

The Statement of Thailand to the 64th COPUOS

Agenda Item 5: Ways and means of maintaining outer space for peaceful purposes

26 August 2021

Vienna, Austria

Mr. Chairman,

Thailand would like to address issues regarding the construction and operation of small satellite constellation systems in Low Earth Orbit (LEO). We believe this is a significant issue that will affect the long-term sustainability of outer space activities in the future. At present, States, international intergovernmental organizations, and non-governmental entities are planning to deploy groups of small satellites into Earth's orbit because it is inexpensive and expandable, especially for commercial activities. This movement will provide an essential opportunity to achieve sustainable development goals, especially for developing countries. However, it could also bring legal challenges because of the lack of binding regulations regarding the increased risks of orbital collisions, the proliferation of space debris, and radio frequency allocation and harmful interference.

As small satellite constellations are launched, the potential for collisions with other satellites in outer space will be increased. In this regard, Article IX of the Outer Space Treaty 1967 (OST) deals with obligations relating to the protection of the outer space environment. However, most are not sufficient to deal with the potential of satellite collisions.

Space debris proliferation is also a significant concern due to the increasing use of outer space by spacefaring nations and their non-organization entities. The increase of space debris in LEO by the launch of small satellite constellations has been envisaged due to the satellites having a short average lifespan of three to five years. They will become debris in space. The main issue that stems from small satellite constellations is that they will cause a dramatic increase in space debris in the future if these laws remain unchanged. Currently, there is no hard law either in the form of an international treaty or any other global framework that aims to deal with this anticipated problem. In terms of space debris, the existing international law regimes, specifically the 1967 Outer Space Treaty and the 1972 Liability Convention, only deal with the consequences of damage caused by space debris. They do not consider the generation of defunct space debris.

Mr. Chairman,

All satellites in outer space need to use orbital slots and radio frequencies to communicate with their Earth station. They are indispensable tools for satellite communications. Apart from the environmental considerations, these increasing numbers of satellites could lead to congestion in useful orbits and an increased potential for conflict over frequency bands. Because radio frequency is recognized as a limited resource, there is a risk of frequency shortages when more and more satellites are launched. However, the challenges are becoming more evident with the launch of small satellite constellations because the existing resources of the ITU are under-equipped to address these issues.

The International Telecommunication Union (ITU) has adopted the concept of equitable access, which is the presumption that each country should have the right to have access to space at all times. This concept is part of Article 44(2) of the ITU Constitution. It refers explicitly to the GEO, a circular orbit positioned about 35,786 kilometers above the equator. However, non-geostationary Earth orbit (NGSO) satellites, particularly LEO satellites, are not governed by the idea of an equitable access principle. Rather, these orbits and related radio frequencies and orbital slots are being allocated on a first-come, first-served basis. The number of satellites in non-geostationary orbits (NGSOs) is forecast to grow dramatically. Because there is an ongoing demand for broadband services, many satellite operators are planning to deploy small satellite constellations for broadband communication service in the Ku-, Ka-, and V-bands. Some of them have already started launching. Consequently, new challenges are expected for an increased potential of harmful interference with the existing satellites in Earth's orbit.

Mr. Chairman,

Thailand would like to support the international cooperation to address the legal challenges and the sustainability of the peaceful use of outer space as the province of all mankind as they evaluate these new space activities. This use of small satellite constellations also creates an opportunity to establish the appropriate legal mechanisms to comply with these activities. The existing outer space legal regimes governing space activities are not suited to this unprecedented commercial space activity because the drafters created them without knowledge of small satellite constellation systems. The lack of legal clarification is a significant concern and must be resolved as soon as possible. Therefore, international cooperation is a critical component to ensuring the long-term sustainability of outer space activities. Action must be taken by the international legal regimes that regulate the proliferation of small satellite constellations. The new legal framework will promote the long-term sustainability of space activities for all sectors engaged in the small satellite constellation industry in the future, including States, international intergovernmental organizations, and non-governmental entities.

Thank you for your kind attention.
