Kluwer Arbitration Blog

Washington Arbitration Week 2022: International Investment Protection of Space Assets, Quo Vadis?

Luc Colin (Space Arbitration Association; Gide Loyrette Nouel) · Wednesday, December 28th, 2022

The third edition of the Washington Arbitration Week (WAW), founded by Ian Laird (Crowell) and Jose Antonio Rivas (Xtrategy), took place in a hybrid format from November 28 to December 2, 2022 and included 15 panels. On December 1, 2022, the conference held a discussion on the topic of international investment protection of space assets. The panel was moderated by Ben Love (Boies Schiller Flexner, partner), and featured Ernie Chung (FTI Consulting, partner), Petr Polášek (White & Case, partner), Laura Yvonne Zielinski (Holland & Knight, attorney; Space Arbitration Association, founder), and Philippe Oudinot (Airbus, special compliance monitor). This post presents some highlights of the discussion as well as further remarks on the topic.

I. The dominant role of the private sector in an expanding space industry

Oudinot explained that space activities have grown exponentially in the last several years, resulting in a multiplication of space assets. While these objects were traditionally owned by governments, Oudinot pointed out that they now tend to be provided to governments by private actors, such as OneWeb, a constellation of 900 telecommunication satellites, or Airbus, which is developing the "Aibus Zephir", the first high-altitude platform station to have demonstrated day/night longevity in the stratosphere.

Chung explained that, for many years, space equipment was operated by public institutions, due to high financial barriers to entry. Recent innovations, such as the reusability of space equipment, have led to the multiplication of this equipment (from around 1,500 active spacecraft five years ago to 5,500 today), as well as the growing involvement of the commercial sector (which operated 40% of space equipment five years ago, as opposed to 80% today).

Zielinski mentioned that the Space Foundation 2022 Global Space Report concluded that the global space economy had reached $469 billion in 2021, with the commercial space sector seeing a 6.4% revenue growth since 2020. According to the report, most of the money generated by the space industry in 2021 corresponds to the commercial sector, with more than $224 billion coming from products and services delivered by space firms and nearly $138 billion spent on infrastructure and support for commercial space enterprises. This growth will likely continue, as illustrated by a Euroconsult report of November 2022, which predicts that global government investments in space exploration will reach $31 billion by 2031.

II. The prospect of a space mining industry

Polášek analyzed the development of private activities aimed at exploring and exploiting space resources. He mentioned the Chinese "Chang'e 5" space mission which has recently returned a new mineral from the lunar surface. This new mineral, called "Changesite—(Y)", contains helium-3, an isotope that could be a fuel for future fusion reactors. In November 2022, the lunar lander "Hakuto", owned by the Japanese company ispace Inc., was sent to the moon by the Falcon-9 rocket from American company SpaceX. This Japanese project aims to be the first private mission to land on the moon.

These private initiatives are supported by a number of States, which have made it a part of their space exploration strategies to support the development of space commercial activities. Thus, in December 2021, the White House stated in its U.S. Space Priorities Framework that U.S. space exploration priorities included fostering the development of the commercial space sector, including the recovery and use of space resources.

The growing role of private initiatives in space activities necessarily raises the question of the protection of these private investments. Legal mechanisms similar to those that govern investments in the mining sector could be transposed as a framework to protect operators of space resources.

III. The current international framework regulating activities in space

Zielinski introduced the four treaties constituting the basis of international space law, developed by the UN Committee on the Peaceful Uses of Outer Space ("**COPUOS**"). The most important is the Outer Space Treaty of 1967 ("**OST**"), which sets forth the general principles governing human activities in outer-space. Notably, it provides for the principle of "non-appropriation" according to which outer space and celestial bodies may not be claimed as the property of any nation.

Three other treaties followed: the Rescue Agreement of 1968 on assistance in the rescue of astronauts, the Liability Convention of 1972 ("**LIAB**") concerning damage caused by a State's space objects on the surface of the Earth or to aircraft, and providing for the international responsibility of the "launching states"; and the Registration Convention of 1974 ("**REG**").

While these treaties are not binding, some of them have been recognized as part of customary international law. For example, the registration of space objects is mandatary for State Members of the REG; and recommended for any other UN Member States under a General Assembly Resolution 1721 (XVI).

Zielinski emphasized the lack of any binding treaty regulating the mitigation of space debris, with only a non-binding agreement dealing with this issue: the UN COPUOS Space Debris Mitigation Guidelines of 2007.

IV. The extraction of space resources

Polášek explained that the OST does not address some of the key questions regarding private commercial issues such as the lawfulness of the extraction of resources. States have therefore developed different stances on this issue.

In 2020, 20 countries participating in the Artemis Program signed the Artemis Accords, a set of agreed principles for the civil exploration and use of the moon and other celestial bodies. It notably introduced the concept of "safety zones", defined as areas where space operations are conducted, whose purpose is to avoid harmful interference by other actors. The Artemis Accords state that the safety zones may be used for the "*safe and efficient extraction and utilization of space resources*".

At the national level, some countries have passed domestic legislation governing private entities' and individuals' rights to explore, exploit and utilize space resources. One prominent example of that is the U.S. SPACE Act of 2015 allowing U.S. citizens and industries to engage in the commercial exploration and exploitation of space resources. Similar regulations were passed in other States, like Luxembourg.

