

IAF BUSINESSES AND INNOVATION SYMPOSIUM (E6)
Interactive Presentations - IAF BUSINESSES AND INNOVATION SYMPOSIUM (IPB)

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PUBLIC-PRIVATE PARTNERSHIPS: GOVERNING INNOVATION AND TECHNOLOGY
DEVELOPMENT IN THE SPACE SECTOR

Abstract

Since the launch of Sputnik in 1957, the advancement of space technology has been exponential. During the late twentieth century, technology development was the domain of government-funded space agencies, institutes, and research groups. However, in the twenty-first century, the commercial sector has emerged as a key player in the development of space technology. The exponential increase in space activities during the past two decades has been driven by a significant increase in the number of space-faring nations but more significantly by the expansion of the commercial space sector. Under contract from government agencies, private companies are undertaking activities including transportation services to the International Space Station, construction of space station modules, and all aspects of technology development for the Artemis missions and the Lunar Gateway programme. This shift provides both opportunities and challenges for international cooperation which are crucial for advancing both space technology and exploration.

Government agencies are undertaking diverse approaches to outer space; as investors, facilitators, and customers to the private sector. As part of the rapidly changing dynamics of the space sector, public-private partnerships are becoming increasingly important, particularly for innovation and technology development. However, there is a lack of clear regulatory frameworks and governance structures to guide these partnerships, especially those operating transnationally. The current outer space governance framework for the space environment is not equipped to deal with the current space age, in which private companies have become major players.

This paper will investigate the governance structures and regulatory frameworks used to manage transnational public-private partnerships in the space sector. Using qualitative assessment methods, this paper will present an overview of the opportunities and challenges of using public-private partnerships to govern transnational space technology development and space exploration activities between government agencies and private companies. This paper will contribute to the growing discourse on public-private partnerships in the outer space sector and propose a strategy for future academic research and policy recommendations.