

The New Space Economy: Innovations, Challenges, and Future Pathways

Cattleya Delmaire

The Excellence Center of Space Technology and Research (ECSTAR), King Mongkut's Institute of Technology Ladkrabang (KMITL), Bangkok, Thailand

Settapon Malisuwan

The Excellence Center of Space Technology and Research (ECSTAR), King Mongkut's Institute of Technology Ladkrabang (KMITL), Bangkok, Thailand

Abstract:

The New Space Economy, a dynamic frontier driven by private and public sector innovation, is transforming humanity's relationship with space. Characterized by reduced launch costs, advancements in reusable rocketry, and the proliferation of low-cost satellites, the New Space Economy has democratized access to space, fostering a competitive and inclusive environment. This study employs a secondary qualitative methodology, integrating data from academic publications, industry reports, and government documents to provide a comprehensive analysis of the emerging opportunities, challenges, and strategic pathways shaping this economy. This research contributes to the academic and practical understanding of the New Space Economy by identifying avenues for innovation, investment, and collaboration that drive economic growth and sustainability in the space sector. It provides recommendations to policymakers, investors, and industry leaders, addressing barriers to entry, regulatory challenges, and technological limitations. Additionally, it enhances stakeholder awareness of the transformative potential of space activities in tackling global challenges such as climate change, resource scarcity, and economic inequality. This paper emphasizes the transformative potential of the New Space Economy in driving economic growth, addressing global challenges, and fostering sustainability, providing actionable insights for stakeholders to harness its full potential and contribute to a prosperous future in space.

Keywords:

New Space Economy, Satellite-Air-Ground Integrated Networks (SAGIN), Low Earth Orbit (LEO), Public-Private Partnerships, Sustainability.