STATEMENT OF

GENERAL HERBERT "HAWK" CARLISLE (USAF, RETIRED)

PRESIDENT AND CHIEF EXECUTIVE OFFICER

NATIONAL DEFENSE INDUSTRIAL ASSOCIATION (NDIA)

BEFORE THE

SENATE COMMITTEE ON ARMED SERVICES

ON

EMERGING TECHNOLOGY

23 FEBRUARY 2021

NOT PUBLIC UNTIL RELEASED BY THE
SENATE ARMED SERVICES COMMITTEE

INTRODUCTION

Chairman Reed, Senator Inhofe, and distinguished Members of the Committee thank you for the opportunity to share my experiences and industry perspective on emerging technologies so that we will ensure our nation continues to be the preeminent force for the 21st century.

The last time I testified was during my final tour in uniform, where I had the honor of leading Air Combat Command. In that role, I was responsible for organizing, training, and equipping combat-ready forces for rapid deployment and employment while ensuring forces were ready to meet the challenges of peacetime air sovereignty and wartime defense. Before assuming command of ACC, I was the Commander of Pacific Air Forces, responsible for Air Force activities spanning more than half the globe.

During my 40 years of service, I witnessed firsthand numerous technological advances that focused on ensuring our warfighters operate with the best, most innovative equipment to ensure they are never in a fair fight. From my first flight in a T-37 to my final flight in a F-15, technological advances helped our forces go faster, farther, and safer with greater lethality. My role at the National Defense Industrial Association (NDIA) continues this mission—to work with you and your esteemed colleagues, the Pentagon, and the hundreds of thousands of members of

industry who strive to imagine and create the best and most advanced equipment and capabilities to arm our men and women today, with an eye to what future engagements will require.

Almost a quarter of the way into the 21st century, the character of war has changed. The threat to our nation's defense is not necessarily boots on the ground in far-off theaters; we're securing our networks and countering state and non-state actors in the domains of cyberspace and actual space. Adversaries know they cannot outlast American industrial might today. But they are making gains in changing this calculus. Our competitors get stronger every day—unconstrained by a fiscal year budget and without the concerns of possible continuing resolutions to inhibit their ability to innovate while placed in a budgetary holding pattern. The 2018 National Defense Strategy identified 11 bi-partisan modernization priorities, including hypersonics, microelectronics, and directed energy, which we agree are the right focus.

We know our peer competitors are investing in these areas as well, especially China. I served in the Pacific Theater throughout my uniformed service. As a squadron commander and in the '90s, China was essentially a third-world nation we did not consider a genuine threat; as PACAF commander in the 2010's, they were not just a rising threat; they became the pacing threat. China has made

particular inroads in hypersonics by out-spending us, out-pacing us, and building on our work. China's ambitious plans in space have led them to make incredibly rapid advancements. They are also investing heavily in AI and biotechnology. They seek to build a domestic microelectronics capability, but even now, they can put state-of-the-art components in their systems, while US military systems are two generations behind. In some areas, like rare earths, we have already fallen behind and are dependent on others. In these areas, the question is no longer whether our adversaries will close the gap, but whether we will catch up to our competitors.

Where our competitors can, they've stolen our technology, and where they can't, they've used predatory investments, massive directed investments, and compulsory cooperation from domestic industry through military-civil fusion. Combating these predatory economics requires a whole of nation approach to both protect and promote American industry to support our warfighters. From a defense industrial policy perspective, this includes identifying ways to efficiently and effectively deliver from research and development to acquisition, from commercial as well as traditional defense firms, to pull forward and not leave this technology to solely the commercial market or sitting on the shelf. DoD needs to utilize the authorities they have and adjust a risk-averse culture. Fewer regulations, with more uniform enforcement, will ease the burden on companies and the agency and speed up the acquisition process. A workforce empowered and given authority to make

decisions provides the opportunity to unleash innovative companies. This may lead to some dead or wrong turns, but DoD can take a page from the corporate world and learn from R&D failures. Strengthening the transition of SBIR investments into programs of records is one such method. On the promote side of the ledger, we need to make sure the Department is a customer of choice for emerging technology providers. This will require acquisition processes that operate at the speed of relevance and budget stability so we can send a clear demand signal so industry can effectively plan and commit resources.

We need to encourage and expand new and innovative partnerships across government, industry, and academia to exploit the pace of innovation and rapidly scale transformational research and operational prototyping into robust and scalable capabilities that will enable technological, and operational, superiority. We have several mechanisms to develop and field products quickly and in an innovative manner; SBIR, DARPA, DIU, the Space Development Agency, AFWERX, demonstrate daily they can bring nontraditional players into the DOD in a timely manner. We need to be nimble and thoughtful, encouraging the services to identify and support the transition of world class, disruptive technologies.

As part of the acquisition strategy, review prior SBIR projects and assess opportunities to utilize SBIR authorities or projects. Leverage the agile, time-

saving authorities resident in the SBIR Phase III contracting to get those technologies under contract and delivering to the warfighter.

We appreciate Congressional support in helping DoD adopt an approach to accepting risk intelligently. Taking a more collaborative approach across services to identify and deploy game-changing technology prevents duplicative efforts and allows the Department to maximize limited resources. The men and women in uniform sacrifice daily to protect our nation, our freedom, and our way of life. They deserve every protection that we can afford them.