**Senate Armed Services Committee**
**Advance Policy Questions for Michael Dodd**
**Nominee to be Assistant Secretary of Defense for Critical Technologies**

## Duties and Qualifications

1. **What is your understanding of the duties and functions of the Assistant Secretary of Defense for Critical Technologies, or ASD(CT)?**

   The Assistant Secretary of Defense for Critical Technologies (ASD(CT)) serves as the Department's chief steward and advocates for unifying and advancing the Department's investments and capabilities pertaining to the critical technology national defense priorities identified by the Secretary and Deputy Secretary of Defense through the establishment of roadmaps, programmatic assessments and technical activities.

   The ASD(CT) will ensure that relevant DoD technical infrastructure, research, development, engineering, prototyping, and programs of record have alignment with Critical Technology Roadmaps. The ASD(CT) also develops policy and issue guidance related to these priorities and conduct periodic reviews of Service and Agency investments to ensure progress against defined goals.

2. **What background and experience do you possess that qualify you to perform these duties?**

I have more than 30 years of experience in the DoD, National Security and institutional finance industries. I served in the United States Marine Corps for more than a decade, retiring at the rank of Captain. In industry, I served on the Executive Leadership team with a thruput exceeding $3.2B of projects via 2 Other Transaction Authorities (OTA) contract vehicles. The Critical mission areas are Space, Systems Engineering, Modeling and Simulation, Hypersonics, Electronic Warfare, Trusted and Assured Microelectronics. In the financial sector, I advised public and private clients on all facets of business strategy, planning, development, management, marketing, directorship, and obtaining access to capital markets in exchange for equity stakes in the companies and/or management fees. When a considerable gap in the marketplace is identified, the fund would also incubate a company to serve this market, create a unique solution for the identified market gap, and create new demand. At the Defense Innovation Unit (DIU) A Department of Defense (DoD) initiative accelerating the development of dual-use technologies critical to our national security and economic competitiveness. I developed market maps and investment strategy for each of several technology areas of priority interest to DIU that are in line with defense modernization priorities. In each of these positions, I have been able to build relationships between defense leaders, institutions, and entrepreneurial communities to co-create solutions for national security challenges.

3. **Do you believe that there are actions you need to take, if confirmed, to enhance your ability to perform the duties of the ASD(CT)?**

   If confirmed, I will work to support the Department's technology vision to dramatically accelerate technology transition. I will work relentlessly to ensure the critical technologies that our warfighters need are in their hands as quickly as humanly possible. We will do this by focusing on three strategic priorities. First, support defense acquisition reform to deliver state-of-the-art capabilities at speed, relevance & scale. To do business at the speed of business. Second, strengthen the Department's adoption of critical technologies. In fields like artificial intelligence (AI) (such as in coordination with the Chief Digital and Artificial Intelligence Officer (CDAO)), microelectronics, quantum science, space-based systems, or hypersonics, the pace of innovation outside government is far faster than within. We must close that gap. Finally, we will plan for transition at the outset of every technology project. Each project will be tied to a Service or program gap.

4. **If confirmed, what additional duties and functions would you recommend the Undersecretary of Research and Engineering prescribe for you?**

   Prior to being briefed on the important work already occurring in the OUSD(R&E) portfolio, including classified efforts, I am reticent to name additional duties and functions that could be added to the CT portfolio. That said, the current duties and functions assigned to the CT office provide great opportunities to advance the state of the art in critical technology areas for the Department.

**<u>Conflicts of Interest</u>**

**Federal ethics laws, to include 10 U.S.C. §208, prohibit government employees from participating in matters where they, or certain family members or organizations with which they have certain relationships, have a financial interest.**

5. **Do you agree, without qualification, if confirmed, to disclose any potential conflicts of interest, including investments, business ties, family relationships, or other connections that could be perceived as influencing your decision making?**

   I agree to comply with all conflicts of interest disclosure requirements set forth in the Ethics in Government Act, as well as any implementing regulations.

6. **Do you agree, without qualification, if confirmed, that if a conflict of interest arises, you will recuse yourself from participating in any relevant decisions regarding that specific matter?**

   I agree to comply with all recusal requirements under 18 U.S.C. § 208 as well as any implementing regulations.

7. **Do you commit, without qualification, if confirmed, to decision-making on the merits and exclusively in the public interest, without regard to private gain or personal benefit?**

   I commit to deciding matters on the merits, based on the public interest, and without regard to any private gain or personal benefit.

**Major Challenges and Priorities**

**The Office of the Deputy Chief Technology Officer for Critical Technologies, (ASD(CT)), is a new position and was established in July 2023, pursuant to the 2019 and 2022 National Defense Strategy. The role was borne of an imperative to set the technical direction for critical defense technologies such as biotechnologies, quantum computing, artificial intelligence (AI), autonomy, hypersonics, and several others.**

8. **What are the major challenges that confront the next ASD(CT), in your view?**

   United States faces the most dangerous security environment since World War II. For example, the China (PRC) is performing, quite frankly the unprecedented. While some talk about the PRC's theft of our intellectual property and "investing" adversarial capital into nontraditional companies with compelling technologies – which both are true – they are also innovating, testing, producing, and operationalizing critical technologies at a pace and scale never seen before. They are simultaneously modernizing every prong of combat power – their naval forces, their air forces, their missile forces, their nuclear forces, and their missile defenses to name just a few. Their military modernization and build up is being executed with speed purpose. We must be ready.

