November 30, 2020

The Honorable Christopher C. Miller
Acting Secretary
U.S. Department of Defense
Washington, DC 20301

The Honorable Russell T. Vought
Director
The Office of Management and Budget
Washington, DC 20503

The Honorable Michael J.K. Kratsios
Acting Under Secretary
Office of Research and Engineering
U.S. Department of Defense
Washington, DC 20301

The Honorable Kelvin K. Droegemeier
Director
Office of Science and Technology Policy
Washington, DC 20504

Dear Acting Secretary Miller, Acting Under Secretary Kratsios, Director Vought, and Director Droegemeier,

As you develop the fiscal year (FY) 2022 U.S. Department of Defense (DoD) budget request, the Coalition for National Security Research (CNSR), representing the undersigned members of industry, academia, scientific and professional organizations, and non-profit organizations, respectfully requests you include funding for the Defense science and technology (S&T) program at levels equal to 3 percent of the DoD budget and funding for the defense basic research programs at 20 percent of the Defense S&T budget.

If the United States military is to maintain its global technological superiority, it is imperative that we robustly invest in the Defense S&T program. Many of the technologies that have sustained our military dominance stem from prior investments in the Defense S&T program. These include, stealth and counter stealth technologies, night vision, radar, sonar, nuclear propulsion, precision munitions, jet engines, near-real-time delivery of battlefield information, and global positioning technologies, just to name a few. Furthermore, the Defense S&T program is already laying the foundation and advancing capabilities in Industries of the Future (IotF) such as artificial intelligence/machine learning, quantum technologies, autonomy, hypersonics, advanced manufacturing, and directed energy. Investing in the Defense S&T program is essential to meeting many of the objectives in the *National Defense Strategy (NDS)* including sustaining Joint Force military advantages, establishing an unmatched twenty-first century national security innovation base, and ensuring we have the technologies to deter adversaries or succeed in future conflicts[1].

With DoD being the second largest federal agency funding medical research[2], the Defense S&T program is contributing to the fight against COVID-19. Developing point-of-care rapid testing,

[1] https://dod.defense.gov/Portals/1/Documents/pubs/2018-National-Defense-Strategy-Summary.pdf
[2] https://www.nap.edu/catalog/23652/evaluation-of-the-congressionally-directed-medical-research-programs-review-process

3D printing personal protective gear, predicting pandemic trends, supporting decision-making about interventions, and understanding the national security implications of the COVID-19 crisis all stem from capabilities developed by investments in the Defense S&T program, including the defense basic research programs[3]. These efforts are consistent with the FY 2022 Administration Research and Development Budget Priorities, specifically the first priority of strengthening American public health security and innovation[4]. Additional investment can further enable scientific research to safeguard the health and quality of life of individuals, families, and communities, which is the top priority for the Administration[5].

The United States is at a critical crossroads in terms of global S&T leadership and national security. China is likely to become the world's leader in research and development (R&D) investment soon[6]. From 2010 to 2017, United States federal investment in R&D fell nearly 15 percent while China's R&D investment increased by nearly 13 percent[7]. Using a simple inflation calculation, funding for Defense S&T provided in the enacted FY 2020 Defense Appropriations bill is nearly $1.5 billion below levels appropriated in FY 2005. As noted by the Defense Science Board (DSB), inadequate levels of Defense S&T funding could threaten U.S. military dominance and leadership in the future[8]. The decline in R&D is particularly concerning considering that China now has the world's largest Army and Navy, and the third largest Air Force[9]. Innovation will be key to maintaining our global military superiority.

In an effort to reverse declining R&D investment trends and support the innovative scientific research needed to ensure global S&T leadership, CNSR joins the DSB[10], bipartisan House Armed Services Committee Future of Defense Task Force[11], National Academies[12] and Council on Competitiveness[13] to urge that the ***Defense S&T budget request comprise 3 percent of the overall DoD budget request.*** Additionally, CNSR urges that the ***defense basic research budget request comprise at least 20 percent of the Defense S&T budget,*** as recommended by the National Academies[14] and Council on Competitiveness[15]. We also note that the DSB encouraged one-third of the Defense S&T budget be dedicated to revolutionary research such as the defense basic research programs[16].