V. The available protection for private investments

Polášek recalled that the LIAB provide for the principle of State responsibility. Under the LIAB, States are internationally liable for damages caused by space objects for which they are the "launching State". The "launching State" refers to a State which launches or procures the launching of a space object or from whose territory or facility a space object is launched.

Under the LIAB, damage means loss of life, personal injury or other impairment of health, or loss of or damage to property of States or of persons, natural or juridical, or property of international intergovernmental organizations. Liability is absolute for damage caused on Earth or while an aircraft is in flight, and fault-based for damage caused in outer space. The LIAB provides a compensation mechanism which aims to restore the claimant to the condition which would have existed if the damage had not occurred.

Polášek also mentioned that the LIAB provided for a dispute settlement mechanism through a Claims Commission. This Claims Commission is only available to States and not to private parties, and the award rendered by the Claims Commission remains a mere recommendation unless all involved States agree that it will be binding.

The Claims Commission under the LIAB has only been invoked once, in 1978, following the scattering of radioactive debris over northern Canada by a defunct Soviet satellite. Canada issued a claim against the Soviet Union. The dispute was ultimately resolved diplomatically, however, so little precedent exists for the LIAB State-State dispute resolution mechanism.

With respect to investment treaties, Polášek observed that the main issue is that they only apply to investments made in the territories of the signatory States. Yet, international law does not provide for a clear definition of where the territory of an individual State ends and outer space begins. Several limits have been proposed, such as the "Kármán line", which is set at around 62 miles above sea level. But even the lowest objects currently in space are well above this definition.

However, according to Polášek, if a State acts in a way that damages a space object and subsequently has impacts on Earth (*e.g.*, reducing the value of a space mining company's shares), it is conceivable that another State would have a claim due to the subsequent damage caused on its

territory. When it comes to space investments on Earth, and impacts on such investments, investment treaties remain relevant.

VI. The protection of space assets in investment arbitration case law

According to Zielinski, one must distinguish between (1) the investment cases involving damage to assets located in outer space, where the territorial requirement is controversial, and (2) the more conventional cases dealing with on-Earth investments in the space industry. The three investment treaty cases that have occurred so far all fall in this last category, and did not give rise to any territorial argument.

The Eutelsat v. Mexico case related to a provision contained in a concession contract over the use of geostationary orbital position. Eutelsat argued that the provision, providing that Eutelsat had to reserve a percentage of their overall capacity for free for the Mexican State was violating the fair and equitable treatment provision of the applicable treaty. Eutelsat lost the case.

In Antrix v. Devas and Deutsche Telekom v. India, the Indian State-owned company Antrix leased S-band satellite spectrum to Devas. Five years after the deal was signed, the Devas-Antrix agreement had become mired in controversy, and the government rescinded the contract with Devas, arguing that national security required rescission. The arbitral tribunal ruled that only part of the frequency spectrum was needed for national security reasons, and that for the remaining part, the rescission of the contract constituted a breach of the expropriation and fair and equitable treatment provisions of the applicable treaty.

Zielinski also pointed out that space actors may also have an advantage in using arbitration for their commercial disputes, since these disputes usually present specific legal issues, such as export-control issues, for which State courts may not be well suited.

VII. Space assets: what is next?

Zielinski pointed out in closing remarks that frequency interference disputes will increase in the future, as the Low Earth Orbit spectrum is becoming very saturated. Zielinski also mentioned that there has been one commercial arbitration case dealing with this issue so far: the Eutelsat v. SES case, based on a coordination agreement between the parties.

More generally, panelists agreed that since exploration will continue to need huge amounts of financing, from both domestic and foreign private investors, the protection of international space investments will be a key challenge.

At the international level, the Artemis Accords paved the way for the development of regional and national rules protecting investors. However, panelists were cautious about the prospect of a new global regime for space investments in the coming years; considering that States may continue to enact domestic regulations protecting their own nationals.

This push by certain States in favor of the private exploitation of space resources constitutes a significant paradigm shift. While the panelists did not delve further into this point, it should be

noted that this movement runs counter the principle of non-appropriation articulated in the 1960s and 1970s by the first international treaties relating to space activities.

Indeed, the OST established the principle of non-appropriation of space resources from an inter-State perspective in 1967. Its Article II reads: "*Outer space, including the moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means*". The Moon Agreement of 1979 consecrated the same principle with respect to the moon, and went further by stating in its Article 11 that "*the moon and its natural resources are the common heritage of mankind*."

Despite these pronouncements, there is no official definition of the principle of non-appropriation, and its content has been continuously discussed.. States promoting the exploitation of space resources by private actors rely on an extensive interpretation of this principle. Thus, Section 10 of the Artemis Accords asserts that "*the extraction of space resources does not inherently constitute national appropriation under Article II of the Outer Space Treaty*".

States' support of the expansive interpretation will facilitate the increase of private investments in the space resource industry. Traditional international treaties, designed around the principle of non-appropriation, are unlikely to provide enough protection to private investors. It is therefore likely that States will be interested in adopting new investor protection standards, adapted dispute resolution methods, as well as reliable enforcement mechanisms.

Kluwer Arbitration Blog's full coverage of Washington Arbitration Week (WAW) is available here.

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