9. **If confirmed, what would you do to address each of these challenges?**

   If confirmed, I will work to support the Department's technology vision to dramatically accelerate technology transition. I will work every day and every night to ensure the critical technologies our warfighters need are in their hands as quickly as humanly possible. We will do this by focusing on three strategic priorities. First, support defense acquisition reform to deliver state-of-the-art capabilities at speed, relevance & scale. To do business at the speed of business. Second, strengthen the Department's adoption of critical technologies. In fields like AI, microelectronics, quantum science, space-based systems, or hypersonics, the pace of innovation outside government is far faster than within. We must close that gap. Finally, we will plan for transition at the outset of every technology project. Each project will be tied to a Service or program gap.

**10. If confirmed, what broad priorities would you establish that you believe should be addressed by the ASD(CT)? What recommendations would you make to regarding those priorities?**

The United States is at an inflection point. Our ability to shape the future depends on whether we can harness innovation faster and more effectively than our adversaries. We must act boldly, decisively & wisely. We must take calculated risks, but we will remain anchored in our values. If confirmed, I look forward to learning more about the OUSD(R&E)'s technology strategies and fostering strong working relationships with the Military Services and the Combatant Commands.

**11. What emerging scientific fields do you consider the most important and relevant for future warfighting and defense missions?**

Prior to being briefed on the important work already occurring in the OUSD(R&E) portfolio, I am reticent to name a single scientific field as the most critical. Clearly technologies areas such as AI, microelectronics, space-based systems, or hypersonics all have critical national security impacts. However, across any of these fields, innovation is the most relevant concept that will contribute to our future warfighting and defense missions. Central to technological innovation is speed. Innovation does not stop at the invention of new weapons and defense systems but also in improving them reducing their cost over time. Innovation requires leadership that is willing to take bets on things that do not work but has the discipline to stop them with haste. Finally, innovation means focusing investments in science and technology (S&T) to the concepts that are aligned with our Peace through Strength Mission.

**12. In your view, are there any technology areas that should be added or removed from the current list of the Department's critical technology areas? If so, please explain your rationale.**

If confirmed, I look forward to reviewing the work being done in all 14 Critical Technology Areas and ensuring the Department's resources are focused on our most critical challenges.

## Critical Technology Strategy

**13. What weaknesses, if any, do you perceive in the current defense critical technology strategic planning process? If confirmed, how do you intend to mature the emerging technology roadmap process?**

A key focus for the OUSD(R&E) is ensuring that the individual Military Service plans take into account Joint needs and new technology opportunities. This requires oversight of Military Service S&T planning and fostering of collaboration between the Military Services on technology development. Further, cooperation with the

various S&T organizations could help to leverage capability development and limit duplicative efforts.

**14. What do you believe to be the key attributes of a good technology strategic plan and how could these attributes be carried through effectively to the DOD programming and budgeting purposes for critical technology?**

It is critical to engage stakeholders involved in research, qualification, acquisition, fielding, and sustainment with any technology strategic plan. Military Services and program offices must be involved from the beginning to influence requirements rather than just respond to them. The plan should include near-, mid-, and far-term capability goals and technology objectives, and integrated across the department to ensure meaningful and cost-efficient progress and build the body of evidence required for successful transition.

**15. If confirmed, how do you intent to align strategic investments and research across the Department, the Services, industry, academia, and international partners? Where do you see the greatest opportunity and greatest risk in achieving alignment?**

The ASD(CT) serves as the Department's chief steward and advocate for unifying and advancing the Department's investments and capabilities pertaining to enabling and applied critical technology national defense priorities identified by the Secretary and Deputy Secretary of Defense through the establishment of roadmaps, programmatic assessments and technical activities.

The ASD(CT) will ensure that relevant DoD technical infrastructure, research, development, engineering, prototyping, and programs of record have alignment with Critical Technology Roadmaps. The ASD(CT) also develops policy and issue guidance related to these priorities and conducts periodic reviews of Service and Agency investments to ensure progress against defined goals. There are many risk factors which are a part of transition and contribute to the "valley of death."

## Investment in Critical Technologies

**16. If confirmed, what metrics would you use to assess the suitability of the portfolio of investments made under the defense science and technology (S&T) program on the current list of critical technology areas, to include the magnitude and diversity of the investments?**

The Department's S&T investments can and should align to key operational challenges and opportunities faced by the Joint Force both now and in the future, and if confirmed, I will work across the USD(R&E) and the enterprise to assess the DoD S&T portfolios to see if the research areas are well mapped to address capability

shortfalls and stay ahead of the threats. Such challenges and opportunities are driven both by top-level strategic guidance as well as by direct interaction and collaboration with the Military Services, the Combatant Commands, allies, and partners. Science and technology often take a longer view than other investments, addressing future military needs through deliberate, targeted investment. Since there is uncertainty about which technologies could provide revolutionary capabilities in the future, robust S&T investments must ensure our Nation is able to exploit emerging technology areas, informing new asymmetric warfighting capabilities and reduce risk of technological surprise by potential adversaries. An important metric would be comparison in capability to our adversaries, but also the degree to which DoD has advanced new technologies that don't exist elsewhere and doing so at a predictable cost and timeframe.

**17. In your view, should the Secretary of Defense's Defense Planning Guidance include guidance for the critical technology programs of the Military Departments? Please explain your answer.**

Yes, maintaining robust investment in the Department's critical technology areas is vital to our Nation's future security. By focusing efforts and investments into the Department's critical technology areas, the Department will accelerate transitioning key capabilities to the Military Services and Combatant Commands. Thus, there should be guidance in the Defense Planning Guidance to ensure minimum levels of funding for that security.

