



Global Research Network
Working Paper

The Suitability of International Arbitration to Private
Commercial Space Tourism & Mining

Pranav Menon
BA. LLB., LL.M.,
S.J.D. Candidate, Penn State Law
Associate of the Alternative Dispute Resolution Programme for
Global Research Network
pranavmenon92@gmail.com
+1 814.862.8220

Space is no longer an arena exclusively for the sovereigns. The political, legislative and commercial growth of the private space industry has boomed over the past few decades and countries which wish to capitalize on this new “Gold Rush”¹ have given the market participants their full backing and support². Many writers and arbitral institutions have already recognized and postulated the appropriateness of marrying international commercial arbitration with private space activities³. On its face, the combination seems like a natural fit considering the diversity of nationalities involved, the international nature of space travel and the involvement of private commercial entities. However, as we take a deeper look into the activities itself- tourism and mining- we can see the issues are far from simple. This note will highlight the major hurdles facing private space arbitration moving forward specifically with regard to space mining and tourism.

Space Tourism & Mining:

Private space activities are commercially motivated and have a tangential scientific value. Tourism involves guiding lay-people through the vast emptiness of space; an inherently risky activity. Companies like Virgin Galactic have already initiated flights into the edge of space with future plans to carry larger groups on commercial spaceflight⁴. As the industry grows, travel can translate into a long-term hotel stays in space as well⁵. The tourism experience is incredibly unique (and expensive⁶) but provides services in a high-risk environment, placing a huge burden on the service provider. For example: A passenger getting violently ill from the pressures of space during travel or an ‘emergency detour’ which takes the flight quite off-schedule for landing.

¹ Jayshree Pandya, *The Race to Mine Space*, Forbes, May 13th 2019:

(<https://www.forbes.com/sites/cognitiveworld/2019/05/13/the-race-to-mine-space/#5e68177d1a70>)

² This can be seen by the development of *Domestic Private Space Legislations*. For example see- Michael Listner, *A first look at Austria's new domestic space law*, The Space Review, December 12th 2011: (<https://www.thespacereview.com/article/1988/1>); or the U.S.A. *Commercial Space Launch and Competitiveness Act*, 2015

³ See for example- The Hague Permanent Court of Arbitration *Optional Rules for Arbitration of Disputes Relating to Outer Space Activities*, 2011; Rachel O’ Grady, *Star Wars: the Launch of Extranational Arbitration?*, CI Arb Arbitration Journal, Vol. 82, No. 4.; Tare Brisibe, *Prospects for the Arbitration of Disputes in Public – Private Space Projects*, In: Sterns P., Tennen L. (eds), *Private Law, Public Law, Metalaw and Public Policy in Space*, Space Regulations Library, Vol. 8. 2016, Springer, Cham; Alexis Moure, *Arbitration in Space Contracts*, Arbitration International, Volume 21, Issue 1, 2005, pages 37–58.

⁴ Michael Sheetz, *New Virgin Galactic Chairman Chamath Palihapitiya says tourism spaceflights to begin within a year*, CNBC, July 9th 2019: (<https://www.cnbc.com/2019/07/09/virgin-galactic-says-space-tourism-flights-to-begin-in-a-year-company-will-be-profitable-in-2021.html>). For general information, see the Virgin Galactic website: (<https://www.virgingalactic.com/vision/>)

⁵ Morgan McFall-Johnsen, *At least 3 companies plan to launch space hotels into orbit, offering inflatable rooms, 16 sunsets per day, and even space Quidditch*, Business Insider, November 9th 2019: (<https://www.businessinsider.com/space-hotels-could-launch-in-2021-photos-2019-10>)

⁶ Michael Sheetz, *A trip to the International Space Station will cost tourists \$52 million*, CNBC, June 11th 2019: (<https://www.cnbc.com/2019/06/11/tourist-cost-to-visit-international-space-station-with-spacex-is-52m.html>)

Space mining is an industry with immense commercial gain⁷ but requires a heavy monetary investment leading to an erratic pace of development across the world⁸. Mining resources from asteroids or other outer space bodies raises serious issues of Ownership⁹ which may not be suitable for arbitration. This is an activity where the liability on the company is relatively low (to third-parties like ‘passengers’) but higher to the public-at-large. For example: Space Mine LLP discovers a new natural resource and withholds it from competitors and their governmental agencies. Here, Space Mine LLP is liable to no-one if a case is never filed against the company to reveal their discoveries.

At this juncture, the commercial motivations of the activities are clear; be it the ‘ticket-cost’ or value of the materials extracted. Juxtapose this with previous Governmental space activities were based on principles of research, exploration and scientific development. Companies like SpaceX (spearheaded by Elon Musk) and BlueOrigin (spearheaded by Jeff Bezos) plan on colonizing Mars and the Moon respectively; thereby combining commercial and research interests¹⁰. Another important comparison is to Inter-Governmental Organizational space travel for the purposes of telecommunications and satellites¹¹; an activity where service is essential, service providers are limited and collectively agree to a single regulatory framework.

