International Complexities in Space Technology Taxation

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ABSTRACT

For decades, humans have been attracted to space exploration for scientific, security, and commercial purposes. Private companies like Space X and Blue Origin have embarked on bold plans to commercialize outer space, including tourism, mining space resources, creating alien facilities and even the environment. The distribution of the benefits of outer space has been a matter of great controversy, from the early days of space exploration to the present day. We believe that the tax question, little discussed so far, is essential when reflecting on a good spatial distribution of benefits.

Treaty of principles governing the activities of States in the exploration and use of outer space, including the Moon and other celestial bodies (Outer Space Treaty) regulates activities in outer space, bans destructive mass weapons, and prevents states from claiming celestial sovereignty or monopolies. Article II of the Outer Space Treaty provides that outer space, including the moon and other celestial bodies, cannot be appropriated by a state by claim to sovereignty, use or occupation or by any means. any other method.
Many people consider outer space to be the universal common good or even the common heritage of mankind. Therefore, no State should be deprived of the resources and benefits of outer space. It is also widely acknowledged that States undertaking efforts in the exploration and use of outer space has a particular interest in the benefits to be derived therefrom.

KEY WORDS

1. PERMANENT ESTABLISHMENT - the term "permanent establishment" means a fixed place of business through which the business of an enterprise is wholly or partly carried on.

2. SPACE EXPLORATION - investigation, by means of crewed and uncrewed spacecraft, of the reaches of the universe beyond Earth's atmosphere and the use of the information so gained to increase knowledge of the cosmos and benefit humanity.

3. SPACE TECHNOLOGY - Space technology includes space vehicles such as spacecraft, satellites, space stations and orbital launch vehicles; deep-space communication

INTRODUCTION

International taxation is exemplified by the body of legal regulations in various countries that cover the tax side of trans-border transactions. It is concerned with direct and indirect taxes - Kevin Holmes

In simple terms, international taxation refers to the study of taxation exceeding the national level. We are all familiar with Indian law, but we need to study taxation at a different level, as something becomes more demanding over time.

As multinational companies around the world seek to invest or establish their own companies in India and begin to transact more actively, it is very important to fully understand India's tax and regulatory policies to promote growth and opportunities. of success. Similarly, local Indian companies that are interested in or intend to go global or go public abroad must understand and transcend the interplay of cross-border taxes and regulations. Now, understanding corporate tax and regulatory framework, as well as industry knowledge when doing any activity, has become an indispensable part of doing business in India or abroad.

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Since the launch of the Russian satellite Sputnik1 in 1957, the aerospace industry has never looked back. Currently, there are around 20,000 satellites in orbit around the Earth, and there are private companies like SpaceX and OneWeb on the market. It is estimated that by 2025, the aerospace industry will launch around 1,100 satellites each year. As humanity moves into the era of high dependence on satellite support technology, the pollution called space debris caused by satellite congestion cannot be ignored. The space debris problem is increasing every second, creating the risk of collisions in Earth's orbit. With today's technological advances, satellite operators can track space debris and manipulate operating satellites to avoid damage. However, as the risk of collisions increases, these technologies become more and more expensive.

In a recent report issued by the Organization for Economic Cooperation and Development (OECD), it is estimated that if this trend continues, tracking and maneuvering costs can reach 5%, 10% or even the costs of satellite the total mission. Although there have been many debates on the issue of space debris internationally, so far, most of the solutions have been scientific.

Earlier this year, Akhil Rao, Matthew G. Burgese, and Daniel Kaffine published a study in the Proceedings of the National Academy of Sciences ("Research"), stating that the "follow-up tax" can be effectively resolved by imposing a "tracking tax" on it.

Space debris mainly includes dead satellites orbiting the earth, rocket components used to launch satellites, and even paint stains peeled off by the wear and tear of satellites and their launch rockets. These fragments move at a speed of about 30,000 kilometers per hour, releasing a lot of energy. Even small fragments as small as 1mm can cause inoperable damage to the satellite.