Thank you for consideration of our views. If we can be of any assistance, please do not hesitate to contact us.

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[3] https://basicresearch.defense.gov/COVID-19/Basic-Researchers-on-COVID-19/
[4] https://www.whitehouse.gov/wp-content/uploads/2020/08/M-20-29.pdf
[5] Ibid
[6] https://www.nsf.gov/news/news_summ.jsp?cntn_id=300508&WT.mc_id=USNSF_62&WT.mc_ev=click
[7] https://ncses.nsf.gov/pubs/nsb20203
[8] Ibid
[9] https://media.defense.gov/2020/Sep/01/2002488689/-1/-1/1/2020-DOD-CHINA-MILITARY-POWER-REPORT-FINAL.PDF
[10] http://www.dtic.mil/dtic/tr/fulltext/u2/a403874.pdf
[11] https://armedservices.house.gov/_cache/files/2/6/26129500-d208-47ba-a9f7-25a8f82828b0/6D5C75605DE8DDF0013712923B4388D7.future-of-defense-task-force-report.pdf
[12] https://www.nap.edu/catalog/11463/rising-above-the-gathering-storm-energizing-and-employing-america-for
[13] https://www.compete.org/reports/all/202
[14] https://www.nap.edu/catalog/11463/rising-above-the-gathering-storm-energizing-and-employing-america-for
[15] https://www.compete.org/reports/all/202
[16] http://www.dtic.mil/dtic/tr/fulltext/u2/a433761.pdf

Sincerely,

Aerospace Industries Association (AIA)
American Association for the Advancement of Science (AAAS)
American Chemical Society (ACS)
American Institute for Medical and Biological Engineering
American Mathematical Society (AMS)
American Psychological Association (APA)
American Society for Engineering Education
Arizona State University
ASME
Association of American Universities (AAU)
Association of Public and Land-grant Universities (APLU)
Battelle
Brown University
California Institute of Technology
Carnegie Mellon University
Columbia University
Computing Research Association
Consortium for Ocean Leadership
Consortium of Social Science Associations (COSSA)
Cornell University
Duke University
Dupont
Energetics, Inc.
Federation of Associations in Behavioral & Brain Sciences (FABBS)
Federation of Materials Societies
Florida International University
Florida State University
George Mason University
Georgia Institute of Technology
Harvard University
IEEE-USA
Indiana University
Lehigh University
Louisiana State University
Louisiana Tech University
Massachusetts Institute of Technology
Materials Research Society
Michigan State University
Michigan Technological University
New Mexico State University
New York University
Northeastern University
Northern Illinois University
Northwestern University
Oak Ridge Associated Universities
Ohio State University
Oregon Health and Sciences University
Oregon State University
OSA-The Optical Society
Pace University
Penn State University
Princeton University
Purdue University
Rensselaer Polytechnic Institute
Rochester Institute of Technology
Rutgers, The State University of New Jersey
Scripps Institution of Oceanography
Semiconductor Industry Association
Society for Industrial and Applied Mathematics
SPIE, the international society for optics and photonics
SRI International
Temple University
Texas A&M University
The Catholic University of America
The George Washington University
The Johns Hopkins University
The State University of New York
University of Arizona
University of California System
University of California, Davis
University of California, Irvine
University of California, Los Angeles
University of California, Riverside
University of California, San Diego
University of Central Florida
University of Cincinnati
University of Colorado Boulder
University of Delaware
University of Florida
University of Houston
University of Illinois System
University of Iowa
University of Kansas
University of Maryland at College Park
University of Michigan
University of Missouri System
University of Nebraska
University of North Carolina – Chapel Hill
University of North Carolina System
University of Oklahoma
University of Pennsylvania
University of Pittsburgh
University of Rhode Island
University of Rochester
University of South Florida
University of Southern California
University of Tennessee
University of Texas at San Antonio
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Vanderbilt University
Virginia Commonwealth University
Washington State University
West Virginia University
William & Mary
Woods Hole Oceanographic Institution
Yale University