MEMORANDUM FOR CHAIR, DEFENSE SCIENCE BOARD

SUBJECT: Terms of Reference – Defense Science Board Summer Study on Technology Superiority

American military technological dominance is no longer assured as strategic competitors to the United States have greater access to state-of-the-art technologies than ever before. The employment of such technologies by adversaries and competitors can disrupt America's interests and threaten our national security. The challenges are diverse and complex, ranging from sophisticated cyber-attacks to supply chain risks, and from defending against hypersonic missiles to responding to biological threats. These demands call for new operational concepts, increasingly joint operations, and quickly operationalizing and fielding emerging science and technology capabilities.

The objective of the Defense Science Board’s (DSB) Summer Study on Technology Superiority ("the Summer Study") is to recommend concepts, capabilities, and strategies that may enhance the military technological advantage of the United States, where these recommendations may inform the National Defense Science and Technology strategy for the Department of Defense (DoD or "the Department"), which will be spearheaded by the Under Secretary of Defense for Research and Engineering (USD(R&E)). In conducting this Summer Study, the DSB should examine the fourteen critical technology areas identified in the USD(R&E)’s Technology Vision for an Era of Competition ("the Technology Vision") and provide options for the Department to champion associated research, science, technology, engineering, and innovation in these domains. The DSB should identify opportunities for cooperation in these domains among the Government, the Defense Industrial Base, academia, Federally Funded Research and Development Centers, University Affiliated Research Centers, small businesses, new entrants and startups, international partners, and even with competitors. The goal is to understand the global race for technological advantage and ensure that the DoD’s technology strategy will strengthen the technological superiority of the United States.

Through the Summer Study terms of reference, I am tasking the DSB to provide a report on findings and recommendations for a detailed technology strategy which encompasses each of the fourteen areas covered in the USD(R&E) Technology Vision. The DSB report and recommended strategies should take into consideration the following:

- Prioritizing near-term asymmetric capabilities;
- Identifying areas where current programs underway can be better leveraged to support the mission;
• Highlighting rapid development needs – to include opportunities for technology demonstration within Combatant Command operational exercises and/or Rapid Defense Experimentation Reserve (RDER) investment;

• Assessing current efforts – and opportunities – for cooperating with industry, academia, and foreign allies and partners to advance the state-of-the-art, explore creative applications of new concepts, enhance agility in development, and rapidly operationalize in these fields; and

• Such other matters as the Secretary or I consider appropriate.

The DSB’s findings, observations, and recommendations will be thoroughly discussed and deliberated on in a properly noticed and public meeting subject to the Federal Advisory Committee Act (5 United States Code (U.S.C.), Appendix) and Government in the Sunshine Act (5 U.S.C. § 552b) requirements. The DSB will provide its findings and recommendations to the USD(R&E) as the Sponsor of the DSB. The start date of the study period will be 30 days from the signing of this Summer Study Terms of Reference (ToR). In no event will the duration of the Summer Study exceed 24 months from the start date.

In support of this ToR and the work conducted in response to it, the DSB has my full support to meet with Department leaders. DSB staff, on behalf of DSB, may request the Office of the Secretary of Defense and DoD Component Heads to timely furnish any requested information, assistance, or access to personnel to the DSB. All requests shall be consistent with applicable laws, applicable security classifications, DoDI 5105.04, “Department of Defense Federal Advisory Committee Management Program,” and this ToR. As special government employee members of a DoD federal advisory committee, DSB members will not be given any access to DoD networks, to include DoD email systems.

Once material is provided to the DSB, it becomes a permanent part of the DSB’s records. All data/information provided is subject to public inspection unless the originating Component office properly marks the data/information with the appropriate classification and Freedom of Information Act (5 U.S.C. § 552) exemption categories before the data/information is released to the DSB.

The DSB will operate in accordance with the provisions of the Federal Advisory Committee Act, the Government in the Sunshine Act, and other applicable federal statutes, regulations, and policy. Individual DSB members do not have the authority to make decisions or recommendations on behalf of the DSB nor report directly to any Federal representative. The members of the DSB are subject to certain Federal ethics laws governing conflicts of interest, including 18 U.S.C. § 208, and the Standards of Ethical Conduct regulations in 5 Code of Federal Regulations Part 2635.

Heidi Shyu

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