In 1978, NASA scientist Donald J. Kessler noted that increasing the number of space objects in Earth's orbit will create an environment in which collisions between space objects will be unavoidable and will lead to

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3. Art. VI, Outer Space Treaty, supra note 1, provides for “international responsibil-ity for national activities in outer space, including” where “such activities are carried on by non-governmental entities.” Art. VII provides: “Each State Party to the Treaty that launches or procures the launching of an object into outer space (...) and each State Party from whose territory or facility an object is launched, is internationally liable for damage” caused by that space object. See generally F.G. von der Dunk, Private Enterprise and Public Interest in the European ‘Spacescape’: Towards Harmonized National Space Legislation for Private Space Activities in Europe 17-26 (1998) (unpublished Ph.D. dis-sertation, International Institute of Air and Space Law, Faculty of Law, Leiden Univer-sity) and J. Nagvanshi & A. Sharma, Jurisdiction in Outer Space: Challenges of Private Individuals in Space in CURRENT DEVELOPMENTS IN AIR AND SPACE LAW 324-39.
cascading effects. This phenomenon, known as Kessler syndrome, can make low-Earth orbit economically unviable and difficult to access other orbits. Based on this, a study published in 2006 predicted that according to current trends, the number of objects 10 cm or larger in size in low Earth orbit (LEO) will triple in 200 years, increasing the probability of collisions between them for 10 times.

Until now, little attention has been paid to formulating laws and regulations to alleviate the problem of space debris. The Outer Space Treaty (OST) is considered the "magna carta" of space law. It is too general to address the issue of space debris, although a clause in Article 9 of the TMB requires countries to notify and interact with space that the previous country may develop Negotiations in other countries affected by the foreseeable potential harmful consequences of the activity.

Furthermore, articles 7 and 6 of the OST grant countries jurisdiction over space objects registered in their national registries and prevent them from assuming international responsibilities in relation to national activities in outer space. However, this does not prohibit a country from generating space debris, nor does it force them to dispose of it after it has been generated. On the other hand, the "Convention on International Liability for Damage Caused by Space Objects" (the "Liability Convention") establishes a system of liability for damage caused by space objects. However, the "Liability Convention" only focuses on causation and damage, rather than preventing or mitigating space debris. The “Guidelines for the mitigation of space debris” (“Guidelines”) adopted by the United Nations in 2007 is the only international instrument that deals specifically with the issue of space debris. However, the non-binding nature of the guidelines makes it difficult to follow.

Despite the guidelines and various technical solutions, the growing problem of space debris still exists. The study emphasized that the core of the current problem is the lack of incentives. Currently, satellites do not consider the risk of collision they bring to other operators when they are launched. Satellite operators cannot guarantee exclusive property rights to their orbital paths or recover collision-related costs imposed by others. Therefore, operators ultimately face two choices: launch a profitable satellite and bear the risk of future collision costs, or not launch satellites and leave these profits to competitors.

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This has led to what economists call the "tragedy of the commons", in which individuals destroy shared resources for their own benefit.

Research has shown that this problem can be curbed by incentive-based solutions, such as annual tariffs or tradable permits (track taxes) on the rails. The orbital tax will help quantify the economic benefits of satellite operators using their respective satellites to implement desorption technologies. Additionally, the additional cost of operating satellites will affect the decision to launch satellites into orbit.

According to research estimates, the proposed tax or fee will quadruple the value of the satellite industry by 2040, making it a $3 trillion industry. Since recent years, the Indian tax authority has focused on broadening the tax base through digitization and e-governance. Additionally, there may be tax uncertainties and litigation situations, which can lead to tax requirements. Therefore, it is essential to understand the potential impact of new developments in the tax and regulatory fields and thus prepare for the challenges.