**18. Do you believe that the Defense Planning Guidance should include guidance on minimum investment levels for critical technology of the Military Departments? Please explain your answer.**

As noted by Secretary Hegseth, it is President Trump's priority to achieve peace through strength. If confirmed, I understand it would be my role to make recommendations to the Under Secretary of Defense for Research and Engineering (USD(R&E)) on the budgets for the Department's critical technology areas, and that would include participating in the development of the Defense Planning Guidance that influences the budgets of the Military Departments. I will work with the requisite stakeholders to ensure the Military Department budgets are sufficient to accomplish critical technology area missions for the entire DoD.

**19. What role should the ASD(CT) play in the detailed development and coordination of Military Department and Defense Agency/Field Activity critical technology investment strategies, programs, and budgets, in your view?**

The ASD(CT) should play a critical role in the development and coordination of critical technology area investment strategies, programs, and budgets for the Military Departments and the Defense Agency/Field Activities maximizing return on investments for joint applications.

**20. What role should the ASD(CT) play in the development and coordination of the Military Departments and Combatant Commands in critical technology investment strategies, programs, and budgets, in your view?**

The ASD(CT) is responsible for ensuring the priorities of the President's National Security Strategy and Secretary of Defense's Interim National Defense Strategic Guidance are reflected in critical technology area strategies, programs, and budgets. The ASD(CT) has the vital role of monitoring and coordinating these investments across the Military Departments and Combatant Commands.

**21. What critical technology areas, if any, do you consider underfunded by the DOD?**

If confirmed, I look forward to reviewing the OUSD(R&E)'s budget, including its plans for the FY 2026 budget submission, to understand what, if any, critical technology areas may need additional funding.

**22. In your judgment, will the lack of funding in these areas affect the Department's ability to meet the threats of the future? Please explain your answer.**

In general, the Department should seek to fully fund critical technology areas to meet current and future threats. As mentioned above, if, confirmed I would look forward to reviewing the Department's critical technology area budget plans to understand what, if any, critical technology areas may need additional resources.

**23. If confirmed, what factors would you consider in assessing whether the Department's S&T investment strategy in the current list of critical technology areas strikes the appropriate balance between funding disruptive technologies and addressing near-term operational needs?**

Balancing near-term and long-term investments is a persistent, multifaceted challenge that demands addressing immediate warfighting needs while also maintaining long term technical superiority over adversaries. Key to this task is aligning investments in critical technology and capabilities with warfighter needs that are derived from our national strategy. This involves balancing multiple lines of effort, including modernizing existing systems, developing new emerging technologies, and ensuring a robust, vibrant national security industrial base. Short term investments should include transitioning impactful capability to operational use, while long term investments should involve higher risk, high reward activities that have the potential for revolutionary leaps in capability. An important enabler for striking this balance between incremental vs. disruptive progress is continual risk assessment and adaptive budget processes to keep pace with ever-evolving adversaries. I would coordinate closely with the Joint Staff, Combatant Commands, and Services to ensure our investments are aligned to Warfighter needs. The Department must also possess

transparent, effective accounting systems to track spending, such as the Transition Tracking Action Group.

**24. If confirmed, how would you ensure the Department's leadership is aware of successful efforts resulting from investments in critical technology programs and organizations in supporting defense missions?**

If confirmed, I will seek opportunities to ensure the Secretary, Deputy Secretary, USD (R&E) and other senior leaders are made aware of successful efforts resulting from critical technology area investments, including by promoting their participation in engagements such as R&E's experimentation program. Additionally, I will communicate success stories up the chain of command and throughout the senior leadership.

**25. In your view, what are the legacy technology areas where DOD has requirements that may not be met by industry or academia? How do you believe we should be maintaining steady, sustaining investments to ensure warfighting capability?**

This is an important question which is probably best answered after I have been fully informed. In my preparation for this hearing, I have seen multiple examples of "dual use" technologies where the Department benefits from the economies of scale and performance improvement pace that is driven by demanding civilian commercial competition. The Critical Technology Areas have a mix of suppliers ranging from existing companies with established commercial markets to new companies with yet-to-be established emerging commercial markets. Maintaining investments to ensure competitive opportunities to those with established commercial markets has the desired effect of increasing resilience if a portion of them have U.S.-based supply chains. Likewise, maintaining steady investments to ensure competitive opportunities to those with emerging commercial markets has the desired effect of increasing diversity by adding multiple reliable suppliers for DoD to access.

**Research Base for Critical Technology**

**26. Given the continuing nature of basic research and the broad implications and applications of discovery-focused and innovation-focused sciences, what criteria would you use to measure the success of DOD basic research programs and investments, if confirmed?**

While it is my understanding that the basic research portfolio will not be within my roles and responsibilities, if confirmed, I will work with my colleagues in ASD(S&T) to ensure that we are capturing the role that basic research programs have played in exploring new scientific directions for revolutionary technology development in support of the DoD mission.

**27. What concerns do you have, if any, about current levels of funding for Department of Defense basic research for critical technology areas? How would you plan to address those concerns, if confirmed?**

While it is my understanding that the basic research portfolio will not be within my roles and responsibilities, if confirmed, I will work with my colleagues in ASD(S&T) to ensure that DoD basic research programs have strong support in the Department, with additional focus on the priority technology areas and technology roadmaps to streamline and focus all our efforts.

**28. In your view, how does the approach for basic research in critical technology differ from the rest of the S&T portfolio under the Undersecretary of Defense for Research & Engineering? If confirmed, how do you intent to advocate for these areas in a highly competitive funding environment?**

In my view, the approach for basic research in critical technology areas must be aligned to the Secretary's three priorities. Basic research for the sake of discovery still has its place, but my focus, if confirmed, will be to drive research that delivers the (warfighter needed) military capabilities and supports the Secretary's goals.

