

## IISL COLLOQUIUM ON THE LAW OF OUTER SPACE (E7)

Dr. Jasentuliyana Keynote lecture by a leading space law expert and IISL Young Scholars session (1)

Author: Ms. Thea Dethlefsen  
Leiden University, Denmark

ON-ORBIT SERVICING: REPAIRING, REFUELLING AND RECYCLING THE LEGAL  
FRAMEWORK

**Abstract**

On-orbit Servicing (OOS) will revolutionize the satellite industry, by offering tools that enable life-extension and debris remediation. However, the advanced technology heightens the risk of liability for damages and the overall perceived security in space. In addition, OOS challenges the traditional concepts of ownership, responsibility and liability in the international space treatise. Whilst OOS is not prohibited under the current legal framework, it is clear that the legal framework needs to be supplemented in order address the new challenges.

The legal implications of OOS are manifold. They appear in different phases of the OOS mission, and in different missions depending on whether they are international or national.

Based on the findings of the regulatory landscape, the paper offers various suggestions as to how the legal, political, economic and technological challenges can be best met from an adaptive governance point of view. This approach focus on flexible and pragmatic solutions. National space law is seen as the entry point for addressing the issues through an OOS license. Eventually this may develop into bi- or multilateral agreements.

Therefore, the most pragmatic way forward seems to be through national space legislation based on reciprocity. An OOS license could be made to be broad enough to encompass the agreement between the servicing satellite State and the serviced satellite State, wherein the States consent to the mission, address the question of liability (potentially through a cross-waiver) and agreed to adhere to established on orbit servicing standards. In order to create harmonisation of the national licenses, UN resolutions can make recommendations on State practice. Despite their non-binding character, these resolutions have traditionally been used to supplement the interpretation and development of international space law.

OOS can drive change in space activities, not only for the commercial use of space but also for the sustainable use, and it is therefore important that these regulatory challenges are met.