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Economic analysis of both actual and potential future benefits from space activities and applications to nations and peoples. (3)

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NATIONAL SPACE INNOVATION SYSTEMS : THE INDIAN FRAMEWORK

Abstract

The national innovations system is a framework that enables analysts and policy makers to understand the integration of technology, economy, with focused inputs and outputs. We focus on the space economy and market in India. The motivation of the development of the Indian space program, founded as INCOSPAR in 1962 as part of the Department of Atomic energy, was rooted within the applications of satellites with a focus on remote sensing, communications , television broadcasting and disaster management support. The space sector controlled solely by the government focused on space solutions for human benefit as opposed to military or defense applications. The unique and possibly only active space program with no commercial component until the last decade is studied through a systemic approach between government policy, the liberation of the Indian economy and the growth of commercial manufacturers. The Indian space program: INCOSPAR later known as ISRO, a government controlled body whose prime objective was in using space applications for earth observation and as solutions for problems on the earth. The space program operated within a closed economy until 1991 considered an economic liberalization, abolished import and industrial licensing , control regulations and turned towards privatization of several industries that were largely government controlled. Space however was not privatized until 2021 with the launch of ISpA (Indian Space Association). The last decade has seen the launch of private startups and companies operating in the 'privatized' sector of space as service providers. The Indian space program is studied through the structure of the national space innovations system and answers the questions : 'Why is the space sector in Indian not commercially motivated, why does ISRO not deal with Military contracts, what are the social applications of the remote sensing abilities of the organization and what the growth of private space startups within the next decade define for the sector. Through the study and analysis, the paper also combines the strength and exponential impact of the software industry on industrial space activities and its influence on the private space market share. The study also factors in the geo political position of India and its policies with regard to collaborative technical innovation.