**29. Given industry's increasing investment in what has historically been categorized as basic research, what role do you see the private sector playing in developing critical technologies for use by the Department of Defense? What policy changes do you think will be necessary to fully realize the benefit of industry's participation?**

The establishment of the Office of Strategic Capital (OSC) is an important development. I understand that OSC's loans and loan guarantees attract and scale private capital in support of the robust economic networks, supply chains, and key industries that underpin critical technologies. I look forward to working with the OSC, the DIU, and other organizations conducting industry and private sector engagements to ensure that technology gaps or supply chain issues within each critical technology roadmap are clearly understood and communicated to the organizations which can drive industry to address these gaps. The Small Business Innovation and Research (SBIR) Program and Small Business Technology Transition (STTR) programs should also play a role in addressing these gaps identified in the roadmaps. If confirmed I would work across the USD(R&E) and the enterprise to understand what policy changes could enable these programs to maximize the Department's ability to capitalize on U.S. industry and investment toward delivering military capabilities and the needs of the warfighter.

**30. How do you view the roles of academia, national labs, industry, civilian agencies, and Department investments in developing and fielding emerging technologies? What challenges do you see in engaging effectively with each? Please explain.**

Academia contributes important basic and applied research, while also developing a crucial talent pipeline for critical technologies, which the Department must prioritize through strong recruitment and retention practices to benefit from the development of this talent. National Labs offer unparalleled expertise in advanced, classified prototyping and development vital for our weapon systems. Industry excels at scaling and commercializing innovations, but requires incentives for defense-specific applications. Civilian agencies provide broad research support, but could benefit the Department through better interagency coordination. DoD investments must be strategically aligned and efficiently managed. Key challenges across these sectors include tech transfer from academia, incentivizing industry, and streamlining processes across each player. Stronger engagements, clear communication, and workforce development are essential for a robust innovation ecosystem.

**31. If confirmed, what steps would you take advantage of the opportunity presented through the Defense Established Program to Stimulate Competitive Research?**

My understanding is that the Defense Established Program to Stimulate Competitive Research works to increase research capacity at universities that have not worked with the Department much in the past. If confirmed, I will work with my colleagues within USD(R&E) to ensure that the Department is engaging with these universities as much as possible to help researchers there better align with DoD research priorities in the critical technology areas, specifically targeting the deficiencies identified in the critical technology roadmaps.

**32. If confirmed, how would you work with other federal agencies and the Office of Science and Technology Policy, Executive Office of the President, to improve coordination of research activities and harmonization of research funding decisions for critical technologies?**

It is critical that Federal research agencies coordinate their research activities. There are limited resources for research and the pace of technological development is constantly increasing. Coordination is key to making sure we develop new technologies efficiently and quickly. This coordination should happen across the Federal agencies, from the leadership level on strategic issues down to the programmatic level on more tactical, project-by-project level decisions. If confirmed, I would seek to regularly engage with my counterparts at other Federal agencies and ensure that those that work within the OUSD(R&E) does the same. Within the OUSD(R&E), technology transition portfolio managers throughout the innovation ecosystem can work to harmonize funding for critical technologies across their research and acquisition lifespan.

**Applied Research through Systems Engineering and Prototyping**

**33. Does the Department of Defense have sufficient systems engineering expertise in critical technology areas within its current workforce and contractor base for effective prototyping?**

Capturing workforce capabilities and especially the necessary systems engineering expertise to successfully enable each critical technology area is an important metric that should be included in each technology roadmap. The USD(R&E) leads a number of initiatives to upskill the systems engineering workforce, and these efforts focus on equipping individuals with the necessary skills to perform critical acquisition tasks, such as systems engineering, mission engineering, digital engineering, production, quality assurance, manufacturing, information technology, agile software development, and testing. It is also important that we enable new contractors to compete for DoD business so that we have a more robust ecosystem

**34. What changes, if any, do you believe should be made in the Department's systems engineering organizations and practices to optimize for the development of critical technology areas?**

I understand that in the current organization of the OUSD(R&E), the Assistant Secretary of Defense for Mission Capabilities leads the systems engineering and architecture activities focused on policy, workforce, and technical guidance which are closely aligned with the Under Secretary's mission engineering, prototyping, joint-experimentation, and transition efforts. If confirmed, I would certainly strive to work with them and understand how systems engineering organizations across the Department and engineering practices could be optimized to deliver on the critical technology area roadmaps. Studies of DoD acquisition outcomes have shown that implementing rigorous foundational engineering activities early in the capability life cycle leads to improved cost, schedule, and performance results.

**<u>Research Security and Program Protection Planning</u>**

**Our adversaries understand the importance of research and have continuously demonstrated their willingness to benefit from the investments of the U.S. by gaining unlawful access to our findings. This is particularly true in critical technologies such as artificial intelligence.**

**35. If confirmed, how would you ensure that DOD's critical technology research programs are executed in a manner consistent with National Security Decision Directive 189, National Security Presidential Memorandum 33 and the research security and due diligence provisions enacted in the National Defense Authorization Acts over the years?**

It is my understanding that National Security Decision Directive 189 has been executed through previous USD(R&E) memoranda and broadly defines fundamental

research at the Department as basic and applied research performed at universities, or basic research performed at defense labs and in industry. National Security Presidential Memorandum 33 directs review of all fundamental research projects to protect against foreign government interference and exploitation. I understand that in the current organization of the Office of the Under Secretary of Defense for Research and Engineering, Research Security is the purview of the Assistant Secretary of Defense for Science and Technology. If confirmed, I would continue to carry out these research security functions, in close coordination with the ASD(S&T) and for the applicable critical technology areas, unless modified or superseded by new directives promulgated by the President.

