

International Cooperation for Space Exploration (1)  
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INTERNATIONAL COOPERATION IN SPACE EXPLORATION : MANAGING THE LOW EARTH  
ORBITAL ISSUES: ABSTRACT BY DR SANAT KAUL

**Abstract**

The unsustainability of NearSpace is getting confirmed by the increasing number of Space participants both Governmental and non-Governmental. As democratisation and commercialisation of NearSpace becomes more viable with decreasing costs of launch and reducing size of satellites, the unsustainability of Near Space is actually dawning upon us. Space is no longer an infinite region. The Low Earth Orbit (LEO) is getting congested with new satellites as well as with abandoned, dead satellites, floating objects. All these along with other unknown objects are termed as Space Debris which is floating around the Earth in an orbit. Therefore, LEO is becoming a dangerous place to operate. Recent estimates by scientists and experts place space debris at 128 million pieces. What is required to be done in LEO is not only cleaning up of debris but introduction of Space Traffic Management with environmental safeguards.

Even the International Space Station(ISS) which is a floating platform at a height of about 240 km above the earth for the last 20 years or so , had to fire 75 thrusters at great fuel expense to shift its position to avoid space debris from hitting it 26 times on its limited power resources to avoid a collision.Lack of regulation is becoming nightmare in Space. Between the five Space Treaties signed between 1967- Outer Space Treaty (OST) and the 1972 Moon Agreement, the growth of international legislation on OuterSpace has been weak. The last Moon Agreement has seen very few ratification that too not by any major powers or Space faring nation. The United Nations office of OuterSpace ( UNOOSA)has worked hard but is constrained by its limited mandate.

However, international cooperation is happening in Space between like minded countries. For example, in 1998 with Inter- governmental agreements between US, Russia, Japan, European Union and CSA for setting up the International Space Station (ISS).

The second attempt is now taking place with Artemis Accord proposed by NASA of United States. After 50 years of first landing on the Moon on 16th July 1969 NASA of United States would like to re-start manned human flights to Moon and thereafter Mars with other like minded countries keeping the provisions of the Outer Space Treaty of 1966 in mind and not violate it. Already five nations i.e. USA, Japan, Italy, Canada and Australia have already signed up for it.

Another interesting aspect of New Space is the increasing interest of big private sector as well as Startups entering commercial Space with both large and small/ nano satellites enter the LEO in very large numbers. This development, however much welcome, needs proper regulation to ensure safety in Space.

How to regulate LEO? We have examples from AirSpace, High Seas, Antarctica and Arctic region. AirSpace has been regulated by ICAO in the last 75 years to become the safest mode of transportation. We need to actively think of doing the same in NearSpace