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Legal framework for collaborative space activities - New ways of launching (micro-launching) and large constellation microsats (Joint IAF/IISL session) (7-B3.8)

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LARGE SATELLITE CONSTELLATIONS AND FREQUENCY SPECTRUM ALLOCATION – THE  
ADEQUACY OF SELECTED NATIONAL PROCEDURES

**Abstract**

In 2017, there were at least five private companies working on their planned constellations ranging from hundreds to thousands of satellites in Low Earth Orbit. In the realm of efficient management of scarce frequency resources in LEO, one of the concrete challenges these mega constellations raise is ensuring non-interference with existing terrestrial networks and satellite constellations. On the administrative level, the procedure to ensure non-interference is yet another challenge.

The International Telecommunications Union (ITU), via its Member States, gives the approval to the companies for their chosen frequency spectrum. This paper looks at the interaction between the companies, their (chosen) national administration and the ITU, in practice. Focusing on the legislation of selected European States, it namely examines whether the notification and coordination procedure - which must be initiated at the national level as per the Radio Regulations - is implemented in a similar way. It further considers any discrepancies and consequences for the applicant companies and the States.

Not least, in light of the battle for valuable spectrum which is then elevated to the international level, the question arises if the commitment of the private companies, providers of global coverage and spectrum-competitors, can bring forth the elusive “hand shake” between the relevant ITU Member States.

These issues are addressed with special attention to the large constellations and the incentives/criteria backing their choices for selected national administrations. The paper considers the latest technological developments as well as goals of the mega constellations and addresses the adequacy of the current national procedures.