Kyriaki Karadelis, “Washington, DC: Will space rules take off?”, GAR, 1 June 2013, available at <https://globalarbitrationreview.com/washington-dc-will-space-rules-take>.

activities have surfaced in recent times.²⁰ Until today, space-related cases generally involved the **satellite and telecommunications industry**, and revolved around the role of the ITU, rights to use orbital slots, pre-launch and launch of satellites and the allocation of frequency spectrum. However, the scope and number of such disputes is expected to grow, given that the signing of the Artemis Accords, among others, will lead to the conclusion of several other agreements, which will, most probably, include arbitration clauses.

3.1 The Growing Field of Space-Related Investment Arbitration

The most well-known space-related case is probably *CC/Devas v India*,²¹ an investment arbitration under the Mauritius - India BIT. Devas, an Indian company owned by three Mauritian companies and Deutsche Telekom, claimed that India had expropriated its investment and failed to accord fair and equitable treatment (FET) by annulling a contract for the lease of space segment capacity in the S-band spectrum²² (the **Devas Agreement**), allegedly on the basis of a *force majeure* event. Such capacity concerns the allocation of frequency in the S-band spectrum which allows for mobile multimedia and broadband data to be communicated through a satellite-terrestrial platform. It is therefore extremely valuable for mobile services and wireless networks, *i.e.*, Wi-Fi. Devas had entered into the Devas Agreement with Antrix, a wholly State-owned company that operated the commercial aspects of the Indian Space Research Organization and the Indian Department of Space. Due to domestic media reports and ensuing political pressure concerning the allegedly illegitimate processes with which Devas acquired its S-band spectrum, Antrix terminated the Devas Agreement. The tribunal concluded that India had breached its treaty obligations with respect to both FET and expropriation.²³ Following a final award on quantum, India was ordered to pay USD 111'296'000.²⁴

²⁰ While there are many space-related disputes also brought before domestic courts, these do not constitute the focus of this submission.

²¹ *CC/Devas (Mauritius) Ltd, Devas Employees Mauritius Private Limited and Telcom Devas Mauritius Limited v The Republic of India*, PCA Case No. 2013-09 (*CC/Devas*).

²² The S-band spectrum is extremely valuable for mobile broadband services, in terms of usage as well as money. The frequency, also known as 2.5 Ghz band, is globally used for providing mobile broadband services using fourth generation technologies. The S-band is primarily used for mobile services, Bluetooth connection, and WiFi.

²³ With respect to expropriation, the tribunal held that India violated its obligations only to the extent that it was not acting in the interest of protecting its essential security interests, *i.e.*, in order to reserve enough S-band capacity for military and paramilitary purposes, see *CC/Devas*, paras. 354-355, 358, 371, 373, 415, 425, 468, 470, 501.

²⁴ On 24 March 2022, the US District Court for the District of Columbia granted India's petition to stay the proceedings until its applications to set aside both the merits and quantum awards

Two further arbitrations emerged out of the Devas Agreement. One was an ICC arbitration between Devas and Antrix,²⁵ whereby Devas first sought specific performance of the Devas Agreement and later damages in the amount of USD 1.41 billion for breach of contract by Antrix. The tribunal rejected Antrix's *force majeure* defence and held that the latter's termination of the Devas Agreement constituted a wrongful repudiation thereof.²⁶ Accordingly, it ordered Antrix to pay USD 562.5 million in damages.²⁷

The other arbitration, administered by the PCA under the UNCITRAL Arbitration Rules, was initiated by Deutsche Telekom against India under the Germany – India BIT. The conclusions in this case were very similar to those of the *CC/Devas* case.²⁸ The tribunal rendered an interim award where it found that the State had violated the FET standard and acted in “willful disregard of due process of law” through conduct “which shocks, or at least surprises, a sense of juridical propriety”.²⁹ For reasons of judicial economy the tribunal did not address the expropriation and full protection and security claims.³⁰ India attempted to set aside the interim award, but the Swiss Federal Supreme Court rejected the challenge.³¹ The arbitral tribunal issued a final award in May 2020 ordering India to pay over USD 93 million in damages (plus costs), which India did not challenge.³² However, following a ruling by India's Supreme Court in

before the Dutch Supreme Court and the Hague District Court respectively are decided. See Jack Ballantyne, “India wins US stay of satellite award”, GAR News, 4 April 2022.

²⁵ *Devas Multimedia Private Limited v Antrix Corporation Limited*, ICC Case No. 18051/CYK (*Devas v Antrix*).

²⁶ *Ibid.*, paras. 192, 236.

