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Policy, Legal, Institutional, Economic and Security Aspects of Debris Mitigation, Debris Remediation and  
STM (8-E9.1)

Author: Ms. Gabriella Mifsud  
Clyde & Co, United Kingdom, gabriella.mifsud2@clydeco.com

Ms. Darcy A Beamer-Downie  
Clyde & Co, Canada, Darcy.Beamer-Downie@clydeco.com

Ms. Inês Afonso Mousinho  
Clyde & Co, United Kingdom, ines.afonsomousinho@clydeco.com

Mr. Aron Dindol  
Clyde & Co, United Kingdom, aron.dindol@clydeco.com

CAN SPACE INSURANCE ASSIST IN NUDGING THE INDUSTRY TOWARDS LONG TERM  
SUSTAINABILITY?

**Abstract**

The challenges of space debris mitigation is not a new topic. Warnings about the effects of space debris have been growing louder and without urgent, specific, and international collective action, access to Earth's orbital space could be lost. Various initiatives have been advanced by organisations at an international level, such as through UNCOPUOS and the IADC as well as a series of domestic initiatives across the globe. There is, however, little indication that the space industry has embraced mitigation measures in any material way. The National Research Council and NASA have both warned that we have reached a space debris tipping point, suggesting that even without any future space launches, additional debris will continue to be created simply as a result of collisions between existing orbiting debris - creating even more debris – all of which will be smaller and harder to track but no less lethal. Historically, the dialogue around safeguarding long term space sustainability has broadly centred around two major solutions: the first is the utilisation of technology, such as tracking, to deal with existing space debris and the second is the utilisation of manufacturer techniques to limit orbital break-up and ensure that no new space debris is introduced. Whilst these measures are undoubtedly critical, there is a greater and positive role to be played by other stakeholders, such as underwriters, to incentivise better space behaviours. To that end this paper will first outline generally existing non-technical space debris mitigation measures adopted and promoted by regulators and the effectiveness of those measures. Subsequently, suggestions will be made as to specific measures that could be adopted and deployed by space underwriters to nudge operators towards better and more systematic space debris mitigation, and what the consequences of such measures could mean for the market. In so doing, this paper will consider comparable measures in analogous industries, such as those in the maritime industry, in relation to similar environmental risks and whether those measures can inform or incentivise the space industry to adopt long term sustainable activities in earth's orbital space. Overall, this paper seeks to highlight the importance and urgent need for coordinated, proactive steps beyond those being suggested at present. In considering the further development of an industry framework specific to space debris mitigation this paper will suggest that space insurance could be part of the solution.