The idiosyncrasies of the space activity conducted by the company greatly change the suitability of any dispute for arbitration. Future legislations must consider the overlap of interests when combining the industry with this form of dispute resolution.

Diversity of New Legal Issues

From the above we can see that space tourism and mining raise a host of new legal issues across different sectors to an already-ambiguous field of law. These issues will not just be rooted in the service contract terms but will also extend to tort, criminal and regulatory liability. A poorly maintained spacecraft which malfunctions during travel can result in a breach of contract claim from the passengers along with a suit for strict liability negligence and possible penalties from the respective

⁷ See- Chris Mahon, *\$700 Quintillion Asteroid Ignites Space Mining Gold Rush Between Mars and Jupiter*, Outer Places, February 12th 2018: (<https://www.outerplaces.com/science/item/17778-700-quintillion-dollar-asteroid-space-mining-gold-rush-mars-jupiter>)

⁸ Alan Boyle, *One year after Planetary Resources faded into history, space mining retains its appeal*, Geek Wire, November 4th 2019: (<https://www.geekwire.com/2019/one-year-planetary-resources-faded-history-space-mining-retains-appeal/>)

⁹ See- Clive Cookson, *Space mining takes a giant leap from sci-fi to reality*, Financial Times, October 19th 2017: (<https://www.ft.com/content/78e8cc84-7076-11e7-93ff-99f383b09ff9>)

¹⁰ See- John Thornhill, *The billionaire space race*, Financial Times, August 9th 2017: (<https://www.ft.com/video/aa8d6547-ccd5-4c83-a6b7-979be44336fb>)

¹¹ Elina Morozova, Yaroslav Vasyanin, *International Space Law & Satellite Communications*, Oxford Research Encyclopedia of Planetary Science, 2019: (<https://oxfordre.com/planetaryscience/view/10.1093/acrefore/9780190647926.001.0001/acrefore-9780190647926-e-75>.)

domestic space agency. With regard to space tourism, a well-drafted contract may help to define the scope of liability of the spacecraft and the service, but mining issues will likely fall outside of traditional contract terms. Mineral resource rights and any dispute over new discoveries will likely fall within a court's jurisdiction where the spacecraft is registered¹².

Here we must question if arbitration is appropriate? The 'new-age' issues caused by space travel might be best suited for resolution by a Court. The value of binding precedent and the law being on public record can help pave the way for building the new body of law. Arbitrations are often conducted in secrecy which can lead to many crucial public issues never coming to light. When building a new field of law, transparency and binding precedent for future disputes might be the best path forward.

Acts in a Res Communis

Similar to the legal status of Antarctica or the sea, space is considered a Res Communis which belongs to no nation under the law¹³. Acts committed in space happen in a legal 'no-man's-land' which makes enforcing liability a difficult task. The same can be stated by any assertion of dominion over a part of space (for example, an asteroid) by a private company¹⁴; and by extension the nation where the vessel is registered¹⁵. Under international law, specialized international tribunals can be constituted to resolve issues relating to the sea¹⁶ but no analogous tribunal exists for space disputes.

Can we truly consider a commercial arbitration tribunal to decide whether or not liability exists in space? How can an arbitral tribunal assert jurisdiction over a dispute where the courts of the seat country abstain? Whether domestic law applies to activities outside of the nation's borders in a Res Communis environment will be a key question in international law as space travel grows¹⁷. Any arbitration clause implemented in a space contract must be cognizant of these issues moving forward.

The Public Law Element

As mentioned above, the involvement of public law in space disputes is palatable. As a high-risk activity carried out Res Communis environment, the public interest in the outcome of mineral rights

¹² For example, see- Michael Listner, *Advancing the jurisdiction of the US federal court system to address disputes between private space actors*, The Space Review, July 22nd 2019: (<https://www.thespacereview.com/article/3760/1>)

¹³ United Nations *Outer Space Treaty*, 1967 Article II

¹⁴ For a strong analysis for the U.S. Jurisdiction over private space activities, see- Michael Listner, *Advancing the jurisdiction of the US federal court system to address disputes between private space actors*, The Space Review, July 22nd 2019: (<https://www.thespacereview.com/article/3760/1>)

¹⁵ United Nations *Outer Space Treaty*, 1967 Articles VI, VII, VIII

¹⁶ United Nations Convention on the Law of the Sea (UNCLOS), 1982, Article 287

¹⁷ For example, The U.S. has directly compared Antarctica to space in *Beattie v. United States*, 756 F.2d 91, 99 (D.C. Cir. 1984) which held that U.S. law applies in a Res Communis environment like Antarctica. This position was **overruled** by the U.S. Supreme Court in *Smith v. United States*, 507 U.S. 197 (1993).

or space travel disputes will be large. For example, Space Mine LLP discovers a valuable asteroid field where many new elements and vast amounts of valuable resources are located. The company excludes competitors from accessing the asteroid field by using offensive measures like communications blocking and obstruction of their spacecraft. Space Mine LLP and its competitors enter into a submission agreement to go into arbitration rather than referring the dispute to Federal Court to avoid any PR or regulatory issues.

