

COVID-19 IMPACTS ON THE DEPARTMENT OF DEFENSE SMALL BUSINESS VENDOR BASE

The rapidly spreading impact of the COVID-19 crisis threatens to derail U.S. military modernization and implementation of the *National Defense Strategy* (NDS). Right now, the stakes are particularly dire for the fate of small businesses, epitomizing how the crisis exposes critical vulnerabilities in the National Security Innovation Base (NSIB).

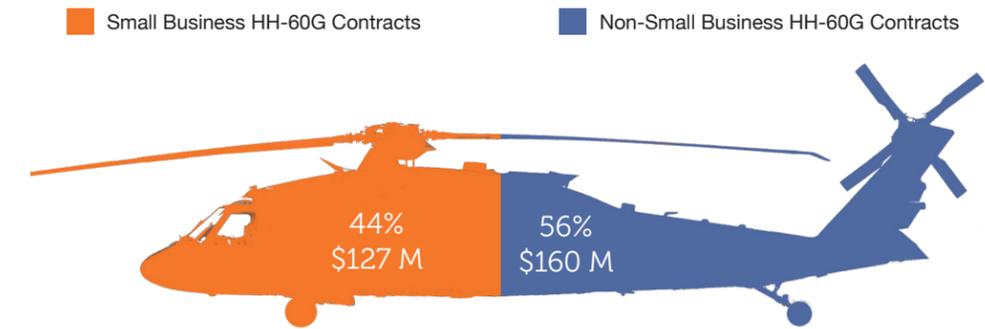
Small businesses are crucial to both the continuity of Department of Defense (DoD) operations as well as the building of more lethal U.S. forces. Yet, they are also vulnerable to short-term economic shocks like the COVID-19 crisis because of their greater sensitivity to cash flow losses and credit constraints. In response, DoD and the broader U.S. government are launching numerous initiatives to support small businesses. To optimize the impact of these measures, DoD should target its support to those small businesses that are working on priority programs, technologies, and capabilities.

Much hangs in the balance. Each year approximately 50,000 DoD small businesses provide foundational support to the entire NSIB as well as crucial investment in technology areas vital to modernization efforts. If this ecosystem suffers widespread failure due to COVID-19, the resulting impact will stretch well beyond short-term disruptions. These vendors are not just critical links in the DoD supply chain important for immediate purposes. They are also vital for the development of both next-generation systems in the mid-term and revolutionary capabilities that will shape the competitive landscape for decades into the future.

SEVERING SUPPLY CHAIN OPERABILITY

Small businesses provide critical links in current DoD supply chains supporting legacy systems. Cases where individual small businesses are solely responsible for a specific step in the supply chain or for providing a key component may represent single points of failure. If these companies prove to be highly vulnerable to stress from COVID-19, supply chains supporting legacy systems could be significantly hampered.

- Small businesses are vital to delivery of several UH-60 Black Hawk variants, especially the HH-60G Pave Hawk for which these vendors received 44% of \$287M in contracts from FY15-19.
- A handful of vendors make up the entirety of small business contracts for the HH-60G, a highly modified version of the Black Hawk primarily used for recovery operations. In fact, these few vendors were awarded \$127M for the HH-60G over FY15-19, more than the combined total for top traditional vendors such as Lockheed Martin and Raytheon. This demonstrates how vital this group of small businesses is in delivering certain individual systems.
- These same vendors also received over 90% of contract obligations for crucial communications upgrades to the AH-64 Apache, amounting to nearly \$100M since FY15.



DISRUPTING DEVELOPMENT OF NEXT GEN CAPABILITIES

The development of next generation systems and technologies relies on small businesses throughout the development process. Therefore, the vulnerability of small businesses to the impact of COVID-19 presents risk to DoD's ability to develop its next generation of systems.

- The market for Unmanned Underwater Vehicles (UUV) relies heavily on small businesses, which accounted for over ¼ of the \$667M spent in total on UUVs from FY15-19, including nearly half of the \$80M awarded through sub-awards.
- The top small business vendors are especially important in the UUV market, with the top two combining to receive over \$87M in total obligations from FY15-19, more than half the total for all small businesses.
- These vendors are key in updating and modifying existing legacy platforms, including the Remus 100 and Remus 600 UUVs. Among other capabilities, these models can be utilized for reconnaissance in support of amphibious landings.



LOSING PACE ON REVOLUTIONARY CAPABILITY DEVELOPMENT

Capturing the leading edge of leap-ahead technologies is vital to a long-term strategic competition with peer or near-peer competitors, as stated in both the NDS and DoD's 2018 *Artificial Intelligence Strategy*. Agile, disruptive small businesses are central to harnessing innovation and applying those advances to national security.

- Small businesses were recipients of 30% of all artificial intelligence contract obligations from FY15-19, receiving almost \$700M in total.
- A key application of artificial intelligence and other emerging technologies such as robotics and autonomy is Human-Machine Teaming (HMT). HMT leverages synergy between humans and machines to amplify the capabilities of both, and represents a critical concept for future warfare. Small businesses received almost ½ of total obligations related to HMT from FY15-19.
- Small businesses have been awarded contracts in the HMT market primarily to research technologies which improve the efficiency of interaction between humans and robots, often through the integration of artificial intelligence. Some vendors also develop "Smart Interaction Devices" which seek to diminish unnecessary human interference and maximize autonomous capabilities.

