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THE ECOSYSTEM ASCENDANT: UNPACKING THE SHIFT FROM NATIONAL PROGRAMS TO SPACE ECOSYSTEMS

Abstract

The beginning of the space age was marked by competition between nations to achieve remarkable technological accomplishments through their respective space programs. However, as space activity has become more commercialized in recent years, the term 'space ecosystem' has emerged as a popular buzzword in space-related discussions. This has led many countries to restructure their national space strategies, shifting their focus from advancing their own individual space programs to developing a broader ecosystem. In this article, I aim to delve into the origins of the concept of a space ecosystem and explore its significance in global space activities, asking why, when, and how the 'ecosystem' found its way into the global space activity. Using an international relations perspective, I will examine the relationship between national security and economic considerations in the evolution of the concept of an ecosystem in space activity. I argue that exogenous and endogenous factors related to the dual-use nature of space technology at both national and international levels created fluctuations between the government and private sectors, which gradually shifted perceptions regarding commercial space activity in the context of great power competitions. This has expanded the discourse from national programs to larger and more comprehensive ecosystems. Therefore, the concept of an ecosystem has become increasingly meaningful in the trajectory of space activity, both conceptually and operationally.