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EVOLVING LEGAL, ECONOMIC, AND COMMERCIAL PARADIGMS IN SPACE DEBRIS  
MANAGEMENT A COMPREHENSIVE APPROACH FOR THE ASIA-PACIFIC REGION

**Abstract**

The growing number of space debris, such as defunct satellites, exhausted rocket stages, and other discarded items circling the Earth, poses a risk to space operations and space infrastructure. A comprehensive approach that includes legitimate, economic, and commercial measures to avoid potential collisions and maintain the viability of space activities is required. This study highlights the critical need for global cooperation, technological progress, and the formulation of descriptive policies to effectively address this issue. The study emphasizes the necessity for an extensive legal framework due to the current deficiency of international legislation specifically targeting space traffic management (STM) and debris mitigation. Such a framework should define responsibilities for debris removal, establish liability for collisions, and advocate for the adoption of best practices in space operations. Additionally, the economic repercussions of space debris on countries engaged in space endeavors throughout the Asia-Pacific (AP) region and the risks to existing space infrastructure, as well as the wider economic impacts, are also brought to attention. This study also explores numerous commercial opportunities within space debris management, including active debris removal (ADR), space debris tracking and monitoring, and the creation of spacecraft designs resistant to debris, along with related insurance products. These initiatives aim both at mitigating the space debris issue and encouraging regional innovation and economic development. We underline the importance of non-spacefaring nations in contributing to a legal framework for space debris management, reflecting the universal nature of this issue. This study advocates for an integrated strategy by merging legal, economic, and commercial perspectives to confront the intricate issues faced by the AP region and the wider global space community. The research lays the groundwork for future partnerships, stressing the urgent need for a dynamic and inclusive approach to secure the future sustainability and safety of space activities. An integrated strategy combining legal, economic, and commercial measures is essential to address the complex challenges posed by space debris, ensuring the sustainability of space activities for the future.