KPMG's International Tax and Regulatory Services (ITR) team is comprised of professional tax experts with in-depth technical knowledge and practical experience. Clients can rely on them on corporate tax and regulatory matters. The team advises on various tax matters and helps clients manage the complexity and cross-border challenges of multiple tax systems.

Tax and regulatory frameworks in India and around the world are changing rapidly, complicating an already complex and uncertain tax environment. This is questionable for all aspects of international taxation. So let's clarify this:

• There is no other law that studies international taxation.
• International Taxation There is no separate court.
• The Income Tax Act of 1961 sets out certain individual regulations regarding the taxation of foreign transactions.

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The provisions of domestic law apply to the treatment of cross-border direct and indirect taxes. The new globalization has been proven to boost the Indian economy, thus challenging the Indian tax authorities to secure the possibility of collecting international related dues. However, observing the other aspects of this figure, tax experts and space technologists are competent enough to handle important tax issues, so this does not seem to be a difficult task.

Here, the UNOOSA department should take the lead in delegating operations to countries to get an accurate picture of the transaction and prevent space debris.7


CONCEPT OF RESIDENCE IN SPACE:

DTA article 4 provides that, for DTA purposes, under the National Income Tax Act, if the person being assessed resides in that country, he is considered to be resident in that country. So, let's first think about Indian domestic law. Article 4 Language is complex. We want to use a common language that can be applied to the tax laws of some countries7. I'm trying to explain the reason for the complexity. Next, the rules will be simplified and explained.

Residence under domestic law: How do you determine the residence status of the evaluated person? India provides definitions of individual residence status in the sixth category of Income Tax Act. Similarly, every government has its own legislation that provides its own definition of residence. There is a huge difference between the other definitions. For example, consider an individual. Article 6 of the

7. The Concept of “Residence”- Taxation (rashminsanghvi.com)
Indian Income Tax Law stipulates the physical accommodation of individuals. If an individual is physically present in India for a specified period, he is a resident of India. If he is present within the specified period, he is a non-resident of India. Very simple definition⁸

However, the Internal Revenue Code (IRC) of the United States provides that: All citizens of the United States are tax residents of the United States. Even green card holders are tax residents of the United States. This is true even if the person being assessed has left the United States for a long overseas work/business.

In the UK (UK), the concept of residence status is very complex. Consider Mr. U, a resident and citizen of the UK. He goes abroad for work and stays abroad for 5 years. On vacation, he visits his parents in England. He continues to own homes, bank accounts and investments in the United Kingdom. This may be considered a good connection to determine that he has been a resident of the United Kingdom all the time.

When India signs a treaty with Britain. How would the treaty define status of residence? And India has agreements with almost 80 countries. If every country has a different definition, how can the OECD or the United Nations (UN) create a way of justice in a model treaty? The best solution adopted in the Convention is that it does not define the status of residence of the Convention. The treaty refers to domestic law. In other words, whether you live or not is determined by the Domestic Income Tax Act.⁹

There is another complication. Some laws may not mention the term resident. The law can simply say that the citizens of a country have to pay taxes in that country. The reference is incomplete unless the treaty now mentions the resident and domestic law does not even mention the resident.

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⁸. In this presentation we are referring to the Indian Income-tax Act. As far as International taxation principles & issues are concerned, the same are applicable to almost all countries.

⁹. Tax controversies under DTA arising out of Residence.
In order to resolve such difficulties, Article 4 of the Convention briefly stipulates as follows. If one person pays taxes in that country, he or she is a resident of that country. The DTA language has become complicated when using a common language based on DTA, which can embrace other legislative systems in other countries.\(^{10}\)

So far, we have seen three problems under the provisions of Article 4. Any person who is obliged to tax residence-related elements under national law is considered resident for the purposes of the Convention. We have three concepts: (i) tax obligations (ii) tax obligations due to status of residence and (iii) these responsibilities are subject to national law.

