India

Statement in 60th LSC 2021

Agenda Item 13:General Exchange of views on the application of International Law to small satellite activities

Madam Chairperson and distinguished delegates

India has considered Space as a vital part of technological development for betterment of the life of common people. Long term sustainability of Space activities is a priority at this juncture to sustain utilisation of outer space and the applications of space technologies for the benefit of mankind.

India would like to draw the attention of the esteemed subcommittee towards the legal aspects applicable to small satellites. Over the last decade, small satellites have gained increasing popularity for space based applications and as demonstrators of new technologies, because they are relatively affordable and simpler to manufacture in a standardized manner, cheap to launch via rideshare, and also easy to operate. Despite the limited lifespan, small mass and dimensions, proliferation of small satellites poses risks for the long-term sustainability of the near-Earth space environment and are capable of causing serious damages to high valued space assets.

Madam Chairperson

Most of the small satellites lack the propulsion system for orbit manoeuvre. Also most of the small satellites lack capability of being precisely tracked, and rely on two-line-elements, for their day-to-day operations. The lack of accurate orbital elements directly affects close approach assessment. Therefore, in case of a critical close approach, the onus of collision avoidance falls solely on the bigger, conventional spacecraft operator. The obvious fallout is increased operational burden, undue disruption in payload service, and fuel spending.

One of the foremost difficulties faced while dealing with small satellite operators is a lack of information to contact them, particularly since some of those satellites will only be in orbit for a short time. The satellites may not even be registered in their respective national registries, especially in States that lack adequate regulatory and administrative provisions for this purpose.

Madam Chairperson

Of late there is a trend towards constellations of small satellites which offer significant advantages for applications like global communication, Earth observation, space-based surveillance, etc. Such large constellations of small satellites without manoeuvrability and trackability are expected to significantly increase the collision risk to other operational satellites in an already crowded LEO.

In the absence of any regulation on orbital slot allocation, some of the small satellite constellations are likely to be launched in orbital slots overlapping with the prime operational orbital slots for Earth observation and over time, it may make it untenable for planning future missions of larger satellites. The small satellites usually lack the specific capability of post-mission disposal due to onboard constraints and rely on natural perturbation induced decay to remove themselves from the operational orbitals. They are inherently more prone to on-orbit failures due to the usage of commercial-of the shelf components. Consequently, they pose significant short term debris hazard.

Madam Chairperson

It is generally accepted that the satellite operators have the right to operate as many satellites while following the existing international legal framework and guidelines. As per the Outer Space Treaty, outer space shall be free for exploration and use by all States and the activities of non-government entities shall require authorization and continuing supervision by the relevant State Party to the Treaty. However, the OST also states that the space activities shall be guided by the principle of cooperation and mutual assistance and States shall conduct all their activities with due regard to the corresponding interests of all other States Parties to the Treaty.

It is necessary that the small satellites and large constellations, duly follow the UN mitigation guidelines for Space Debris including Post Mission Disposal.

Madam Chairperson

In view of the aforementioned points, India urges the subcommittee to take the necessary steps to evolve the basic guidelines to enable small satellites to operate without causing undue operational interference and other implications for other satellite operators. India also believes that a more systematic and standardized approach in the context of small satellites should be evolved. India requests to initiating a wide stakeholder consultation in this regard and evolve a framework for addressing the above issues. We will play a constructive role in that direction.

Thank You Madam Chairperson