**36. If confirmed, what steps would you take to protect U.S. research and intellectual property in critical technology areas from undue foreign influence, without unjustly singling out researchers from certain nations?**

Intellectual property generated by industry and the results of U.S. funded research is the bedrock of our economic and national security. If confirmed, I will work closely with ASD(S&T) to ensure the Department's due diligence reviews for applicable critical technology areas conducted based on a clear set of objective criteria in alignment with statute and this Administration's priorities.

**Technology Transition**

**37. In your view, what is the definition of a successful transition of technology?**

The Department of Defense's science and technology investments and identification, promotion, and tracking of critical technology areas address one singular goal: supporting the warfighter and the successful execution of national defense strategic priorities. I will be laser-focused on this goal if confirmed as ASD(CT).

**38. How would you assess the effectiveness of current transition processes and systems? What challenges do you see that are unique to the transition of critical technologies?**

Technology transition is inherently difficult due to administrative challenges like the lack of budget agility to engage with companies with proven technologies but not yet funded through a program of record. Challenges associated with technology "push" also require a motivated Service lead to pick up and field the technology. I understand that the Department has mechanisms to accelerate technology transition, but a fundamental challenge is the complexity and inflexibility of budget planning and programming across Services to advance Joint capabilities. As Joint technologies mature, flexible funding is needed to support accelerated transition, along with crucial participation of both leadership and cooperation among the Services.

**39. What would you do, if confirmed, to address each of the challenges?**

The statute that tasks the Department of Defense to establish critical technology areas is the guiding light for the Office of the ASD(CT). The ASD(CT) can play a more assertive role in forecasting when Service programs should begin based on anticipated technology readiness levels and capability maturity, matching technology with purchasing opportunity. The USD(R&E) also has tools it can leverage to conduct transition like the Accelerate the Procurement and Fielding of Innovative Technologies (APFIT) program, designed to address the mismatch between the pace of budgeting and accelerated development. The Department can advance technology development through increased emphasis on multi-service collaboration and operational experimentation with the Combatant Commands.

**40. As compared to other technologies, do you believe that a different methodology is needed to transition software capabilities from research to operational use?**

Yes, as indicated by the Secretary's recently signed memorandum on software capabilities, the reality is that we must adopt "software-defined warfare" and therefore the Department does require a more modern approach to software capabilities and acquisition. If confirmed, I look forward to bringing my experience from the private sector to support the Secretary in driving software modernization in conjunction with the critical technology portfolios.

**41. What are your views as to whether DOD's approach to and processes for funding technology transition should be changed? What sort of changes, if any, would you recommend, if confirmed?**

An important issue is the traditional budget process which is not well suited to rapidly emerging solutions. This has historically posed significant challenges for small businesses and other innovative businesses that desire to work with DoD. The APFIT program provides a model which has been successful at bridging the gap. Flexibility in funding is critical to accelerate prototyping, transition, and fielding, but also DoD must endeavor to make decisions faster and communicate more clearly to ensure that these factors are improved and do not impact aspiring vendors.

**42. In what technical areas do you think the Department needs to maintain leadership, and in what areas do you think DOD can safely take a fast follower approach? If confirmed, what processes will you implement to ensure a fast follower approach to fielding and scaling of critical technologies for the warfighter? What challenges do you anticipate in achieving a successful and rapid transition?**

AI and quantum technologies are the clearest areas where leadership from the United States translates to decisive battlefield advantages for the warfighter of the future. These are not stand-alone technologies, but they enable all other military capabilities. I do not think the Department can afford to cede leadership or employ fast follower strategies in these two priority areas.

I have not been fully briefed on the status of other critical technology portfolios to provide a more complete answer where fast follower approaches may be successful. However, any adversary or competitor breakthrough in a critical technology area should be studied and ideally replicated to enable leap head strategies by the Department.

Regarding transition, a clear demand signal from the user community must be paired with prototyping and experimentation in relevant environments to prove that technologies are ready to be adopted.

**43. How do you identify if industry or the Department will serve as the most optimal transition partners for critical technology products?**

Multiple activities across DoD will inform the Department and facilitate better understanding of the most promising opportunities. Deliberate industry engagement and technology readiness evaluation and feedback events like the Technology Readiness Experimentation events, OSC, DIU, DARPA, the OUSD(A&S), and the ASD(CT), must work together to identify investment opportunities, technology opportunities, and employing the unique authorities of each organization. Such deliberate integration and collaboration across these activities will ensure de-confliction and minimize duplicative efforts, while helping to identify the optimal transition entities leveraging each organizations' pathways.

**44. For those technologies best fielded and scaled by industry, how do you plan, if confirmed, to ensure they are appropriately integrated into research activities?**

My time at DIU has prepared me well to ensure appropriate integration with industry leaders in research and development. Leveraging contracting strategies like other transaction agreements as well as hosting robust industry days at classified levels will ensure industry-led technologies are inserted into programs of record at the right time.

**Commercial Technologies**

**45. What role do you view commercial technologies play in critical technology areas for the benefit of DOD institutions and the warfighter?**

We must utilize the strength and innovation of the U.S. commercial sector, particularly dual-use technology, to assist the DoD and improve Warfighter lethality. In fields like AI, microelectronics, quantum science, space-based systems, and

hypersonics, the pace of innovation outside government is far faster than within. The Department must close that gap by creating new collaborations and leveraging existing innovation on-ramps. The Department must identify operational problems to solve and perform rapid prototyping and fielding. In my role as ASD(CT), if confirmed, I will advocate for the Department to fully leverage U.S. industry within the DoD's authorities.

