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How Militaries Can Build, Buy, and Deliver Capabilities in a Digital Age

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Abstract:

Military power is becoming increasingly digitally enabled. The latest fighter aircraft, tanks, and satellites are equal parts network hubs and sensors as they are weapons or reconnaissance capabilities. Software underwrites just about everything a military does, like it underwrites nearly everything else in today's data-driven world. While sophisticated military tools like exquisite fifth-generation fighter aircraft, autonomous drones, and advanced cyber capabilities will likely define much of the modern battlefield, success in deterring war and protecting the security of nations will require equally sophisticated abilities to build, buy, and deliver those combat resources.

To be sure, the responsiveness of a nation's defense industrial base and a military's ability to procure, deploy, and sustain operations in contested environments are key measures of how capable a nation's military is. While many militaries are well-aware of the need for digitally advanced combat and combat-support capabilities, the way these militaries and their departments and ministries of defense build, buy, and deliver those resources may be less accustomed to the increasingly digital character of our world. Developing capable, modern militaries requires placing as much emphasis on the value of software, intellectual property, and digital systems for supplying and sustaining military operations as it does on weapon systems.

As militaries continue to embrace the role of software, they also should confront how software is disrupting the ways they build, buy, and deliver military capabilities. Confronting this disruption can affect everything from partners to processes.

Build: When it comes to software-defined systems, militaries may need to amplify their efforts in looking outside traditional defense industrial base companies to find the solutions they need because critical software is often commercial and produced by a variety of companies, not just a few known prime contractors.

Buy: These changes to the defense industrial base can also affect a military's buying power. When it comes to software or other emerging technologies (e.g., drones, satellite communications, artificial intelligence) shaping combat, militaries may not be the only, or even the largest, consumer. Meaning, often militaries no longer have the buying influence that comes with being a monopsonist.

Deliver: Once new capabilities are built and acquired, a military needs to deliver them. The return of strategic competition and peer adversaries may place new strains on existing military logistics practices and tools. Developed in recent decades around efficient logistics, modern military threats and commercial supply chain fragility require militaries to shift logistics practices from what is most efficient (speed) to what is most effective.

Each new challenge could require militaries to better leverage information of all types. The expansion of the defense industrial base can be helped by knowing which company can produce the right solutions. It also requires knowing how to align incentives so that a company wants to do business with the military. Finally, detecting supply chain or logistics vulnerabilities may require deep insights into suppliers, transporters, and adversary needs and activity. All of this requires militaries to adjust how they take advantage of the information-rich modern world.

Four strategies can help address the disruptions in how militaries build, buy, and deliver for the digital age. Consider the following:

1. **Out with the defense industrial base, in with the defense industrial network:** Militaries should broaden their aperture to identify more providers of tools and services, and then align interests with new commercial providers to create new partnerships that could allow militaries to move beyond the familiar industrial base to a more effective industrial network.
2. **Buying for the digital age:** To buy increasingly digital systems, militaries should first assess their buying power in the context of industry incentives and innovations to better understand their place in the market. Militaries should then adjust procurement culture and develop new tools to ensure they can acquire what they need when they need it.
3. **From efficient to effective combat logistics:** Efficient logistics should be replaced with effective logistics, requiring militaries to develop the practices, partnerships, and tools for more resilient supply chain and logistics operations.
4. **From Open Source to Everything-as-a-Source:** Militaries must be able to leverage more information than ever before to create strategic and operational insights, mitigating the risks of producing potentially harmful publicly available information themselves. More than adopting new tools, militaries should consider changing culture and processes too.