

## ITAR and Innovation: The Export Control Problem

U.S. government security policies related to export controls no longer support long term national security interests and if not modified will likely result in the U.S. military falling further behind in the competition with China. This is because the potential application of these controls is a barrier to the participation in the defense market by some of the most innovative segments of the U.S. economy. Firms in emerging commercial fields such as AI, robotics, quantum and advanced computing, data analytics, and bioengineering fear risking their future viability and commercial sales by cooperating with the U.S. military and potentially getting their solutions “ITARed” or covered under the International Trafficking in Arms Regulations (ITAR).

Commercial firms have found that to work with the Department of Defense requires an extensive “lawyering up” to protect underlying intellectual property from being tainted by the government’s export control process.<sup>1</sup> As with security classification it becomes almost impossible to get rid of an ITAR taint as it cascades down to whatever it touches. The easiest path to avoid this prospect is to never work with the government in the first place – particularly in a joint development process. The second-best strategy is to first sell solutions in the commercial market rather than to the U.S. government and take steps to ensure that a product or service is governed under the Department of Commerce’s jurisdiction rather than the State Department that administers ITAR. Other strategic options include using different parts numbers for identical items sold to the military, slightly modifying items to distinguish them from what is being sold commercially, or selling a lesser or dumbed down version of technology to free up a more advanced version for commercial sales. Finally, the most extreme option is to plan to develop most critical R&D offshore out of the U.S. government’s purview.

The incentives to conduct these types of strategies are not good news for the U.S. They add cost and potentially lead to inferior solutions on U.S. military items, but perhaps more importantly our adversaries will get first crack at these technologies in the commercial market before DOD ever does. That is a big deal when six of the most significant technologies of importance to DOD as identified in the National Defense Strategy are commercial. The U.S. now needs commercial innovation more than ever but many of these firms have little incentive to work with DOD as the benefits are not worth the costs.

A new approach is needed. To understand why, it is necessary to review the history of export controls and the pathways to past innovations. In World War II and the early Cold War, the U.S. developed first of their kind innovations – nuclear submarines, ICBMs, reconnaissance satellites, the U-2, SR-71, precision location, and eventually stealth. Once military and technological dominance with the Soviet Union was achieved though, the government began to wrap the innovation process up in a series of bureaucratic management procedures and classified it all – not in the formal sense but through an export control process where most

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<sup>1</sup> Our closest allies have long faced a similar set of circumstances. See: William Greenwalt, *Leveraging the National Technology Industrial Base to Address Great-Power Competition: The Imperative to Integrate Industrial Capabilities of Close Allies*, Atlantic Council, April 2019.

items and knowledge while unclassified are stringently controlled. As a result, the defense industrial base narrowed to a few suppliers and was incentivized to become less innovative as DOD took on the centralized planning and oversight characteristics of its adversary.<sup>2</sup>

The U.S. faces an entirely different situation than it did in the Cold War with the Soviet Union. In that much simpler time military technology was primarily segregated from the commercial market. U.S. defense R&D dominated both quantitatively and qualitatively and the results were superior to allied and commercial technology. Unlike China today, the Soviet Union and the communist bloc pursued a policy of autarky cutting itself off from the emerging Western global market. The overarching problem for U.S. policy makers at the time was how to keep other countries from transferring specific U.S. military technology to the Soviet Union. The transfer of this technology could be managed through export controls while knowledge about these systems could be physically locked in safes or controlled through security classification.

The export control system developed in conformance with this set of facts and was relatively easy to implement when every defense part was unique and funded by the government. Then at the end of the Cold War the U.S. found it could not afford that system anymore. DOD attempted to adapt to the changing realities in the advancement of commercial technology and being overtaken by commercial R&D investment by modifying defense acquisition to support what was then known as the civil military integration (CMI) of the industrial base. As a result, in the 1990s, some commercial and military items began to be co-developed and made on the same production lines. The export control system though run out of the State Department did not effectively adapt its processes or perspectives to the mingling of defense and commercial technology. As a result, the first adopters in the commercial aircraft industry bore much of the brunt of working through the pain of the new ITAR taint that came from these CMI efforts.

Export controls were never reformed to encourage commercial participation in defense and became even more stringent in the early 2000s due to congressional concerns about cases of illegal technology transfer to China. While there have been some recent reforms in the system through the efforts of the Export Control Act of 2018, these have merely softened some of the edges of previous tightening and done little to support CMI or address the new reality of a globalized industrial base dominated by dual use technologies. Past history does not imply that export controls are not needed nor that some efforts have not been successful for specific purposes. The problem today is just different than in the past which was to protect a large lead. Today's issue is how to incentivize a leap ahead in innovation from a different type of industrial base while facing impending inferiority. What will be needed is an understanding of the need to dominate commercial as well as military markets, cooperation with trusted actors, and as the National Commission on AI recently reported a focus on "targeted" and "judicious" export controls -- something that currently does not describe the existing system.

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<sup>2</sup> For a further review of this historical phenomenon in U.S. defense innovation see: William Greenwalt and Dan Patt, *Competing in time: Ensuring capability advantage and mission success through adaptable resource allocation*, Hudson Institute, February 2021.