**46. For critical technology areas, what do you believe to be the most significant barriers to Program Executive Offices or prime contractor adoption and transition of new technologies, into acquisition programs? What should be done to address such barriers, in your view?**

It is my understanding that Program Executive Offices face many barriers when seeking to formally transition new capabilities. Such barriers include an inflexible and over prescriptive requirements process, or inflexible program plans that do not anticipate rapid technological advancement or allow for insertion points, and a lack of responsiveness in the budgeting process. If confirmed, I will work with USD(R&E), USD(A&S) and DIU on approaches to remove these barriers to improve rapid transition for the Program Executive Offices.

**Small Business Issues**

**The Department of Defense has the largest Small Business Innovation and Research Program (SBIR) and Small Business Technology Transition (STTR) program government wide. In 2025, the SBIR/STTR program will be up for reauthorization.**

**47. What recommendations do you have to improve the Department's use of the SBIR/STTR program to develop and field new critical technologies?**

The SBIR/STTR programs are important tools to grow the small business ecosystem that is critical to the Department's modernization efforts. These programs have delivered numerous technologies and capabilities that have been adopted by warfighters and commercial entities. It is essential that the programs are executed in a manner that prioritizes Departmental needs, ensures merit-based selection procedures, and decreases barriers to entry to ensure a robust defense industrial base. If confirmed, I look forward to working with the ASD(S&T) and USD(R&E) to review the SBIR and STTR programs to build on existing initiatives to ensure robust, expedient delivery of critical capabilities consistent with the demands of the Department.

**48. If confirmed, how would you integrate the SBIR/STTR program into critical technology area roadmaps and investment activities?**

Leveraging the critical technology roadmaps as tools to signal demand to industry -- especially to communicate DoD needs to the small business community -- is a key priority. If confirmed, I am committed to working with Congress (via appropriate DoD channels), the Service Acquisition Executives, the USD(R&E), the ASD(S&T) and all other parties of interest to ensure that the SBIR/STTR programs are fulfilling their missions of developing and delivering innovation, consistent with the Department's modernization strategies and Critical Technology Areas.

**49. What modifications in the SBIR/STTR program do you believe could improve the transition of critical technologies into acquisition programs?**

Many game-changing technologies adopted by DoD came from innovative small businesses. The SBIR and STTR programs are important tools to support the small business ecosystem. If confirmed, I look forward to reviewing these programs and advising the ASD(S&T) and USD(R&E) on how to make appropriate improvements to the SBIR and STTR programs to bolster outcomes and drive efficiencies.

**50. What modifications in the SBIR/STTR program do you believe could attract new entrants into the critical technology ecosystem, such as small startup companies, as participants?**

Small businesses, including nontraditional defense contractors, may require additional assistance to understand Government-specific processes and procedures such as proposal submission requirements, pre-award activities, cybersecurity rules and practices, and foreign disclosure requirements. If confirmed, I would work with the ASD(S&T), USD(R&E), and USD(A&S) to review ways to increase opportunities to address small business concerns and ensure the Department is making a concentrated effort to educate small businesses on how to do business with DoD.

**51. Do you have any suggestions for new and novel ways SBIR/STTR might be used to support critical new companies or support supplies within the industrial base, not just develop specific technologies?**

The SBIR/STTR programs provide opportunities for small businesses – many of which are venture capital (VC)-backed – to participate in the revitalization of the industrial base. If confirmed, I will work with the ASD(S&T) to pursue opportunities within the Defense SBIR/STTR programs that allows for small businesses to leverage critical defense VC investment, increasing the ability to rapidly develop and field critical capabilities at scale.

**International Research Cooperation**

**52. If confirmed, how do you plan to identify and integrate international research into the Department's roadmaps for critical technologies?**

There are great opportunities to engage with our allies on critical technology areas. If confirmed, I look forward to learning more about the DoD's existing relationships and the unclassified and classified work that is being performed to bolster our mutual defenses.

**53. What is your understanding of the international research cooperation forums or other global technology scanning tools available to the Department?**

The Office of Strategic Intelligence and Analysis, which reports to the ASD(CT). conducts the important statutory role of horizon scanning and global tech watch. If confirmed, I would leverage this organization's role and view into the global research environment and would also seek to ensure integration with the intelligence organizations tasked with assessing adversary and competitor progress across the critical technology areas.

**54. If confirmed, how do you intend to collaborate with international research institutions and companies for the development of critical technologies in support of the warfighter?**

There are great opportunities to engage with international research institutions and companies to catalyze progress on critical technology areas. If confirmed, I look forward to learning more about the DoD's existing relationships and the unclassified and classified work that is being performed to bolster our mutual defenses and commit to exploring the legal authorities that would enable the department to leverage those sources.

**55. What do you perceive to be the most significant obstacles to effective international research and development cooperation in critical technology, and, if confirmed, how would you address those obstacles?**

From my perspective, the most significant obstacles to effective international research and development cooperation are conflicting priorities and the ability to securely share classified information. If confirmed, I would increase awareness across the DoD Components' international science and technology activities to promote transparency and accountability across the Department with the DoD's authorizations and limitations, as well as ensuring the DoD Research and Engineering Enterprise pursues appropriately informed international engagements, both government-to-government and with industry, in support of the Secretary's strategic priorities and to deliver capabilities at the speed of relevance. Finally, I intend to coordinate with the

DoD Components to identify specific opportunities to pursue international cooperation with Allies and partners that bring an equitable investment to collaborative activities.