The classic taxation system, as seen above, also assumes tax jurisdiction when income is sourced from it. If the assessed subject is a non-resident of India. For example, Mr. NR is likely a citizen and resident of the United States. However, he is earning interest in India. This interest income is taxed in India depending on the connection of the source of income, not the eligibility for residence. Mr. NR is not considered a resident of India simply because he pays taxes on income generated in India.\(^{11}\)

In other words, because a person is a resident, citizen or address of that country, he is considered resident of that country only for the purposes of the Convention if he pays taxes in one country. His income is generated in that country, so if tax liability arises, he will not be considered a resident of that country for the purposes of the Convention.

Now coming to the concept of residence outside planet earth or in space – unlike the income from individuals or companies that are put in the soil of other states, the states launch satellites and human space flight, send its astronauts to the space for various commercial and exploration purposes.

Under these circumstances the space here may be considered as another soil, and for the purpose of bringing those human space flight and satellites into the purview of “taxation”, they may here be considered as resident outside planet earth.\(^{12}\)

\(^{10}\). M. A. Rafik’s case, (213 ITR 317 AAR)

\(^{11}\). Chettiar case (CIT V. P.V.A.L. Kulandagan Chettiar 267 ITR 654

\(^{12}\). Cyril Pereira’s Advance Ruling (239 ITR 650)
Just to bring them under the purview of the national legislations, and tax the income that has been derived by them for their respective launching countries this principle shall be followed in order to avoid the big issue of space trash.

In this connection, various countries have notified the status of seafarer. Likewise, the same principle may be applied to human space flight, space tourism etc.\textsuperscript{13}

One of the example for this principle of seafarer is Indian concept of “residence” in their domestic law, i.e. the income tax act. Which Notice No.70 / 2015 F.No. 142/12/2015TPL In order to calculate the number of days outside India, when a ship moves from a port of delivery to a port other than India or vice versa, it shall be calculated from the day of sign-on entered in the continuous discharge of days outside India. By the sign-off date, the Crew Certificate (CDC) has been entered into the CDC.

Also, if sailors come to India to spend with their families after departure, they must stay in India for less than 182 days to qualify as a non-resident.

1. A crew member joins a ship and the ship sails in Indian waters for only 190 days in 1920. Also, the sailors have stayed in India for 400 days in the last 4 years. In this case, the seafarer resides in India for at least 182 days in the current year and at least 365 days in the last 4 years, since both conditions must be met.\textsuperscript{14}

2. A crew member joins a ship and the ship is sailing in Indian waters for 190 days in the year 1920. However, the sailors have been in India for 300 days in the last 4 years. In this case, the seafarer assumes that he has been in India for the past 4 years and is not in India because it is less than 365 days despite his/her stay in India this year is more than 182 days.\textsuperscript{15}

3. A crew join the ship and the ship has been sailing in Indian waters for 160 days in the year 1920. However, the sailors have been in India 400 days in the last 4 years. In this case, the seafarer is a non-

\textsuperscript{13} Green Emirate Shipping and Travels (286 ITR 60)

\textsuperscript{14} Azadi Bachao Andolan’s case

\textsuperscript{15} [(263 ITR 706 (SC)
resident of India because he has been in India for more than 365 days for the last four years, but has been in India for less than 182 days in the current year.

4- A seafarer signs on on May 1, 2019 and signs off on January 1, 2020. Both dates are on the CDC of all seafarers. Therefore, the time from sign-on to sign-off is 246 days. However, from May 1, 2019 to July 1, 2019, the only ship was Indian Waters. Therefore, the total number of days on the ship Indian Water was 92 days.  

However, if the vessel is sailing in an Indian port at an Indian port or at a port of India under the Income Tax Act, the period during which the seafarer was in the waters of India to determine the number of days outside India. Is also taken into account. Conversely, it is necessary to consider the sign-on and sign-off periods as described on the CDC. Therefore, seafarers are non-residents, as they have stayed in India for less than 182 days for less than 119 days. Thus, similar principle may be applied to human space flight and space tourism in the international concept.

