

## A Fast Follower Strategy for the Department of Defense (DoD)

---

### Maintaining Technological Advantage

Historically, the United States has maintained decisive military advantage over its adversaries due, in large part, to superior technology capability. The Department of Defense (DoD) harnessed technical resources across the spectrum of American industry, national laboratories, and universities, and used its purchasing power to shape technical specifications and standards for resulting technologies. This strategy ultimately conferred the U.S. military with superior advantages in the first offset (nuclear weapons and nuclear deterrence technology) and second offset (night vision, laser-guided bombs, stealth and jamming technologies as well as space-based military communications and navigation).

The threat matrix the United States faces today is significantly more diverse than in previous eras. While DoD continues to develop offensive and defensive capabilities around nuclear weapons and conventional military platforms, dual-use emerging technologies will change the character of warfare going forward. This is already evident in Ukraine with commercial satellite imagery, autonomous drones, and missiles, as well as the exploitation of communications and social media. Many technologies that were previously available only to nation-states have now become democratized and available to any consumer or adversary.

Today, China compels its companies and its military to work together closely to gain experience with new technologies and concepts such as swarms of drones. China has studied our capabilities carefully and is rapidly modernizing its own military capabilities with a priority both on asymmetry designed to neutralize U.S. overmatch and accessing innovations in its commercial sector. The PLA is currently utilizing commercially-derived AI technologies to power drone swarms and underwater autonomous vehicles; the PLA is drawing from leading private companies for sophisticated ISR, information and electronic warfare solutions, and AR/VR for training, among others.<sup>1</sup>

The U.S. military will enjoy neither a time nor technology advantage if the PLA achieves more agility in adopting commercial technology. Moreover, the U.S. industrial base for defense continues to shrink. Supporting new dual-use technologies will not only expand this base but create whole new industries based on biotechnology, resilient and greener energy, or construction of a space superhighway of satellites, space logistics, and manufacturing, as well as a multi-orbit transportation system. Otherwise,

---

<sup>1</sup> Ryan Fedasiuk, Jennifer Melot, and Ben Murphy, "Harnessed Lightning: How the Chinese Military is Adopting Artificial Intelligence," Center for Security and Emerging Technology, October 2021, <https://cset.georgetown.edu/publication/harnessed-lightning/>.

we cede to China not only a military advantage but the economic prosperity that comes with these new industries.

## Importance of Commercial Technology

Not having an effective approach to rapidly adopt commercial technology is a glaring weakness in modernizing DoD. Technologies such as advanced communications, AI software, small drones, synthetic aperture radar (SAR) satellite imagery, and many others can be rapidly purchased from credible commercial vendors to deliver novel capabilities at a fraction of the cost of dedicated defense technologies.

To modernize faster, DoD requires an order of magnitude increase in its adoption of commercial technologies. DoD is not leveraging the commercial sector broadly enough or fast enough in its modernization efforts. Commercial technologies have non-trivial differences from strictly defense technologies. First, commercial technologies are supplied in massive unit volumes – sometimes in the millions – often led by the consumer as is the case with small drones. Second, in addition to larger volumes, commercial technologies evolve at a much faster speed than defense technologies with products refreshed on 12-18 month cycles instead of decades. As a result, DoD needs to move much faster in assessing and fielding these technologies. Third, commercial technologies such as AI software or commercial satellite imagery are not Service-specific. We do not need special versions for the Navy or the Air Force (even though at DoD, we often try to create these) and, in fact, creating special versions by Service makes it more difficult and costly for commercial suppliers to do business with DoD. Fourth, since DoD does not control the global diffusion of these technologies, slowly adopting these creates an asymmetric disadvantage if our adversaries adopt them rapidly.

These differences are extremely relevant for conflicts we may face in the next decade where our adversaries effectively employ commercial technologies. For example, when U.S. troops were stationed in Iraq, the Islamic State of Iraq and Syria (ISIS) sent small drones, which can be purchased on e-commerce platforms like Amazon, with grenades to kill American soldiers in Mosul, Iraq. Countries such as Azerbaijan and Ukraine are quickly adapting commercial technology in new ways to gain an edge on the battlefield. Azerbaijan decisively won the Nagorno-Karabakh Conflict against Armenia due to its use of commercial drones and more recently, the Ukrainians are effectively employing small drones called Switchblades to destroy Russian trucks and tanks. DoD must add new capabilities like these in 1-2 years rather than 1-2 decades, however, this will not happen if we remain rooted in processes that are more suited to defense-specific technologies and are a half-century old. DoD must reform its sequential requirements, acquisition, and budgeting methods to adapt to an environment where industry leads technology development and prioritizes speed. The current sequential process lags commercial product cycles and delivers technology several generations behind, which would be the equivalent of supplying flip phones and fax machines to our warfighters. While the Pentagon prides itself on following voluminous and well-specified DoD processes, the consequence is outdated, overpriced technology for our warfighters.

