Position Paper

Committee- United Nations General Assembly
Topic- Space Traffic Management with Special Emphasis on Small Satellites
Country- Canada

Space traffic management is an operational idea for the safe exploitation of outer space as new space actors arise and as existing space-faring states increasingly make use of outer space for a variety of civil, military and commercial purposes. The number of objects orbiting Earth has grown substantially in recent years. This increase is already straining the existing systems for tracking and managing space traffic, and the problem is only getting worse.

Canada supports international initiatives suggesting a step by step approach to address space security. As per the Canadian Space Policy Framework 2014, the Canadian Government is committed to ensure that Canada is a sought-after partner in the international space exploration missions that serve Canada's national interests. The policy framework clearly indicates that national sovereignty, security and prosperity are the key drivers of Canada's activities in space.

Canada has been a leading voice in the area of space debris mitigation and became a full member of the Inter-Agency Space Debris Coordination Committee in 2010.

As well, David Kendall, formerly with the Canadian Space Agency, has been the Chair of the United Nations Committee on the Peaceful Uses of Outer Space for the last two years. In a recent podcast with SpaceQ he discussed the issue of space debris and how some new guidelines have been agreed to by all members.

The Canadian government's contracting arm is backing a proposed new satellite system that will use big data analytics to provide commercially available data about the Earth and its orbit amid growing concerns about the risks posed by space debris.

The Canadian Department of National Defence has developed a satellite-based space debris observation system called Sapphire, which is combined with the ground observation system and contributes to the US surveillance network of USSTRATCOM.

Support from the Canadian Commercial Corporation (CCC) will allow Canadian startup NorthStar Earth and Space to negotiate initial service agreements with the United States, Britain and other countries, NorthStar CEO Stewart Bain said. The deal with CCC will be signed on Monday at the Paris Airshow.

The United States and other governments already collect such data, but demand for near real-time information that is commercially available is growing rapidly, with experts forecasting a "new space" economy worth over $1 trillion a year. "This agreement puts us in a strong position to work with the United States, the UK and other countries to deliver our services," Bain told Reuters, noting the government of Canada and Quebec had each already invested $13 million to date. Private investors in the project include Telesystem Space Inc. of Montreal, the majority shareholder, and the Space Alliance of Europe, which was formed

by Telespazio and Thales Alenia Space, a joint partnership formed by France's Thales and Italy's Leonardo. NorthStar's proposed system calls for the 2021 launch of a new constellation of small satellites that will use an array of hyperspectral, infrared and optical sensors to continuously monitor and analyse the Earth's ecosystems and orbit. The company said its system would use big data analytics and artificial intelligence to make sense of the huge amount of information and accurately predict potential collisions with debris and other objects in space, while helping to validate and improve the performance of existing surveillance systems.

There are certain responsibilities for the spacefaring countries such as Canada. The responsibilities are such as – the responsibility to respect the rights of other spacefaring and legitimate stakeholders, the responsibility to develop and abide by the rules of safe space operations and traffic management, the responsibility to share information related to safe space operations and traffic management and to enhance cooperation on space situational awareness etc.

There was also a draft international convention made on the removal of hazardous space debris. This conventional draft is intended to involve an International Technical Institution. It is proposed that under the convention, state parties convey powers to the ITI as to require owners and operators to remove their hazardous space debris objects and to take measures in case the owner or operator fails to comply with the removal request.