

Thailand's statement
Agenda Item 14: General exchange of views on the application of
international law to small-satellite activities
by Mr. Suwijak Chandaphan, School of Law, Mae Fah Luang University
at the Sixty-First Session of the Legal Subcommittee of
the Committee on the Peaceful Uses of Outer Space
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Madam Chair, distinguished delegates,

Thailand, as a non-spacefaring nation that is taking advantage of small-satellite technology, would like to discuss matters related to the application of international law to small-satellite activities. Several projects are currently in operation or are being developed by our country, including Earth observation satellites (THEOS-1 and THEOS-2) and small satellites for national security (NAPA-1 and NAPA-2), experiments in science and technology, and research by academic institutions and nonprofit organizations (BBCSAT-1, KNACKSAT, and JAISAT-1). Thailand also recognizes the importance of the long-term sustainability of outer space activities as related to the legal issues associated with the use of small satellites in outer space, especially the operation of small-satellite constellations in low Earth orbit (LEO). On this subject, Thailand delivered a statement to the 64th session of the UNCOPUOS, declaring that Thailand is committed to ensuring that future space activities involving small satellites be managed in an effective, sustainable way.

The legal regimes that govern outer space activities are unsuitable to the current novel developments in commercial space activity, especially the use of small-satellite constellations to provide global internet access from LEO. Recently, many nongovernmental entities have become actors in space and have assumed unprecedented roles in space activity. The use of small-satellite constellations presents an excellent opportunity to connect the world, but it simultaneously creates legal challenges as well as space environmental concerns associated with the congestion of LEO and the rapidly growing amount of space debris, which increases the potential for satellite collisions and the likelihood of damage to functional satellites. In this context, Thailand wishes to express its concerns about cybersecurity in outer space.

The emergence of global internet access from LEO comes with cybersecurity vulnerabilities, as small-satellite constellations operate on the basis of internet-based communication networks and rely on cyber technologies for their functioning. These mega-constellations generate valuable data, making them targets for cyberattacks, which are typically directed at data or the systems that provide it. One of the more severe potential consequences of a satellite cyberattack is the loss of control of a satellite. There is no limit to the damage that could be done if hackers gained control of satellites.

Under international space law regimes, the concept of cybersecurity in outer space remains ambiguous. Even though “space activities” were broadly defined, cyber activities were not considered during the treaty negotiations in the 1960s, and those negotiations did not anticipate commercial space activities, including the operation of small-satellite constellations, which did not then exist. Furthermore, cyberattacks affecting the era’s thoroughly segregated computer

space systems were unimagined. Cyber borders are not the same as physical borders. Cyberspace does not admit the demarcation of territorial sovereignty, as it is not based on physical location, and assigning territorial sovereignty to cyberspace is time consuming.

Cybersecurity in outer space has the potential to affect national sovereignty and the global economy. Therefore, rather than amending existing legal regimes to deal with this issue, Thailand supports the concept of a multi-stakeholder international legal regime for space cybersecurity, as establishing cybersecurity standards and risk management mechanisms necessitates technical measures and a regulatory framework. International cooperation is the only way to provide a fully coordinated approach to cyberspace protection, which is consistent with the fundamental premise of international cooperation and collaboration in space. Consequently, all stakeholders must collaborate to build a successful system. In terms of technical measures, the new legal regime should employ the existing non-legally binding security standards proposed by states and the corporate sector and should develop new standards for space systems as needed. The new legal regime will promote the long-term sustainability of space activities for all sectors engaged in the small-satellite constellation industries of the future, and it will enhance the sustainability of the peaceful use of outer space as the province of all mankind as we evaluate these new space activities. By this approach, the exploration and use of outer space will be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development, which is a significant principle enshrined in the Outer Space Treaty.

Thank you for your kind attention.