In general, the location in which a company is administered determines where it resides for tax purposes. Technological advances have resulted in extended out-of-Earth movement and residence, creating the potential for legal entities to be controlled from space. This also raises the question of artificial intelligence and decision-making regarding business problems and decision-making made in robots. "Anyway, you might be asking where the management is taking place," Schwartz said. “Considering the already automated processes in fund management, the possibility of an entity existing in the universe is everything.”

We must also consider the concept of the origin of the universe: Where does your job exercise? This is usually the place where you physically do the work. So if these activities are carried out outside the territory of a country, what does this mean for taxation?

There are several cases already in the US that have come across this: LeTourneau v IRS Secretary, T.C. Note 201245 is an example dealing with crew handling. In this case, we investigated who is taxed when...

16 . Vodafone International Holdings Vs. Union of India [341 ITR 1 (SC)]
flight attendants fly over a country and who is taxed when flying over the high seas says: "The interesting thing about Ruturuno's decision is that when flying over the high seas, it is not in the territory of any country, so the Tax Commission has concluded that it is not in a foreign country. Therefore, remedies valid for work abroad do not apply in that situation."

Article 15 of the OECD model also states that if you are a crew member of a ship or aircraft in international transport, your income is taxed only in your country of residence. "What is" international transportation"? This is a bit more difficult problem in this situation as there is no international traffic starting and ending in the generalized area. A trip that begins and ends in Kazakhstan may not fall under "international transport" even though it takes a year to travel on a space station.

**Permanent Establishment in Geostationary Orbit:**

Another concept that becomes clear is the problem of proving permanent establishment in geostationary orbit. Recently, the Government of India has taken various legislative measures to extend the scope of the provisions considered in the Income Tax Act (Act) of 1961 to directly import with taxes that guide non-resident income. Most notable of these is the retroactive revision of the law to address the impact of the Indian Supreme Court's decision on the Vodafone case. This amendment has a change in Section 9 of the method of describing income generated or expected to be generated in India, and all income resulting from the transfer of shares, regardless of location, is in India. Then it will be taxed in India. Another interesting example in this regard is the handling of royalties and fees for technical services provided to non-residents and the amendment of the same provisions of the 2012 Banking Act. Organization for Economic Cooperation and Development (OECD) Member States ['OECD'] Taxes non-resident businesses only in certain narrow circumstances. Tax treaties generally state that the business interests of a foreign company are fixed facilities in that country (hereinafter `the interests belong to PE`).

The most important issue of international financial law under the Convention is the concept of PE, as tax treaties generally stipulate that the business interests of foreign companies will only be taxed in that country to the extent, they have PE in that country. The three model treaties, the United Nations model, the OECD model and the US model, use PE as the primary vehicle for establishing tax jurisdiction for the business activities of all foreigners.

Currently, the OECD model tax treaty defines a permanent establishment in accordance with Article 5-
"The term permanent establishment refers to a fixed place of business where a company conducts all or part of its business".

In addition, Paragraph 2 and 3 stipulate what is included in the definition of PE, and paragraph 4 provides certain exceptions to the definition above.

In a landmark decision, CIT v. Visakhapatnam Trust Regarding the issue of "permanent establishment", the High Court of Andhra Pradesh observed the following:

"Permanent establishment" is assumed. On the other hand, the existence of substantive elements permanent or permanent character of a foreign company can be attributed to the fixed place of business in the country / region. Its nature must be a virtual projection of a foreign company in one country on the land of another country.

Most A relevant question for developing countries may be how to identify a permanent establishment and how to attribute benefits to it, rather than developing complex methods to compensate for more challenging tax avoidance strategies. Therefore, in any critical review of possible routes that can be proposed for developing countries, particular attention is paid to administrative issues: theoretical solutions that are difficult to implement or implement should be discarded.