## Technical Literacy of the Workforce

**56. What is your perception of the technical literacy of the workforce across the Department on critical technology areas? What challenges do you believe exist in building the appropriate level of knowledge? Please explain.**

Ensuring that the Department has access to and retains the best and brightest candidates in the workforce is essential. It is also important that these experts maintain their technical literacy and pace with the capability development in critical technology areas. If confirmed, I will strongly support DoD efforts to improve workforce recruitment, retention, and technical development such that the Department has the right skills and expertise to lead in these critical areas.

**57. If confirmed, how would you work across the personnel policy and management communities in the Office of the Secretary of Defense and the Military Departments to enhance the knowledge to improve rapid fielding and adoption of critical technology areas?**

If confirmed, I will coordinate with my counterparts in ASD(S&T) and the Military Departments to assess their needs to continue supporting their human capital requirements and improving their critical skills to ensure that critical technologies are rapidly fielded.

**58. If confirmed, what actions would you take to increase the recruiting and retention of scientists, engineers, software coders, and other technical positions across the Department's research enterprise?**

Recruiting and retaining top scientists and engineers is a priority for the Department's research and development efforts. If confirmed, I look forward to learning more about ways to increase the recruiting of key technical positions across the DoD Research and Engineering Enterprise and working with my colleagues in ASD(S&T), USD(P&R), and the Military Departments have the support and advocacy needed to ensure they have access to talent.

## Critical Technology Areas

**59. In your view, how well-postured is the Department to take advantage of current software development approaches (e.g. continuous integration/continuous development pipelines, DevSecOps, etc.)? What do you see as the greatest barriers to true adoption of these practices?**

The Department must take full advantage of current software development approaches. If confirmed, I look forward to ensuring that the OASD(CT) is coordinating with the military software factories, the weapons system program offices, the CDAO, and the DoD Chief Information Officer (CIO) to ensure that the Department is overcoming obstacles such as cumbersome acquisition regulations and workforce skill gaps. Successfully addressing these obstacles will enable the DoD to develop and deploy software more quickly, efficiently, and securely, ultimately enhancing its warfighting capabilities and maintaining its technological advantage.

**60. If confirmed, how do you intend to work with the military software factories, the weapons system program offices, the Chief Digital and Artificial Intelligence Office, and the DOD Chief Information Officer to enable rapid adoption of software?**

I was excited to see that Secretary Hegseth signed a memorandum earlier this year recognizing that today's reality is "software-defined warfare" and directing all DoD Components to broadly modernize their approach to software acquisition. If confirmed, I look forward to bringing my experience from DIU to support the Secretary in driving software modernization across the research and engineering portfolio in close coordination with the military software factories, the weapons system program offices, the CDAO, and the CIO.

**61. What role do you believe the ASD(CT) serves in retiring technical debt across the Department's legacy computing and software environments? If confirmed, how do you intent to engage with stakeholders to resolve these issues?**

Advanced Computing and Software is currently one of the 14 Critical Technology Areas of the DoD. If confirmed, I look forward to coordinating with the necessary stakeholders, including the USD(R&E), military software factories, the CDAO, and the DoD CIO, on reducing the risks, costs, and inefficiencies associated with legacy systems and creating a more modern, secure, and agile information technology environment.

**62. What are your views on the respective roles and the partnership of industry, academia, and national labs in building and operationalizing quantum and high-performance computing environments?**

Quantum science is a Critical Technology Area for the Department with many applications and with great promise from academia, national labs, and industry. I understand that the Department continues to pursue quantum science and its

applications – from better clocks and sensors to the potential of quantum computation. If confirmed as the ASD(CT), I look forward to learning more at the classified level and ensuring that the Department has the technological advantage in this critical field by engaging with industry, academia, and the national labs.

**63. In your view, what is the most important investment opportunity for successful fielding and adoption of autonomous vehicles? If confirmed, how do you intend to overcome the challenges impeding the Department from wide-spread service counterpart organizations in the Army, Navy, Air Force and Space Force secretariat staffs?**

I understand that the OUSD(R&E) has been a leader in the development of advanced autonomous capabilities. Accelerating these capabilities requires coordination across the DoD, engagement with academia and industry, and engagement with allied nations to identify emerging solutions and conduct advanced prototype experimentation. Joint experimentation serves to demonstrate technical feasibility, determine utility for the warfighter, and help develop combined and joint concepts of operation for multi-domain autonomous platforms and command and control. OUSD(R&E) industry engagement forums and DoD partners like the DIU serve to connect emerging solutions to DoD's challenges. For example, the APFIT program, have successfully accelerated autonomous capabilities from nontraditional defense contractors for Combatant Commanders.

**64. What do you see as the role of R&E in this space compared to the military service counterpart organizations in the Army, Navy, Air Force and Space Force secretariat staffs?**

The USD(R&E) is the principal advisor to the Secretary and the Deputy Secretary of Defense on all matters related to the Department's research and engineering enterprise, including technology development, transition, prototyping, experimentation, and testing. The ASD(CT) is the chief steward and advocate for unifying and advancing the Department's investments and capabilities pertaining to the critical technology national defense priorities identified by the Secretary and Deputy Secretary of Defense through the establishment of roadmaps, programmatic assessments, and technical activities.

Trusted AI and Autonomy is one the 14 Critical Technology Areas and as such, the OUSD(R&E)'s role, through the ASD(CT), in the fielding and adoption of autonomous vehicles is ensuring that relevant DoD technical infrastructure, research, development, engineering, prototyping, and programs of record have alignment with Critical Technology Roadmap for Trusted AI and Autonomy.

**65. What role do you see ASD(CT) in research and development of artificial intelligence (AI) across the Department? If confirmed, how do you intend to support continued progress in AI?**

Leveraging AI provides an incredible intelligence advantage, and the Department must continue to invest in the quality, reliability, and safety of our AI processes and models. I understand that AI is one of the current 14 Critical Technology Areas at DoD, and, if confirmed, I intend to continue to drive this technology forward through research and development.

