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Norms and Standards for Safe and Responsible Behaviour in Space (3)

Author: Ms. Clémence Poirier

European Space Policy Institute (ESPI), Austria, clemence.poirier@espi.or.at

Mr. François BUFFENOIR

Way4Space, France, f.buffenoir@way4space.com

Mr. Alberto Rueda Carazo

European Space Policy Institute (ESPI), Spain, albertoruedacarazo@gmail.com

Mr. Clément Lingoïis

Way4Space, France, clement.lingoïis@gmail.com

ASSESSING CURRENT POLICY, LEGAL, AND R&D DEVELOPMENTS IN THE FIELD OF
IN-ORBIT SERVICES**Abstract**

In light of the increasingly congested and crowded space environment, in-orbit services have emerged as a potential technological solution to improve space sustainability and contribute to responsible behaviour in space. However, there had been concerns regarding the emergence of a true commercial market for In-Orbit-Services due to a lack of concrete business cases as well as technological and legal obstacles. Yet, since Northrop Grumman's MEV-1 demonstration of 2019, which first proved the business case for life extension services in GEO, many developments have occurred. Other pioneering missions and operations were performed, new concepts and business cases were unveiled, and public and private investments have increased along with developments in the policy and regulatory landscape.

This paper is part of a broader study conducted by the European Space Policy Institute (ESPI) and Way4Space to provide an overview of the evolving landscape of in-orbit service and provide policy recommendations for the future of European ambitions in this field. This paper will first map current European in-orbit servicing, assembly, and manufacturing capabilities and their underlying business cases. Then, it will provide an overview of the status of private investments in in-orbit servicing technologies in Europe. Finally, the paper will analyse the national and European regulatory and policy developments in this field along with a comparative assessment with policy and legal developments in other major spacefaring nations.