India's Position in regard to Permanent Establishment of Satellites in Space:

The issue of taxes on operations Satellite and international roaming payments has been a major litigation matter in India. The tax authority tried to tax it in accordance with Article 9 of the Income Tax Act 1961. Most of them try to include it in the scope of royalties or demonstrate that non-residents have a permanent establishment in India to that accumulated income or accumulated assumptions can be taxed.

It can also be understood from the following cases.

1. In the case CIT v. Goodyear Tire & Rubber Co, the High Court held that even if a nonresident has business connections in India, if he does not conduct business in India, his income cannot be taxed in India. Therefore, payment cannot be made within the scope of Article 9 (1) and Article 5 (2)

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17 CIT (1976)108ITR335
2. In Asia Satellite Telecommunications Co., Ltd. and DCIT and New Sky Satellite NV and ADIT\textsuperscript{18}, Popular TV channels such as STAR TV, STAR Plus, STAR News, etc., are operated in India by Hong Kong Satellite TV Asia Co., Ltd\textsuperscript{19}. This company has signed a transponder lease agreement with Hong Kong Asia Satellite Telecommunications Co., Ltd\textsuperscript{20} so that the content developed for the Indian public can be used in India Broadcast in the satellite footprint area. The fact that the footprint area includes India and the end consumers / viewers are watching the programs in India, even if they are uploaded and broadcast outside of India, does not mean that the appellant conducts business in India. The appellant did not install machines, computers, etc. in India, and the program reached India through these machines and computers. The amplification and rebroadcasting process of the program is carried out on satellites not located in Indian airspace. The transponder works independently.

Therefore, the Delhi High Court followed (IshikawajamaHarima Heavy Industries Ltd. Director of Income Tax) and believes that services provided outside India have nothing to do with permanent establishment in India, so there is no procedure in India or any commercial territory of India. India attributable to India. Therefore, the Superior Court held that the income obtained by the appraiser did not comply with the “Royalties Commission” defined in Interpretation 2 of Article 9 (1) (vi) of the Income Tax Law.

3. At Nimbus Sport International Pte Ltd Vs DDIT\textsuperscript{21}, Nimbus is an Indian media and entertainment group with channels such as Neo Sports and Neo Cricket. A company called Nimbus Sport International Pte Ltd was incorporated in Singapore. The arbitral tribunal held that the advertising revenue is not attributable to India, that there is no permanent establishment in the traditional definition of the term, and that the revenue cannot be taxed in India.

\textsuperscript{18} ITA NO. 131OF 2003

\textsuperscript{19} ITA 7907 DEL 2019

\textsuperscript{20} 2003 85 ITD 478 DELHI

\textsuperscript{21} ITAT-ITA 242/DEL/2008
4. In the case of Neo Sports Broadcast (P.) Ltd.\textsuperscript{22} the taxable law of the cost of live events in India was resolved. The arbitral tribunal held that the fees paid for the “live broadcast” of a cricket match outside of India were not royalties. It also noted that the grant of certain rights developed on a commercial basis does not in itself constitute a commercial connection in India. The Amendment to the Tax Law of 2012 added an explanation, which was inserted in Section 9, Subsection 2.

In the latest update of the OECD tax treaty model, it is discussed whether a satellite in a geostationary orbit (i.e. always over the same point on the earth's surface) can become a permanent establishment (taxable entity) in its orbit or transmit signals to it / area. The following is the full citation from the OECD model treaty given in the UN document:

\textit{Article 5.5 Obviously, if the relevant place of business is located in the contracting state, the permanent establishment can only be considered in the contracting state. Express. That state. The question of whether a satellite in a geostationary orbit can constitute a permanent establishment of a satellite operator is partly related to the extension of a country's territory into space. No Member State will agree that, according to applicable international law, the location of these satellites can be part of the territory of the Contracting States and therefore can be considered as a permanent establishment located there. Also, the specific area (the satellite "footprint") where the satellite signal can be received cannot be considered available to the satellite operator, so that area is the commercial location of the area.}

The position of the satellite operator, OECD is consistent, thus showing that, based on other aspects of international law, this is unavoidable. But consider this: Most commercial satellites in the world are owned by companies in OECD countries. Many (perhaps all) developing countries have satellites that permanently orbit them and transmit signals on their territory, and on the ground, they have no companies that profit from the industry\textsuperscript{23}. Under the OECD's position, it is impossible for developing countries to increase the income tax of companies in this sector.

