Paper ID: 66374
oral

IAF SYMPOSIUM ON SPACE SECURITY (E9)
Political, Legal, Institutional and Economic Aspects of Space Debris Mitigation and Removal - STM Security (1-A6.8)

Author: Mr. Hamza Hameed
Unidroit, Italy

SECONDARY MARKET FOR SPACE ASSETS – THE ECONOMIC CASE FOR ON-ORBIT SERVICING AS A MECHANISM TO EXTEND SATELLITE LIFE CYCLES AND MITIGATE SPACE DEBRIS.

Abstract

The development of new technologies in the area of on-orbit servicing allows for a new level of flexibility and resilience in evaluating the lifecycles of space objects. As the number of slots available in congested orbits reduces, and the costs associated to debris monitoring, mitigation, and remediation grows, and as more emphasis starts to be placed on the importance of utilising space in a sustainable manner, on-orbit servicing, alongside a secondary market for space objects can provide a cheap alternative for operators looking to make use of already existing space capacity. This paper will analyse the economic case for operators and governments for promoting and using on-orbit servicing as a mechanism towards reducing their space debris footprint. It will consider the legal and regulatory challenges associated with repurposing satellites, as well as with the development of a secondary market for space objects, where satellites already in obit are bought and sold from one operator to another.

The paper will examine the existing rules and regulations which apply to in-orbit sales of satellites, as well as their economic and political benefits and drawbacks. The paper will showcase, by way of examples, the use case for a market in space where operators and/or governments can rely upon acquiring already existing space capacity rather than having to develop their own. This use case has benefits in terms of costs, as well as in terms of reducing the number of space objects which have to be launched. The paper will also look at the drawbacks which have been the result of a lack of such a market thus far, by way of examining bankruptcies of satellite operators and the consequent abandonment of functional satellites.

In conclusion, the paper will provide policy recommendations which agencies and governments can adopt to enable the development of a secondary market in space, which would be supported by new on-orbit servicing technologies. It will note the importance of such a market in allowing States to mitigate space debris and to allow access to space to more operators and service providers from within their jurisdictions.