## Fast Follower Strategy

For commercial technologies that DoD does not invent, DoD must become a “Fast Follower” to gain rapid access to these technologies to maintain at least technological parity with adversaries. This requires re-thinking the three elements that operate DoD:

- Requirements, where commercial technology negates the need for the time-consuming process of detailed specification of solutions;
- Acquisition, where some of the new adaptive acquisition frameworks (for urgent capability or middle tier) can be adapted for commercial technology and simplify the buying process; and
- Budgeting, where new commercial solutions enter the market on a faster cycle than the 2½ year defense budget cycle and much faster than the refresh rate of traditional defense technologies, which can be 40 years or more for major platforms.

There has been so much reform of acquisition practices in the past few decades, but almost no reform of either the requirements or the budgeting processes. These processes now hinder commercial technology from modernizing DoD. Therefore, key tenets of a Fast Follower Strategy include:

1. **Dedicate organizations for commercial capabilities with a consistent budget.** DoD needs to establish dedicated organizations for each of the commercial technologies (e.g. drones and counter-drones, digital wearables, and satellite imagery), which are not and do not need to be Service-specific. Today, it is not clear where in DoD these non-Service-specific technologies like small drones should be assessed and procured. Along with clarity of where the technology can be assessed and purchased, these dedicated organizations also need a stable budget for that capability. This is different from a program of record, which reflects a rigid requirement and often a single vendor. This is a “capability of record” where the need for the capability is ongoing, such as for small drones. With that ongoing budget, DoD can assess capability on a more continuous basis, choose the best vendor at a point in time, and refresh that capability with a frequency that matches commercial product cycles. Assigning an ongoing capability budget to these assigned organizations also signals demand to private industry and avoids duplication across DoD. This allows DoD to adapt to rapidly evolving threats and procure solutions that were not even available when DoD’s budget was created more than 2 years earlier.
2. **Eliminate the requirements process** for these commercial technologies and replace this with a much more rapid validation of needs. Again, we do not need to develop detailed specifications for products the commercial market already builds; in fact, these specifications will limit both creative problem solving and the number of competitors.
3. **Apply the best practices of commercial procurement.** More widely apply non-consortia Other Transaction Authority (OTA) through Commercial Solutions Openings (CSOs), which maximizes competition while minimizing the opportunity costs of participating vendors. The Defense Innovation Unit (DIU) exclusively applies these best practices with an average of 43

vendors participating in each of 27 competitions in 2021. If a vendor successfully prototypes a solution, there is no required re-compete at the end of the prototyping period, and DoD can immediately scale up the solution across the joint force. If Congress budgets for “capabilities of record,” then we avoid the DoD-unique valley of death of asking successful vendors to wait for the budget cycle to catch up, which can take up to 2 years and cause the death of a small company that must focus on cash flow.

4. **Coordinate with allies** by sourcing commercial technology from allies and selling proven solutions to allied militaries. For the United States to prevail in the competition with China, it must collaborate more with allies and partners. The easiest form is with commercial technologies, which are unclassified and, therefore, more easily shareable and present excellent export opportunities for vendors.

This Fast Follower Strategy has several key benefits: maximizing competition through open assessments of solutions from multiple vendors; reducing costs by leveraging higher volumes of the commercial market; increasing speed and transparency of the acquisition process; and minimizing the opportunity cost for vendors to encourage participation in future competitions. In fact, the Fast Follower Strategy is a common sense adaptation of how technology is adopted in the commercial world.

Maintaining the U.S. military’s technological superiority requires it to not only continue developing defense technologies like hypersonics or directed energy but also fast follow the innovations of our vibrant commercial technology sector. There is a reason why the U.S. innovation system is the envy of the world; why is its military not envied as well?

*Disclaimer: The views, opinions, and assumptions expressed in this paper are those of the authors and do not necessarily reflect the official policy or position of any agency of the U.S. government.*