\textsuperscript{22} 2013 MUMBAI ITAT TAXXMANN.COM 53

There may be a broader philosophical discussion than taxation, as the OECD comment suggests, about "how far a country's territory extends in space." But I think the result of this point regarding satellite "footprints" is that a country has no right to treat satellites as taxable entities, for example, if it broadcasts commercial television to its residents or provides GPS to people in its territory.

If my guess is correct, it will be a very interesting discussion. For example, a quick internet search shows that the satellite's fixed position in geostationary orbit means that it is not considered personal property for US state tax purposes, which may mean that it is a fixed place of business for international companies. For example, a quick internet search shows that the satellite's fixed position in geostationary orbit means that it is not considered personal property for US state tax purposes, which may mean that it is a fixed place of business for international companies.

What is the position of the BRICS, some of which have their own emerging aerospace sector? The OECD Consultation Document has already hinted that there are differences among its members on this issue.

**NEED FOR SPACE COURT TO DEAL EXCLUSIVELY WITH MATTERS RELATING TO SPACE JURISDICTION AND TAXATION OF ITS EXPLORATION:**

Since the first rockets launched in the 1950s, space has always been our last frontier position. Recently, as more and more private companies enter the field, space exploration has made tremendous progress. The resulting travel direction is clear: research upwards and settle on planets, build more and more space stations and low-orbit spacecraft assembly stations, and start asteroid mining operations to obtain key materials.

All of this means more launches, more people, and more "things" in space, our orbits, and farther away. This is Moore's Law written on the stars.

But with the rise of Moore's Law, Murphy's Law also continues: What can go wrong will go wrong. In space, a lot can go wrong. To solve the problem, the space company can appoint the DIFCC Space Court as the court to resolve any dispute in its commercial contract. In the contract agreement, the applicable court and jurisdiction in case of dispute are usually stipulated. Looking to the future, DIFCC is open to trade disputes caused by space incidents.

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Therefore, although the courts will hold meetings on the DIFCC field rather than in space, legal teams and judges will need to gain the necessary experience to be able to hear cases in space.

**CONCLUSION**

Training and the development of guidelines and best practices will be the key to ensuring that the Dubai Space Court is the court of choice. This is a complex and difficult task. But as the UAE develops its aerospace ambitions and becomes one of the few countries on the planet to reach Mars, it finds itself completely within the limits of Dubai.

So the obvious question is whether a case in the space court can be filed. I think this is where science fiction-locked minds have to sit in the back seats for a while. It's not about hyperdrive crashes, external warship attacks, or tele transporters who haven't reassembled our bodies as expected. Often, routine equipment failures and components are not provided on time. It may contain substandard materials or design defects. More dynamically, a space court compromise may be necessary where satellites collide or collide with spacecraft. The space court is to decide liability, damages and liability.

While space law is nothing new, an important next step will be for the space courts to develop and establish their worth as a commercial go-to court for these matters. Partnering with key private sector players and gaining their trust to become a specialized court for commercial agreements will be a big win. At the same time, scenarios will need to be developed to better understand the kinds of cases that might emerge in this relatively novel environment.

Exploring and operating in space is about attempting to understand a different context, under different assumptions and in an evolved landscape. Those challenges will extend downward to the space courts. Once there is an advanced understanding by leveraging partnerships and experts, it will be possible to train lawyers to be ready for anything that might happen in a place without gravity.

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