

## IDEAS FOR TECHNOLOGY LEADERSHIP AND STRATEGY INITIATIVE AGENDA/PROJECTS 2023-2024

### 1. Innovation & Competitiveness Partnerships: A New Defense Industrial Base for the 21<sup>st</sup> Century

#### Potential Themes to Explore, Research, Develop Comms/Advocacy/Storytelling

- **Developing an Adaptive and Agile Industrial Base to Meet U.S. Economic, National Security, Energy, and Sustainability Needs.** A host of emerging technologies are generating game-changing applications in the commercial sector, defense, space, energy, and in achieving greater sustainability across the economy and society. Increasingly, the defense and space industries are reaching into the commercial sector and start-ups for these technologies, and the commercial sector is benefitting from advanced technologies originally developed to meet defense and space missions. Yet, traditionally, defense, space, and commercial have been treated as distinct sectors, even as emerging technologies are increasingly dual-use, and flow back and forth across these sectors blurring their boundaries. How can the United States build a new industrial base integrating these sectors that is adaptive and agile in rapidly exploiting emerging technologies for economic competitiveness, national and energy security, and greater sustainability across all sectors of the economy, infrastructure, and society?
- **Growing U.S. Reliance on New Knowledge and Technology Developed in the Commercial Sector and at Universities.** U.S. businesses and universities perform about a half trillion in U.S. R&D, generating new knowledge and technologies. Universities are also a major source of new high-tech start-ups. The U.S. public sector, including the Department of Defense and its contractors, is reaching more frequently and deeply into these creators of new knowledge and technology for mission applications, and the commercial sector is reaching into universities for new knowledge, cutting-edge technology, and talent. These connections will become more important with accelerating technological advancement, and in translating new generational U.S. investments in R&D, critical technologies, and clean energy into economic and national security impacts for the United States. They also have the potential to undergird a new industrial base that integrates defense and commercial sectors to propel U.S. competitiveness, and national and energy security. How do technology users more effectively collaborate with these technology creators and non-traditional partners?
- **Lowering DOD Cultural Barriers to Increased Use of Commercial Technologies.** DOD's increasing need for technologies developed by commercial companies for commercial markets is creating challenges including developing or modifying organizations and business models to access the technology, and adapting DOD culture to seek and apply technologies developed outside of DOD, the United States, and its traditional contractor base. Experiences have shown that major cultural change and new model adoption are challenging in large, long-established organizations like DOD. What steps can be taken to encourage a DOD culture

more open to outside and non-traditional sources of technology? What changes to defense acquisition can Congress make to encourage DOD engagement with non-traditional sources?

- **Need for Acquisition Reforms to Speed Insertion of Cutting-Edge Technology into Military Systems.** A long-standing challenge in accelerating defense fielding of new technologies and concepts has involved the acquisition process, the budgeting process, and system integrators, but there have not been serious changes to that system. What is preventing reforms in the defense acquisition process for acquiring new technologies? Can it change? How does the system prevent non-traditional partners and start-ups with innovative technologies from contributing to meeting DOD needs. Do we need a system that by-passes the traditional defense acquisition model? What would a new business model look like? What changes in statute does Congress need to make to allow for these new business models?
- **Emerging Parallel System for Defense Innovation.** A parallel DOD innovation ecosystem is emerging, driven by the need to access technology from non-traditional sources, and accelerate technology development and acquisition. DOD and its services branches have established a range of initiatives to this end. For example: DOD established the Defense Innovation Unit, and increasingly uses other transaction (OTA) authorities and limits R&D competitions to OTA consortia. Some efforts to acquire defense systems are based on desired product or system capabilities rather than traditional acquisition specifications. The Army established an Army Venture Capital Corporation, and Army Futures Command/Army Applications Lab, organized around eight broad cross functional teams. The Air Force established AFWERX as the Air Force's innovation arm, and Space Force set up SpaceWerx as its innovation arm. Some of these new innovation operations have outposts in U.S. high-tech hubs, and are working to making it easier for companies to bring their technologies to DOD. What does this emerging innovation ecosystem look like? What can we learn from these initiatives applicable to moving technology with commercial potential from universities, small businesses, and start-ups through the valley of death, and to scale-up for defense? How successful have these initiatives been? Are they having an impact?

2. **Deploying Technology Statecraft with Strategic Allies.** How do we ignite a transformational technology and pro-innovation statecraft with strategic allies and partners (AUS, UK, AUSUK, Japan, EU, transatlantic, etc.)? For example, the CHIPS Act includes \$500 million in funding for an International Technology Security and Innovation Fund to provide for international information and communications technology security and semiconductor supply chain activities, including support for the development of secure and trusted telecommunications technologies and semiconductors. In addition, the new U.S.-EU Trade and Technology Council is providing a platform for the U.S.-EU to advance cooperation and democratic approaches to trade, technology, and security. The Council will address areas of both opportunity and challenge including technology standards, green technology, IT services and data governance and regulation, export controls, and investment screening. How do we deploy a statecraft that advances U.S. domestic interests, advances liberal market principles globally, and counterbalances the technology statecraft China is attempting to deploy around the world? Can the AUKUS agreement be used as an exemplar of a new statecraft at least where the US, UK and AUS are concerned?