²⁷ *Ibid.*, para. 386. The award has been confirmed by the US District Court for the Western District of Washington. For more details see Jack Ballantyne, “US court confirms Indian satellite award”, GAR News, 29 October 2020, available at <https://globalarbitrationreview.com/public-policy/us-court-confirms-indian-satellite-award>. However, the French Court of Cassation quashed a ruling of the Paris Court of Appeal and asked the appeal court to consider Antrix's objections regarding the enforcement on their merits. For more details see Tom Jones, “India's Antrix wins French appeal over ICC award”, GAR News, 19 March 2020, available at <https://globalarbitrationreview.com/indias-antrix-wins-french-appeal-over-icc-award>.

²⁸ *Deutsche Telekom AG v The Republic of India*, PCA Case No. 2014–10 (*Deutsche Telekom*), para. 291.

²⁹ *Ibid.*, paras. 389–390.

³⁰ *Ibid.*, paras. 416, 419.

³¹ *République de l'Inde v Deutsche Telekom AG*, Case No. 4A_65/2018, 18 December 2018. For more details, see Sebastian Perry, “Swiss court upholds treaty award against India”, GAR News, 11 December 2018, available at <https://globalarbitrationreview.com/swiss-court-upholds-treaty-award-against-india>.

³² *Deutsche Telekom AG v. The Republic of India*, PCA Case No. 2014-10, Final Award, 27 May 2020.

January 2022 that the award was “tainted by illegality and fraud” due to Devas’ fraudulent investments, India filed on 2 May 2022 a second application to the Swiss Federal Supreme Court requesting a revision and annulment of both the Interim and Final awards in light of these recent findings, and that the case be remanded to a new tribunal under the auspices of the PCA.³³ At time of publication of the present article, the proceedings before the Swiss Federal Supreme Court are still ongoing.³⁴

On 2 February 2022, the three Mauritian companies owning Devas filed another notice of arbitration under the Mauritius-India BIT, over what they call the State’s “audacious scheme” to evade payment of the ICC award against Antrix.³⁵

Given these developments, investment treaty arbitration appears to be suitable to resolve space-related disputes and a preferred choice by investors. For an arbitral tribunal to have jurisdiction over such a dispute, the foreign investor only needs to have an investment protected by the investment treaty in the territory of the host State. In most investment treaties, the parties adopt a broad definition of what is an investment (usually using the standard wording “every kind of asset”) which would encompass space-related operations.³⁶

Such investor-State disputes become even more probable, given that, in the context of the Artemis Accords, States remain liable for outer space activities. In particular, the Accords state that its signatories shall comply with the Outer Space Treaty³⁷ which in turn provides that States remain

³³ *Republic of India v Deutsche Telekom AG*, Revision Application concerning Interim Award of 13 December 2017 and Final Award of 27 May 2020 before the Swiss Federal Supreme Court, dated 2 May 2022. See also Jack Ballantyne, “India seeks to reopen satellite award”, GAR News, 20 May 2022, available at <https://globalarbitrationreview.com/article/india-seeks-reopen-satellite-award>. In the meantime, India withdrew from an international system for collecting airline fees after its funds were targeted by telecoms investors seeking to enforce their arbitral awards against India and Devas. See Cosmo Sanderson, “India withdraws from airline payments system”, GAR News, 16 May 2022, available at <https://globalarbitrationreview.com/article/india-withdraws-airline-payments-system>.

³⁴ Deutsche Telekom commenced enforcement proceedings in Switzerland, Singapore and Washington DC, and India submitted motions to stay the enforcement proceedings in Singapore and Washington DC while its revision application was pending before the Swiss Federal Supreme Court.

³⁵ Cosmo Sanderson, “Devas investors launch new claim against India”, GAR News, 3 February 2022, available at <https://globalarbitrationreview.com/devas-investors-launch-new-claim-against-india>.

³⁶ Furthermore, the use of satellites by private telecommunication companies, in conjunction with the governmental use of satellites and orbital slots, is the subject of the currently pending public arbitration opposing Eutelsat and Mexico. See Frohloff, *Arbitration in Space Disputes* (2019), p. 324.

³⁷ Artemis Accords, Preamble “Affirming”, see <https://www.nasa.gov/specials/artemis-accords/img/Artemis-Accords-signed-13Oct2020.pdf>.

internationally responsible for their national activities in outer space (regardless of who actually carries out such activities, whether governmental or non-governmental entities) and they also remain internationally liable for damage its space objects may cause.³⁸

Accordingly, the increase of space-related activities goes hand in hand with the increased liability of States and their entities, and consequently, the potential of more disputes brought against States or State agencies.

