

26th SYMPOSIUM ON SPACE POLICY, REGULATIONS AND ECONOMICS (E3)
Industrial Policies as Drivers of the Space Economy (3)

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MECHANISMS FOR DEVELOPING SPACE TECHNOLOGIES

Abstract

Over 60 countries are currently investing in space-based applications. Motivation for this investment differs from nation to nation, from larger RD driven space budgets supporting technology development in ranging applications, to smaller, more nascent programs selectively picking which applications to invest. The rationale for these nascent, or in-development programs, again varies. Which application area, and the mechanisms for acquiring this technology depends on the policy drivers in place to support the development of such activity. These drivers consider: satellite requirements to meet local/regional needs, the economic and socio-economic benefits brought by the investment, the intention to establish a local space industry, amongst others. The differences in these drivers impacts the way in which technology is sort by nascent programs. A country which has no intention of developing a space industry, but has high requirements for space-based technology (such as satellite communications capacity or Earth observation data) may look to directly procure a satellite system from a third party supplier; however a country that wants to develop an industry, partners with established industry in order to provide technology transfer (or localization) and take the first steps towards building a wider space infrastructure and program – potentially with the establishment of a space program. First generation satellites developed by these nascent programs may focus (for instance) on small EO platforms as a low-cost way of rapidly acquiring space technology. Second generation programs are however more developed, with increased investment. A country's industrial capabilities are a net result of both heritage and continued support to missions' development, and a political drive to gain autonomy in satellite manufacture. The more extensive the program to manufacture satellites then the faster an industrial base has the chance to develop. This presentation as well as demonstrating the differing mechanisms in which countries acquire space technologies also assesses the net results of more countries acquiring such technologies: the overall growth in government space-based investment, increased supply of satellite solutions, the emergence of new industrial actors to serve local requirements, and eventually providing increased completion to established industry. This growing activity also calls for greater coordination at a regional and global level, to prevent replication of activity and maximise to the greatest extent the combined investment.