The public law element leads to an issue of subject matter arbitrability of the dispute. In the telecom and satellite industries, collective agreements have led to an established optional arbitration procedure for internal space-related disputes¹⁸. However, in space mining and tourism, the very nature of the activity can raise issues relating to public health, safety, and the overall development of mankind as opposed to telecom which is an essential service. Arbitrability is a highly disputed arena of arbitration law¹⁹ particularly in highly regulated fields like antitrust, bankruptcy, patents etc. However the consistency of what is and isn't arbitrable depends on the specific national public policy and mandatory law. For example, a liberal, 'arbitration-friendly' regime like U.S. might allow the dispute to move forward, but the E.U. may take a more conservative stance²⁰. As many public law fields are implicated in space travel, arbitrability will surely be an issue for tribunals moving forward.

Overlap with International Public and Domestic Jurisdiction

A private commercial arbitration tribunal will face significant overlap with other forums which may seem more appropriate to resolving space law disputes. The U.N. Claims Commission has a set arbitration mechanism in cases of diplomatic impasse for State v. State disputes²¹. Meanwhile the International Court of Justice (ICJ) holds a prominent place in international law to resolve State v. State disputes²². Domestic legislations further reserve power for their courts to resolve statutory disputes relating to their registered spacecraft, citizens or activities performed during take-off or landing²³. Creative litigants in the future may find ways to avoid arbitration based on the root of the conflict, namely; treaty, legislation or contract. Litigants could also avoid arbitration based on the

¹⁸ See- *Constitution of the International Telecommunications Union* (ITU), 2015, Article 56.2; *Convention for the Establishment of a European Space Research Organisation*, 1980, Article XVII (1)

¹⁹ For an overview of Arbitrability and its relation with Public law, see- Elie Kleiman, Claire Pauly, *Arbitrability and Public Policy Challenges*, Global Arbitration Review, 2019: (<https://globalarbitrationreview.com/chapter/1178487/arbitrability-and-public-policy-challenges/>)

²⁰ For a brief comparison of U.S. and E.U. treatment of arbitrability; specifically for *antitrust claims* (a highly regulated field of public law), see- Richard Levin, *On Arbitrating Antitrust/ Competition Disputes (I)*, Kluwer Arbitration Blog, August 20th 2018: (<http://arbitrationblog.kluwerarbitration.com/2018/08/20/on-arbitrating-antitrustcompetition-disputes/>)

²¹ United Nations *Convention on International Liability for Damage Caused by Space Objects*, 1972, Article XIV

²² *Statute of the International Court of Justice*, Article 36 read with United Nations *Outer Space Treaty*, 1967 Articles VI, VII, VIII

²³ U.S. *Commercial Space Launch Competitiveness Act*, §106; Michael Listner, *A first look at Austria's new domestic space law*, The Space Review, December 12th 2011: (<https://www.thespaceview.com/article/1988/1>).

timing of the incident, namely; take-off, landing or in-flight (which may be outside of the law's purview).

Issues in Enforcement of the Award

The points above all translate into issues in award enforcement. The legality of private space operations- specifically space mining- is far from settled which may prevent successful award enforcement owing to a conflict with the State law or public policy²⁴.

Example 1: State X does not recognize the ownership rights held by Space Mine X (and by extension the sale of the minerals) as they believe that ownership of space resources cuts against the fundamental principles of the U.N. Outer Space Treaty²⁵ thereby refusing recognition of the award²⁶.

Example 2: In a case relating to a spacecraft malfunction leading to the death/ injury of many passengers, State X refuses recognition of an award because the Arbitrators did not apply principles of Strict Liability; a well-established principle in State X's public policy relating to aerospace travel.

In both examples above, ignoring the public law element and the national policy of the State give rise to legitimate claims for setting aside an award. If award enforcement is uncertain at any stage, the purpose of arbitration is defeated, leading to a frustration of the process and re-litigation. This necessitates parties to consider the weight of the issues underlying the dispute at the outset rather than waiting for the award itself in order to have a suitable resolution without further conflict.

Conclusion:

This note is not intended to be a scathing criticism of joining space law with international commercial arbitration as the two seem to be a natural fit. There are many benefits of implementing arbitration in an inherently international activity like space travel, but it's important to be cognizant of the challenges that lie ahead. Each individual issue provides a hurdle for which there are many academic arguments for-and-against. From analysing these issues, we can help prevent future disputes through clever drafting, planning and institutional administration. A carefully crafted framework for private space disputes is instrumental in facilitating future endeavours outside of planet Earth

²⁴ United Nations *Convention on the Recognition and Enforcement of Foreign Arbitral Awards*, 1958, Article V

²⁵ United Nations *Outer Space Treaty*, 1967 Article II

²⁶ United Nations *Convention on the Recognition and Enforcement of Foreign Arbitral Awards*, 1958, Article V (2)