

DEFENSE INNOVATION BOARD

FACT SHEET ON RECOMMENDATIONS FOR THE PUBLIC MEETING ON JANUARY 9, 2017

People & Culture

Recommendation 1: Appoint a Chief Innovation Officer and Build Innovation Capacity in the Workforce

- CINO should serve as an advocate for innovation and coordinate, oversee, and synchronize innovation activities across the Department
- CINO should establish a program office to build capacity to spur workforce-driven innovation, such as innovation tournaments and educational activities
- The goal is not to centralize innovation activities, but to foster a culture of innovation and entrepreneurship across the workforce by connecting and enabling the people and programs throughout the Department who are doing innovative work

Recommendation 2: Embed Computer Science as a Core Competency of the Department through Recruiting and Training

- Establish a career track for computer scientists in the military that will provide incentives for service members to specialize in computer science and programming fields
- Create new and expand existing programs to attract promising civilian and military STEM talent
- Reach into new demographic pools of people who are interested in the work DoD does but otherwise wouldn't be aware of DoD opportunities

Recommendation 3: Embrace a Culture of Experimentation

- Build a culture of evidence-based, outcome-driven policies and experimentation
- Offer recognition, awards, and other incentives for managers who promote innovation and experimentation, give employees greater voice, and encourage creativity and divergent views

Technology & Capabilities

Recommendation 4: Assess Cyber Security Vulnerabilities of Advanced Weapons

- Direct U.S. Cyber Command, working in coordination with the National Security Agency, to conduct regular security reviews of weapons systems to identify vulnerabilities embedded in software and networks
- Require that source code for such weapons systems be made available on an ongoing basis for such testing; automate testing and require that any detected vulnerabilities are removed

Recommendation 5: Catalyze Innovations in Artificial Intelligence and Machine Learning

- Establish a DoD center for studying artificial intelligence (AI) and machine learning (ML) and building expertise and capacity in these areas across the Department
- Harness the capabilities of AI and ML to ensure technological superiority the way DoD did with nuclear weapons in the 1940s and with precision-guided weapons and stealth technology afterward
- Expand exchange programs and collaboration with industry and academic experts in this field

Recommendation 6: Expand Use of Available Acquisition Waivers and Exemptions

- Improve the speed and timeliness of acquisition processes by increasing the use of available mechanisms for waivers and exemptions
- Educate DoD acquisition professionals on success stories of alternative mechanisms
- Accelerate deployment of capabilities to warfighters to meet urgent needs

Recommendation 7: Increase Investment in New Approaches to Innovation

- Build on the support for the Defense Advanced Research Projects Agency (DARPA), the Strategic Capabilities Office (SCO), the Defense Innovation Unit Experimental (DIUx), Defense Digital Service (DDS), rapid equipping units, and other small, agile, innovation-focused organizations within DoD
- Establish activities to improve communication and coordination between them and to educate DoD leaders and the workforce about their efforts to drive innovation as a way to enhance the Department's capabilities

Practices & Operations**Recommendation 8: Improve DoD Access to Code**

- Require that all systems purpose-built for DoD should have their source code available to the Department
- DoD should have the rights to and be able to modify the code when new conditions and features arise

Recommendation 9: Establish Software Development Teams at Each Major Command

- Embed software development teams -- a "human cloud" of computer programmers and software developers responsive to the commander -- who are available on-demand to swiftly solve software problems
- Teams should be assigned to commanders to provide an organic, on-demand resource that is responsive to warfighter needs without necessitating writing a requirement, selecting a vendor, reaching back to a distant resource, or going through lengthy and onerous approval or contracting processes

Recommendation 10: Make Computing and Bandwidth Abundant

- Direct DoD to adopt a strategy for rapidly transitioning DoD Information Technology (IT) to current industry standards such as cloud computing, ubiquitous access to modernized wireless systems leveraging commercial standards, abundant computing power and bandwidth that is made available as a platform, integration of mobile technologies, and the development of a DoD platform for downloading applications

Recommendation 11: Reward Bureaucracy Busting and Lower Barriers to Innovation

- Establish incentives for process simplification, reduction of paperwork and reporting burdens, and "bureaucracy busting" activities
- Leaders need to compensate for the natural inertial pressure of large organizations to proliferate barriers and processes by constantly repeating a mantra of simplification

New Recommendation**Interim Recommendation 12: Establish Global and Secure Repository for Data Collection, Sharing, and Analysis**

- Create a new data system to serve as the principal storage platform for all or most DoD data
- Develop tools to enable better decision-making through data mining, analysis, sharing, and visualization
- As cyberwarfare and disruptive cyber activities emanating from an ever-widening host of adversaries become even more widespread and pernicious, data that is easily accessible and can be collected and used efficiently and comprehensively will be more important than ever