

PUBLIC-PRIVATE COLLABORATION: A NEW NATIONAL MODEL FOR ADVANCING U.S. GLOBAL COMPETITIVENESS

As China persistently progresses in critical and emerging technologies, sometimes pushing the boundaries of international norms, the United States must adapt its conventional approach to technology advancement to guarantee the nation's future security and economic prosperity. A growing consensus suggests that a more collaborative and strategic approach—involving government, industry, academia, and venture communities, while still adhering to traditional U.S. values—should be developed and implemented.

Three key factors are converging to shape the current technology landscape:

- 1 Development of Transformative Technologies:** A handful of technologies will soon be capable of fundamentally changing what is possible. International leadership on these technologies over the coming years will significantly influence national security and economic prosperity for decades to come.
- 2 New Federal Resources:** New federal programs are being established to increase the government's investment in translational or use-inspired research specifically focused on these technologies, while also maintaining the government's historical focus on basic research.
- 3 Recognition of the Need for Collaboration:** There is a growing understanding that the United States must operate in a different, more collaborative manner on critical topics than in the past to be successful within the modern international science and technology (S&T) competition.

A recent conference hosted by MITRE with the support of AFCEA International, Technology Horizons: Public-Private Collaboration for National Competitiveness, explored these trends. The conference brought together policy and technology leaders to discuss the development of critical technologies in the near and long terms, focusing on four key areas: artificial intelligence (AI), microelectronics, biotechnology, and telecommunications.

Key points of discussion at the conference included:

- 1 The Special Competitive Studies Project (SCSP) proposal for engaging stakeholders to create an objective, apolitical, institutional hub focused on technology competitiveness**

This hub would have three components: an action arm, an analytic arm, and a convening arm to coordinate public-private collaboration.

Congress is already considering legislative proposals for a Technology Competitiveness Council (TCC) and an Office of Global Competition Analysis. Alternatively, the President could create a TCC-type group by executive order.

The analytic piece of the collaborative endeavor could be handled by a legislative branch agency like the Congressional Research Service or a federally funded research and development center.

SCSP also recommends establishing a federally chartered nonprofit U.S. Advanced Technology Forum to routinely convene the private sector for strategic purposes.

These approaches could overlap and would not need to be structured as mutually exclusive entities under the SCSP proposal.



Technology Horizons: Public-Private Collaboration for National Competitiveness

Plenary Session Speakers:

Duane Blackburn,
Center for Data-Driven
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PJ Maykish,
Special Competitive
Studies Project

Tess DeBlanc Knowles,
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2 The flagship programs established by the National Science Foundation's Directorate for Technology, Innovation, and Partnerships (TIP)

TIP was created in March 2022 as part of the CHIPS and Science Act passed by Congress. The Directorate brings together academia, industry, government, nonprofits, civil society, and communities of practice to advance competitiveness in 10 critical technology areas while addressing five societal, national, and geostrategic challenges: national security, workforce development, manufacturing and productivity, equitable access to education, and climate change and environmental sustainability.

One of TIP's flagship efforts involves creating regional innovation engines around the country to establish new translational pathways from research to the marketplace, and to engage diverse STEM talent. The TIP regional innovation program invests in U.S. geographic regions that have yet to see the benefits of the emerging technology boom. TIP plans to build ecosystems around a specific technology or challenge area, funding each project at \$160 million over 10 years. To receive funding, regions must bring together universities, local government, and private sector partners to identify a technology, apply it to a challenge, and build infrastructure in the region.

However, attracting venture capital to regions outside of national tech hubs remains difficult. Investors generally want assurances that an early-stage company has access to a large customer base within 50 miles, allowing the startup to adequately support its clients while it grows and scales its innovations.

3 The National Science Foundation and TIP's STEM education programs

Building and maintaining a tech workforce requires providing opportunities for individuals to acquire tech skills throughout their career, from "K through gray." The National Science Foundation has been on the leading edge, developing curricula in topics like AI and quantum, not only for K-12 students, but also for teachers and for people who want to change careers.

One new TIP program focuses on partnering with industry to develop experiential learning programs in emerging technology fields—a "learning by doing" approach for re-skilling or upskilling people from both traditional and nontraditional educational pathways. This approach aims to make STEM careers attractive and accessible to more Americans, while allowing industry to expand its high-tech talent pool.

4 The Government Effectiveness Advanced Research (GEAR) Center program

The GEAR Center, initially proposed in the 2019 President's Management Agenda and sponsored by the Office of Management and Budget and the General Services Administration, was a research and innovation project aimed at introducing startups to government challenges earlier in their development stages. It was intended to be a network of interdisciplinary public-private partnerships (PPPs) that would assist the federal government in adopting innovative technologies and business practices in federal operations.

There are several key similarities between the GEAR Center's design and the national S&T collaboration model currently being considered, such as:

- Public-private identification of needs and opportunities
- Cooperative creation of strategies
- Collaborative research and pilot projects based on those strategies

The GEAR Center's collaborative operating model was composed of three main groups: the federal government, a network of PPPs to both anticipate potential developments and collaborate on research and development, and an operator entity that would act as both a strategic and tactical coordinator and a reliable intermediary between the government and the private sector.

Due to the COVID-19 pandemic and the change in presidential administrations, the GEAR Center project was put on hold. However, its comprehensive plans could be highly valuable in developing a collaborative model for national S&T advancement.

Conclusion

The United States faces a critical juncture in the global technology landscape, with countries like China rapidly advancing in critical and emerging technologies. To maintain its position as a global leader in innovation and technology, the United States must adopt a new national model that emphasizes public-private collaboration, involving government, industry, academia, and venture communities. By leveraging the strengths of each sector and fostering cooperation, the United States can ensure its future security and economic prosperity for decades to come.

The Technology Horizons conference and initiatives such as SCSP, TIP, and the GEAR Center all provide valuable insights and frameworks for developing this collaborative approach. By focusing on transformative technologies, regional innovation, STEM education, and strategic partnerships, the United States can address both current and future challenges in the global technology landscape.

Ultimately, restoring a shared national purpose and long-term thinking will be critical for the success of this collaborative model. By working together, the United States can continue to lead the world in innovation and technology, ensuring a secure and prosperous future for all Americans.

Center for Data-Driven Policy

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