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Is Space R&D Truly Fostering A Better World For Our Future? (2)

Author: Mrs. Xia Yu

China Academy of Launch Vehicle Technology(CALT), China

Ms. Lingli Sun

Beijing Institute of Spacecraft System Engineering, China Academy of Space Technology (CAST), China

Mrs. Kun Dai

China Academy of Launch Vehicle Technology (CALT), China

Ms. Jia Zhang

CALT,CASC, China

Dr. Saili Tang

China Academy of Launch Vehicle Technology (CALT), China

Mrs. shu zhang

China Academy of Launch Vehicle Technology (CALT), China

RESEARCH ON THE INDUSTRIAL IMPACT OF AEROSPACE DISRUPTIVE TECHNOLOGY

Abstract

Aerospace disruptive technologies are technologies that can fundamentally change the state of existing aerospace technology to better meet the needs of users. They could be completely new technologies, innovative applications of existing technologies or combinations of innovative technologies (performance attributes). Aerospace industry has two distinct characteristics. Firstly, there are a wide range of related industries between the upstream and downstream industries in the aerospace area, vertical correlation effects are significant. The aerospace industry often has high research and development capabilities and key support from the national policies, the diffusion and driving capability as the core leading industries is obvious. Secondly, because of the high technical barriers to entry and exit the field of aerospace, and the guidance of national strategies and macro-control on the production of the industry, it is difficult for the industry to have more adequate competition and a large amount of homogenized competitors as other industries, but rather oligopoly. Oligarchic departments often have their own division of labor and key areas, so horizontal technology spillover is difficult to imitate. Therefore, the effect of the proliferation is not clear, and the negative impact on the industry is also very limited.

1. Mechanism of disruptive technology impacting on aerospace industry The disruptive innovation in aerospace field will transform the traditional technology of aerospace industry, promote the development of high-grade high-precision advanced technologies, speed up the upgrading of leading industries, upgrade the technological level of industries and bring new industries and products, change the overall industrial structure of aerospace industry and finally realize the industrialization.

2. Mechanism of disruptive technology impacting on other industries Aerospace disruptive technologies can directly and indirectly impact on other industries. Firstly, the aerospace industry as the leading core industry, has a direct impact on the upstream industries in the industrial chain through technological spillovers and other means, and drives the overall economic and social development. In addition, the disruptive technology in aerospace has a huge indirect effect on economy and society, mainly due to its supplement to the existing knowledge system, its contribution to basic research, its help to the improvement of national status and other positive benefits that promote social diffusion.