3.2 Keeping Pace with the Expansion of Space-Related Commercial Arbitration

Furthermore, disputes between private parties relating to space activities are no longer novel. The most common type of such disputes concern satellites. For instance, in *Ukrkosmos v MDA Corp*, a London-seated UNCITRAL tribunal considered a dispute arising from a contract for the construction and launch of a satellite that would provide television broadcasting and high-speed internet access in Ukraine and neighboring States. The respondent had to suspend its works due to Russia's annexation of Crimea, and eventually withdrew from the project on *force majeure* reasons. The tribunal upheld the *force majeure* defence and dismissed the claim.³⁹

Space law cases primarily involve contracts concerning the life cycle of a satellite, namely the manufacturing, launching, control and even lease thereof by private companies. Most often such contracts provide for arbitration. The most notable space-related commercial arbitration cases so far concern:

- The manufacturing and delivery of satellites;⁴⁰
- Satellite-launch services;⁴¹

³⁸ Outer Space Treaty, Arts VI and VII.

³⁹ For more details see Sebastian Perry, "Ukrainian space agency loses satellite claim", GAR News, 1 October 2020, available at <https://globalarbitrationreview.com/ukrainian-space-agency-loses-satellite-claim>.

⁴⁰ See Frohloff, *Arbitration in Space Disputes* (2019), p. 311. Indicatively, in *Spacecom v Israel Aerospace Industries*, a contract was concluded for the construction of a satellite by the respondent. The latter was late with the delivery of said satellite and Spacecom initiated arbitral proceedings claiming USD 10 million, where it prevailed.

⁴¹ See Frohloff, *Arbitration in Space Disputes* (2019), pp. 311-312. In *Avanti Communications Group v Space Exploration Technologies*, the parties entered into a launch services agreement, whereby the respondent had to perform a number of successfully completed satellite launches within a specific timeframe. When the respondent failed to do so, the claimant commenced an arbitration claiming the launch cost deposit of 7.6 million, which was fully awarded by the tribunal.

- Defective satellites in orbit;⁴²
- Sale and purchase of satellites in orbit;⁴³
- Lease of a satellite’s transponder capacity;⁴⁴ and
- The right to operate at orbital positions.⁴⁵

4. Discovering the Beyond: Administering Space-Related Arbitrations

4.1 Making Use of Existing Institutions

Until such time as a specialized arbitration institution sees the light of day, disputing parties, both States and non-State actors, can institute proceedings under the auspices of existing arbitration institutions, notably using the PCA’s Rules on Outer Space Disputes (or others), or even under *ad hoc* rules tailored for these particular disputes. All actors involved in the field

⁴² See Frohloff, *Arbitration in Space Disputes* (2019), pp. 312-313. In *Thuraya Satellite Telecommunications v Boeing Satellite Systems International*, the Claimant initiated an arbitration against Boeing over a satellite that lost power in orbit due to allegedly defective solar panels. Even though Boeing acknowledged the default of the satellite, albeit it claimed that it did not know about it before the launch, the tribunal rejected the claim on the basis that the liability of the manufacturer ends at launch.

⁴³ See Frohloff, *Arbitration in Space Disputes* (2019), p. 313 *et seq.* In the ICC Case *ABS v KT Corporation and KTSAT Corporation*, a purchase contract regarding a satellite was concluded between the parties. KT, a Korean-based company, sold the satellite to ABS without seeking first governmental approval which triggered a lot of criticism in the news. As a result, Korea’s Ministry of Science, ICT and Future Planning declared the purchase contract null and void and directed KT to return the satellite. Therefore, KT claimed that it still held the ownership of the satellite and requested ABS to return it, which ABS refused, and instead commenced an arbitration. The tribunal concluded that the ownership title passed on to ABS since all the requirements of the purchase contract had been fulfilled before the Ministry’s declaration.

⁴⁴ See Frohloff, *Arbitration in Space Disputes* (2019), pp. 316-317. In the LCIA Case *Avanti Communications v The Government of Indonesia*, the State concluded a contract with the Claimant, whereby Avanti would provide capacity of one of its satellites to Indonesia, as the latter’s satellite was damaged and had to be restored. Indonesia failed to make the necessary payments, and as a result Avanti Communications initiated an arbitration, where it prevailed.

⁴⁵ See Frohloff, *Arbitration in Space Disputes* (2019), pp. 317-318. Such cases concern the use of frequencies at a given orbital slot. For instance, French telecommunications company Eutelsat initiated arbitration proceedings against Deutsche Telekom, Media Broadcast and Luxembourg-based SES, claiming that certain frequency usage that was assigned to SES by Media Broadcast (a former subsidiary of Deutsche Telekom) was reserved for Eutelsat.

should already consider inserting arbitration clauses in their contracts, given the benefits such a dispute settlement mechanism has to offer.