**66. What is your assessment of the Department of Defense's microelectronics needs, to include both legacy, state-of-the-practice, and state-of-the-art?**

Microelectronics are foundational to all of our systems; It is my understanding the Department has the need for a variety of microelectronics including legacy, state-of-the-practice, and state-of-the-art. Some of these needs are specific to DoD, such as radiation-hardened microelectronics, and others are needs shared with the commercial sector. If confirmed, I look forward to ensuring that the Department has access to the many types of microelectronics it requires for defense systems.

**67. If confirmed, specifically what steps would you take to ensure that the Department of Defense has assured access to the microelectronics it requires for defense systems?**

I understand the ASD(CT) manages the Trusted and Assured Microelectronics Program (T&AM) program and the Microelectronics Commons Program. Initiatives under the T&AM program include accelerating access to the most advanced microelectronics technologies from domestic foundries, development of methods to verify and validate the integrity of microelectronics procured for DoD missions, and promoting technology refresh on DoD platforms through prototype and demonstrations of improvements in capabilities derived from incorporating advanced microelectronics into systems. If confirmed, I look forward to learning more about the on-going efforts within the ASD(CT) and with interagency coordination to ensure that DoD has access to the microelectronics it requires for defense systems.

**68. If confirmed, what steps would you take to ensure that the Department is aligned on an effective microelectronics research and fielding strategy?**

If confirmed, I would assess the Department's strategy and consider how the Department aligns on microelectronics research and fielding through effective coordination with agencies and components within DoD. Microelectronics has been designated as a Critical Technology Area under the OUSD(R&E) which constructs research and technology roadmaps with reference to microelectronics research activities at other agencies. I would ensure that assessments of the microelectronics

workforce, infrastructure, and industrial base capabilities are conducted and updated to identify gaps and opportunities that can be addressed with DoD research initiatives.

**69. What role should the Department of Defense play in supporting the commercial microelectronics industry?**

The DoD should support DoD-relevant leading-edge microelectronics that commercial industry can leverage. The DoD relies on a robust microelectronics industrial base to manufacture the components needed to ensure that DoD systems deliver the capabilities needed by the warfighter. Research and development to accelerate DoD adoption of the most advanced microelectronics technologies supports the commercial microelectronics industry to the benefit of both defense and economic security. In addition, if confirmed I will support appropriate technology transfer of the results of DoD microelectronics research and development to the commercial electronics industry.

**70. What role should the Department of Defense play in working with the interagency regarding domestic production of microelectronics?**

The DoD and the rest of the U.S. Government collectively can help aggregate demand for microelectronics supported through domestic full lifecycle capabilities. Communication and coordination across the U.S. Government is key to identifying critical needs that are shared across agencies and prioritizing domestic production. Interagency engagement is a key element of the OUSD(R&E)'s mandate to construct research and development roadmaps and perform industrial base assessments of capabilities. I look forward to engaging across the U.S. Government to ensure DoD's needs are met.

**71. How can the Department of Defense reduce or mitigate its dependence on foreign sources of microelectronics for its systems and programs?**

Onshoring of both advanced microelectronics manufacturing and the supply chains that support the industrial base will reduce DoD reliance on foreign sources. I look forward to learning more about the ASD(CT)'s efforts under the T&AM program to promote domestic manufacturing of advanced microelectronics. I am aware of the onshoring of Lab to Fab prototyping of microelectronics through the Microelectronics Commons program.

**Congressional Oversight**

**In order to exercise legislative and oversight responsibilities, it is important that this committee, its subcommittees, and other appropriate committees of Congress receive timely testimony, briefings, reports, records—including documents and electronic communications, and other information from the executive branch.**

**72. Do you agree, without qualification, if confirmed, and on request, to appear and testify before this committee, its subcommittees, and other appropriate committees of Congress? Please answer with a simple yes or no.**

Yes.

**73. Do you agree, without qualification, if confirmed, to provide this committee, its subcommittees, other appropriate committees of Congress, and their respective staffs such witnesses and briefers, briefings, reports, records—including documents and electronic communications, and other information, as may be requested of you, and to do so in a timely manner? Please answer with a simple yes or no.**

Yes.

**74. Do you agree, without qualification, if confirmed, to consult with this committee, its subcommittees, other appropriate committees of Congress, and their respective staffs, regarding your basis for any delay or denial in providing testimony, briefings, reports, records—including documents and electronic communications, and other information requested of you? Please answer with a simple yes or no.**

Yes.

**75. Do you agree, without qualification, if confirmed, to keep this committee, its subcommittees, other appropriate committees of Congress, and their respective staffs apprised of new information that materially impacts the accuracy of testimony, briefings, reports, records—including documents and electronic communications, and other information you or your organization previously provided? Please answer with a simple yes or no.**

Yes.

**76. Do you agree, without qualification, if confirmed, and on request, to provide this committee and its subcommittees with records and other information within their oversight jurisdiction, even absent a formal Committee request? Please answer with a simple yes or no.**

Yes.

**77. Do you agree, without qualification, if confirmed, to respond timely to letters to, and/or inquiries and other requests of you or your organization from individual Senators who are members of this committee? Please answer with a simple yes or no.**

Yes.

**78. Do you agree, without qualification, if confirmed, to ensure that you and other members of your organization protect from retaliation any military member, federal employee, or contractor employee who testifies before, or communicates with this committee, its subcommittees, and any other appropriate committee of Congress? Please answer with a simple yes or no.**

Yes.