

59th IISL COLLOQUIUM ON THE LAW OF OUTER SPACE (E7)  
Legal Challenges Represented by Large Satellite Infrastructures and Constellations (4)

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RESPONSIVE, ON-DEMAND SMALL SATELLITE CONSTELLATION LAUNCHES FROM THE  
STRATOSPHERE: AN OPPORTUNITY FOR THE EUROPEAN LAWMAKER

**Abstract**

One saying goes: The United States innovates, China copies, Europe regulates. This is certainly not entirely true, but does reflect the climate for entrepreneurs in Europe. The advantages of innovating in Europe are certain and the demand is real. Projects for dedicated small satellite launch vehicles to effectively build constellation are flourishing on the continent, from air-launch scenarios using a standard airplane, to one-stage-to-orbit small rockets. One scenario, called bloostar by zero2infinity, involves first launching a balloon from a ship, then igniting a rocket at 20km altitude. Apart from the technical and financial challenges of getting such projects off the ground for private actors in Europe, one of the defining challenges of these projects is legal.

While regulation is responsive, in this case, some regulation and decision-making will be asked of the European regulator before the satellites get launched, especially in terms of launch licenses, insurance requirements and frequency regulations. The position adopted by European States and the European Commission on these issues have the potential to make or break certain projects. It also gives rise to the possibility of some of these actors to relocate to clearer skies, or shall we say, more permissive skies. This paper will especially focus on the launch vehicles expected to put into orbit small satellite constellations. If allowed, or even encouraged, the multiplication of actors in this field will have a certain number of consequences: - rise in the number of satellites in orbit (space debris guidelines, de-orbiting regulations) - routine launches to Space from small vehicles able to operate from tarmacs or from the high sea (decrease of the risk of space activities, due to smaller vehicles, but increase in the risk of having uncontrolled actors) - small companies teaming with other small companies or universities to make access to Space low-cost (current license and insurance requirements may be disproportionate)

These will be detailed in the paper, together with recommendations for the European regulator on how to take advantage of this market trend to contribute to the competitiveness and international commercial strength of the continent.