

Trusted Innovation: Positioning for the US-China Military Innovation Competition

May 2021

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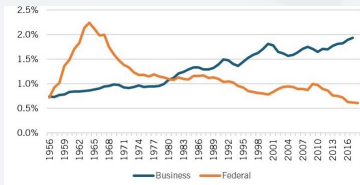
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Military Innovation Balance

Key Drivers & Constraints of Relative Military Innovation in US-China Great Power Competition

Commercial R&D

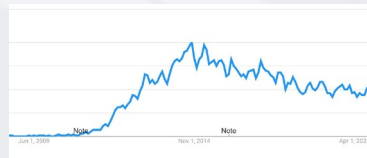
Business & USG R&D as a Share of GDP



Source: ITIF

IT Revolution

Interest over Time: "Big Data"

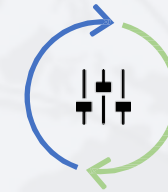


Source: Google Trends

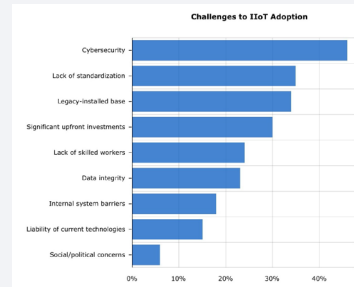
Industrial Capacity & Infrastructure



Operational Concepts, Use Cases, Applications



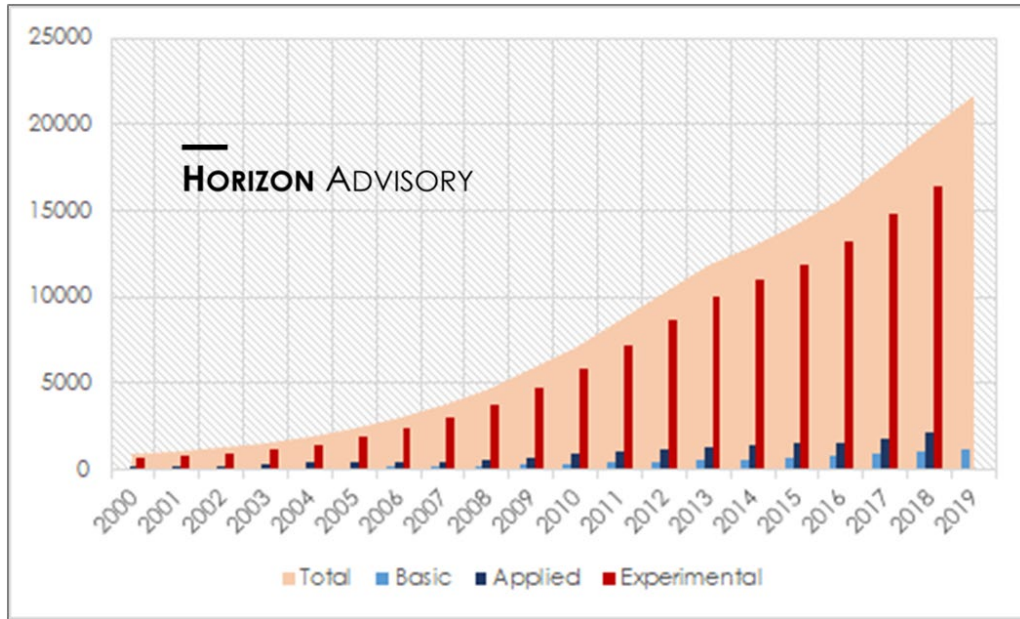
Incumbency



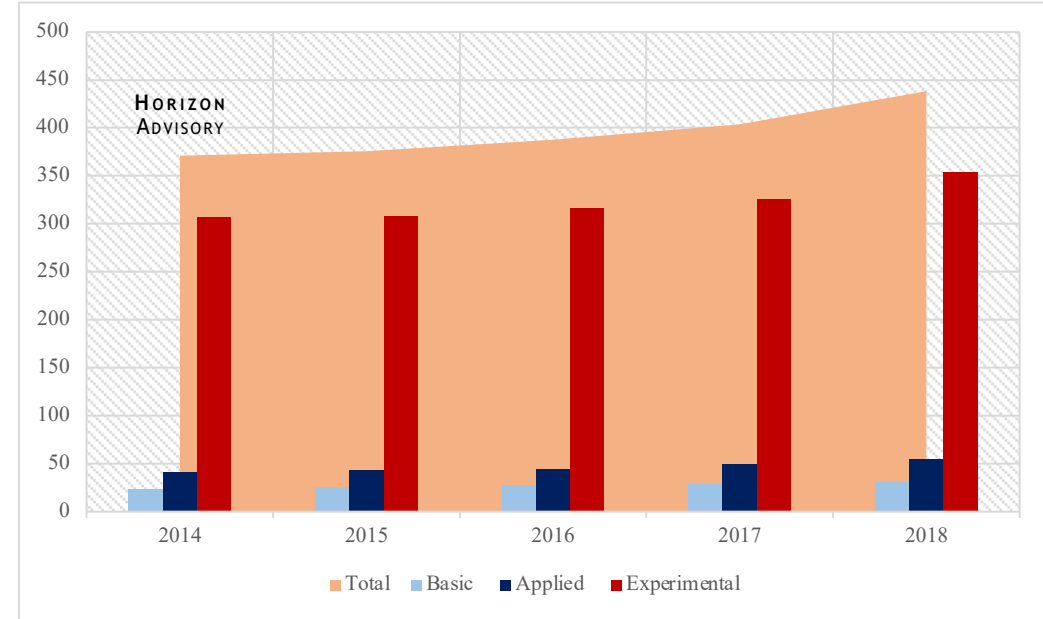
Source: Morgan Stan

China's Leapfrog Positioning

Chinese R&D Investment by Stage



Chinese R&D Personnel by Stage



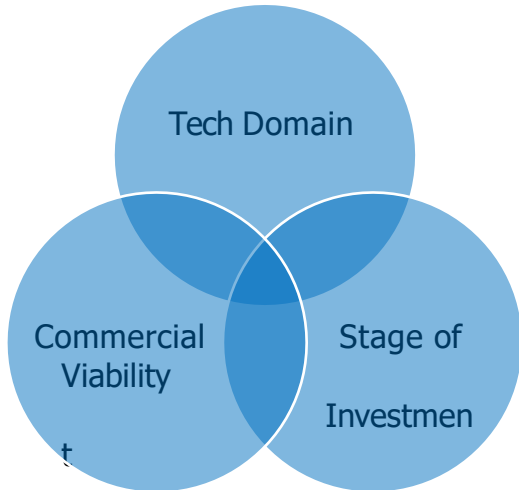
“Industry, technology, and innovation are developing rapidly; **global technical standards** are still being formed. This grants China’s industry and standards the **opportunity to surpass** the world’s.”

-Dai Hong, Director, Second Department of Industrial Standards of China’s National Standardization Management Committee (2018)

Trusted Innovation



PRIORITIZE



PROMOTE

Investment should seek relative advantage by promoting technological advance that is "trusted" to be independent from adversarial influenced value chains - including those in the commercial sphere that are co-opted.



PROTECT

To protect technological superiority and economic returns, "protect" mechanisms must vet for risks of adversarial influence at the point of investment and be reflected in the definition of requirements. Vetting should identify risks across Capital, Human Capital, Software, and Hardware and in terms of means of indirect influence including access as afforded to investors, technology partners, and customers.

“Enterprise **competition** is no longer a competition among individual companies but rather **among supply chains**”

-National Transportation Logistics Program, PRC Ministry of Transport

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Strategic Implications

The prospective revolution in military affairs provides both an opportunity and a challenge because other countries will try to exploit the technologies in ways that create unforeseen dangers and problems for us.

The lesson of the 20s and 30s that is most compelling to me is that in the first few years of the war, the countries or military establishments that do well are those [that] have made the appropriate effort to develop concepts of operation, made the organizational changes, and did the training and doctrine development. Our challenge is to be the leader in this even more than in the development of technology or of new weapon systems. In fact the design of new systems needs to be tailored to the concepts of operation that are seen as being the most efficient and effective.

-Andrew W. Marshall, 1994

Issues for
Future
Research

Historical Case
Studies for
Lessons Learned
in Investment,
Divestment, and
Competitive
Shaping

Narrative
Framing to
Overcome
Public-Private
and Multilateral
Divides

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