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(E9)Policy, Legal, Institutional, Economic and Security Aspects of Debris Mitigation, Debris Remediation and
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COORDINATING AND CONVERGING REGULATORY FRAMEWORKS FOR SPACE DEBRIS
MITIGATION THROUGH A LEGAL AND TECHNICAL REVIEW OF STATE PRACTICE.**Abstract**

Space debris is a clear and well-recognised threat to the long-term sustainability of space activities. Responding to this concern, national regulatory measures have been developed to ensure space actors mitigate the generation of further debris and widespread global efforts of this nature could support the development and convergence of international norms. The formal authority and enforcement capabilities of state-based regulation make an attractive potential solution to space debris, but devising an effective regulatory framework is complicated.

In 2014 the United Nations Office of Outer Space Affairs compiled submissions to the Committee on the Peaceful Uses of Outer Space to form the *Compendium of space debris mitigation standards adopted by States and international organisations* (The Compendium), representing best efforts to establish norms of behaviour for space debris mitigation. This paper reviews and comparatively analyzes those frameworks in The Compendium for their effectiveness in terms of functionality, acceptance, completeness, and enforceability.

It is evident that state-based ‘command and control’ regulation is vulnerable to some modes of failure. Information failure may arise from the asymmetry between the regulator and the regulated, while motivation failure results from the disinterested nature of state regulation, which does not strive to maximise the potential of the regulatory tools in problem-solving market failures – instead merely maintains a minimum acceptable standard of upholding international legal and political obligations. Although these ‘command and control’ measures prevent gross departures from responsibility, they do not encourage excellence; it is possible to do the bare minimum to comply, with little incentive to do more.

Understanding these faults in state-based regulation means that new efforts and reforms can benefit from hybrid models which merge strengths and eradicate weaknesses. Through comprehensive and coordinated regulatory efforts, space actors may be compelled to act more responsibly throughout design, procurement, operations, and disposal; ultimately preventing congestion of the shared environment and ensuring all people of generations present and future have a chance to benefit from space.