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FUTURE ISSUES FOR COMMERCIAL SPACE SUSTAINABILITY SUGGESTED BY SPACE
INDUSTRY SOCIO-ECONOMIC TRENDS

Abstract

As the space industry continues to mature and diversify in both structure and applications, considerable effort has been made in recent years to research and describe the underlying trends that are supporting and enabling this growth. These studies include:

- Efforts to quantify and characterize the total size of the space economy, such as the annual Space Report, published by the Space Foundation.
- Efforts to quantify and map investment capital and sources flowing into the space industry, such as the Start-Up Space study published by the Tauri Group in February 2016.
- Efforts to understand linkages between technology trends and economic returns, such as the Global Trends in Civil and Commercial Space study published by the Science and Technology Policy Institute in October 2015.
- Efforts to size and forecast specific segments of the space-sector value-chain such as Earth observation and satellite communications market forecasts regularly published by consulting firms such as Euroconsult and NSR.
- Efforts to quantify satellite launch rates and service types, such as the annual small satellite launch forecast published by SpaceWorks.

While these studies provide actionable quantitative data to guide market and investment approaches; what is often missing is cross-cutting analysis between studies focusing on qualitative trends and issues uncovered by the quantitative datasets. Comparison of data contained in these efforts can provide important insights into the policy and environmental issues and challenges that will affect the future development of a functioning and sustainable space economy. This paper will present findings from a comparative analysis of trend data focusing on identifying cross-cutting issues that affect the continuing sustainability of the space operating environment. Continued economic development of, and return from, the space industry requires a space environment that remains accessible to all industry actors. Maintaining this environment will require collaborative attention and action from all of those involved in the space industry, including companies, regulators, and investors. Through a literature of the published studies mentioned in this abstract, and others, this paper presents a comparative analysis that: compares multiple studies; identifies common themes, topics, and issues suggested by the datasets, and analyzes them for policy and strategy aspects that pertain to space sustainability. The findings will describe issues that require action from corporate strategy, investment approach, and policy frameworks.