Considering the evolution of this distinct and very specialized field, arbitral institutions can also act proactively to accommodate the efficient administration of this type of disputes, which are like no other standard contract-based disputes and, may require some tailoring of standard practices. This can already be seen in the PCA's distinct Rules on Outer Space Disputes, which envisage for example specially designed provisions for the handling of information.

There are several ways to make this happen. Institutions could promote the publication of space-related articles and organize more conferences, workshops and seminars to familiarize all those involved (institutions, counsel, States, etc.) with the needs of the space field, thereby also allowing the space community to become familiar with arbitration. As more practitioners learn about the specifics of space arbitration, the bigger the pool of potential arbitrators becomes. Also, today's technological advances make such initiatives simpler and less expensive, as these events can take place online through webinars and podcasts. Moreover, dedicated committees could consider the need of preparing separate sets of rules to accommodate these disputes (or consider the possibility of updating their current rules to the same effect). Institutions could also publish awards of space-related disputes, which will have the added benefit of promoting consistency in the jurisprudence and furthering legal stability for parties.

4.2 The Need for a Specialized Arbitral Institution, True or False?

As noted above, State and non-State actors are gradually entering, and will continue to enter, the space market. Together with the increased number of stakeholders, there is also a wide array of sectors in which disputes may increasingly arise in the future. These include notably exploiting resources from (and in) space, managing the end-of-life of non-functional satellites (when entities fail to use or misuse the graveyard orbit generating an increased risk of collisions and damage to functioning satellites), and dealing with the increasing volume of space debris. The parties involved in these activities will likely require more legal certainty and a stable framework to pursue their investments. Dispute settlement will certainly play a crucial role in ascertaining such stability.

Although, as noted above, the PCA Rules (including its rosters of specialized arbitrators and experts) have to date not been used in practice, they meet most of the criteria that users may look for when resolving space-related

disputes: neutrality, accessibility to public and private entities, effectiveness (including in terms of enforceability of the ensuing binding arbitral award), and confidentiality.⁴⁶

Among existing international organizations, the UN Office for Outer Space Affairs (**UNOOSA**) is noteworthy as it is a specialized body of the United Nations which aims to provide capacity-building in space law through workshops, publications, and updating a database of all relevant domestic instruments. The office also bears technical responsibilities, such as the maintenance of the UN Register of Objects Launched into Outer Space.⁴⁷ This organ thus combines a legal and technical know-how and expertise in this sector, and is involved in a broad global network of partners across the globe.

Unlike the World Intellectual Property Organization (**WIPO**), UNOOSA does not currently offer any dispute settlement mechanism, nor does it administer arbitration proceedings. However, WIPO's success could be an incentive for UNOOSA to step up its efforts and provide its expertise also in dispute resolution by developing a set of rules tailored to space related disputes.⁴⁸

5. What the Future Holds

In conclusion, the ever-growing developments in this field leave no doubt that more space-related disputes are bound to arise. Both commercial and investment treaty tribunals have already dealt with such disputes, albeit not in large numbers, proving that arbitration is a viable dispute resolution mechanism for these disputes. The more accurate question is whether arbitral institutions are ready to harbor this distinct type of disputes, and how they can (better) accommodate them. After all, one thing is certain; space arbitration is here to stay.

⁴⁶ See also Frohloff, *Arbitration in Space Disputes*, 2019, p. 16 *et seq* (setting out particularities of space arbitrations).

⁴⁷ https://www.unoosa.org/res/oosadoc/data/documents/2017/stspace/stspace61rev_2_0_html/V1605998-ENGLISH.pdf (page iii).

⁴⁸ See, *e.g.*, the caseload statistics published on WIPO's website, which show a steady growth: <https://www.wipo.int/amc/en/center/caseload.html>. Some of the key elements that have participated in this success story are the inclusion of specific provisions in WIPO rules on confidentiality (a crucial aspect in IP-related disputes) and WIPO's list of highly specialized "neutrals" to serve as arbitrators or mediators.

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Manuscripts and related correspondence should be sent to the Editor. At the time the manuscript is submitted, written assurance must be given that the article has not been published, submitted, or accepted elsewhere. The author will be notified of acceptance, rejection or need for revision within eight to twelve weeks. Manuscripts may be drafted in German, French, Italian or English. They should be submitted by e-mail to the Editor (**mscherer@lalive.law**) and may range from 3,000 to 8,000 words, together with a summary of the contents in English language (max. ½ page). The author should submit biographical data, including his or her current affiliation.

Aims & Scope

The ASA Bulletin is the official quarterly journal of the Swiss Arbitration Association (ASA). Since its inception in 1983 the Bulletin has carved a unique niche with its focus on arbitration case law and practice worldwide as well as its judicious selection of scholarly and practical writing in the field. Its regular contents include:

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