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SYMPOSIUM ON BUILDING BLOCKS FOR FUTURE SPACE EXPLORATION AND
DEVELOPMENT (D3)

Space Technology and System Management Practices and Tools (4)

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PUBLIC-PRIVATE PARTNERSHIPS FOR SPACE CAPABILITY DEVELOPMENT: DRIVING
ECONOMIC GROWTH AND NASA'S MISSION

Abstract

In 2013, in recognition of the need to identify areas where investments in space technology and space development could lead to economic growth and feedback into sustained investments, NASA headquarters constituted an agency-wide study to identify potential areas for public-private partnerships that could help meet NASA's mission objectives as well as generate significant economic returns to the American economy. The resulting report on 'Public-Private Partnerships for Space Capability Development: Driving Economic Growth and NASA's Mission' is scheduled to be released in 2014. The study focused on 10 areas of space capability development that show positive indicators of private-sector interest and investment, new business formation, and alignment with NASA's goals – thus making them strong candidates for economic stimulation with increased NASA partnerships.

The objective was not to provide a single set of answers but rather to explore a set of questions. Where could increased NASA demand stimulate a generalized capability next, as it did with semiconductors? Where could NASA help develop and demonstrate the technology for a whole new industry – as it did with the commercial satellite industry? Where could NASA apply the commercial space partnership model pioneered in the COTS program to further develop the capabilities creating a market for NASA and other customers for sustainable exploration of the solar system, leveraging private sector investment and NASA expertise driving economic growth in the process? The report provides some of the core material - empirical data and economic analysis - to assist with thinking through these critical questions. This report provides empirical data and economic intelligence in the following areas – satellite servicing, interplanetary small satellites, robotic mining, cargo transportation beyond Low Earth Orbit (LEO), crew transportation beyond LEO, microgravity research for biomedical applications, liquid rocket engines for launch vehicles, wireless power, space communications, and earth observation data visualization.

This paper summarizes the results of this report and explores how the report supports 'building blocks' strategy for space exploration and development and how pursuing the identified areas within a 'building blocks' framework could help lead to sustained budgetary support and a diverse set capabilities and activities.