

16th IAA SYMPOSIUM ON BUILDING BLOCKS FOR FUTURE SPACE EXPLORATION AND
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LOOSENING OUR GRIP ON INNOVATION: ENCOURAGING CHANGE IN MILITARY SPACE
TECHNOLOGY

Abstract

Science and technology are pervasive in all aspects of economies, militaries, governments, and civilian life worldwide. The currents of national science and technology power flow beneath all other forms of national power. By themselves, science and technology do not grant power. They are merely tools through which other national power is expressed. The integrated circuit, one of the most startlingly large technology leaps of the 20th century, would not have had any impact on American national power at all had it not made its way onto projects such as Apollo. It is not enough merely to innovate: ease of adoption is key to leveraging science and technology to produce other forms of national power.

Science and technology power is directly connected to how well the national entity in question (for the purposes of this paper, the military) adapts to change. This paper will examine several case studies in various countries which revolve around the use of technology in space to increase national security.

Each case will include a broad and a narrow focus. The broad focus will concern the relationship of the military at large to innovation in science and technology, focusing on national security space, and how it is organized (disaggregated or centralized, tightly controlled or given free reign, generously funded or on a tight budget, etc). The narrow focus will evaluate a certain technology event and how easy or difficult it was for the corresponding military organization to adopt the new technology.

The results of this study show that governments and national entities which attempt to centralize and tightly control innovation fail to use science and technology to their fullest potential in the pursuit of national power (this is especially true for large, entrenched national militaries). The inherent tension between science and technology progress and the existing military status quo makes strict centralization and overbearing governance self-defeating activities.