

Stenographic Transcript
Before the

COMMITTEE ON
ARMED SERVICES

UNITED STATES SENATE

TO RECEIVE TESTIMONY ON THE DEPARTMENT'S CYBER
FORCE GENERATION PLAN AND THE ASSOCIATED
IMPLEMENTATION PLAN

Wednesday, January 28, 2026

Washington, D.C.

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1 TO RECEIVE TESTIMONY ON THE DEPARTMENT'S CYBER FORCE
2 GENERATION PLAN AND THE ASSOCIATED IMPLEMENTATION PLAN

4 Wednesday, January 28, 2026

5
6 U.S. Senate

7 Subcommittee on Cybersecurity

8 Committee on Armed Services

9 Washington, D.C.

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11 The subcommittee met, pursuant to notice, at 2:30
12 p.m., in Room SR-232A, Russell Senate Office Building, Hon.
13 Mike Rounds, chairman of the subcommittee, presiding.

14 Committee Members Present: Senators Rounds, Ernst,
15 Rosen, and Gillibrand.

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1 OPENING STATEMENT OF HON. MIKE ROUNDS, U.S. SENATOR
2 FROM SOUTH DAKOTA

3 Senator Rounds: I call this hearing to order.
4 Welcome to today's Cybersecurity Subcommittee hearing on
5 the Department's Cyber Force Generation Model, known more
6 commonly as 2.0. The purpose of this hearing is to discuss
7 how the DoD seeks to generate and sustain the advanced
8 cyber workforce necessary to confront the full range of
9 adversaries in the cyber domain scale.

10 I have about a five-page opening statement that I am
11 going to submit for the record, because I want you all to
12 have an opportunity to share with us how you are going to
13 respond to this.

14 I think the most important part that we want to share
15 is this particular approach is designed to provide us with
16 cyber professionals to meet the workforce needs of
17 literally a domain which is in huge demand right now, and
18 has been the focus of anything having to do with military
19 operations.

20 Today, as our witnesses, we have Katherine Sutton,
21 Assistant Secretary of Defense for Cyber Policy, Office of
22 the Secretary of Defense; Lieutenant General William J.
23 Harman, USA, Acting Commander, United States Cyber Command
24 and Performing the Duties of Director, National Security
25 Agency, and Acting Chief of Central Security Service; and



1 Brigadier General R. Ryan Messer, U.S. Air Force, Deputy
2 Director for Global Operations, J3 Joint Staff. Welcome to
3 all of you. We look forward to hearing your thoughts,
4 recommendations, and answer questions that we have of you.

5 And with that I will turn to our Ranking Member,
6 Senator Rosen.

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1 STATEMENT OF HON. JACKY ROSEN, U.S. SENATOR FROM
2 NEVADA

3 Senator Rosen: Thank you, Chairman Rounds. I have a
4 very short opening remark, so I am going to read those in
5 and then we will get right to it.

6 This hearing is so important, and I appreciate the way
7 that the Chairman and I worked together, hearing from all
8 of you about the Department of Defense, your Cyber Force
9 Generation Plan, the associated implementation plan,
10 CYBERCOM 2.0. And for the witnesses here, thank you for
11 your service and your commitment, because now more than
12 ever the United States needs a cyber workforce equipped
13 with the acumen and expertise to defend our networks, to
14 executive offensive operations in a rapidly -- is not a
15 fast enough word to even describe it -- a rapidly changing
16 battle space that achieves our national security
17 objectives.

18 I would point out, however, that the new National
19 Defense Strategy, publicly released on Friday, only
20 mentions cyber in three places. Cyber is everywhere. I am
21 surprised at how little emphasis has been placed on cyber
22 in comparison to other capabilities in the NDS. It does
23 not engender much confidence that cyber is being treated
24 with the necessary urgency or priority by this
25 Administration that I think we would all agree that we



1 need.

2 The Department of Defense must take swift action to
3 develop programs that enable our cyber warfighters to
4 increase cyber domain mastery and operational readiness.
5 It is critical. We have to promote standardized training
6 across all of our services. We need a sustainable talent
7 pipeline -- I know you are going to talk about that -- and
8 we need effective initiatives for retention.

9 Because in an era of persistent cyber threats from
10 foreign adversaries like China and Russia and Iran, they
11 are probing and testing and challenging our systems, I
12 would say by the nanosecond. Not even enough to say daily.
13 Every single second. They are seeking any opportunity they
14 can to degrade our command control, disrupt our operations,
15 steal our most sensitive information, and they are using
16 sophisticated cyber tactics to disrupt military operations,
17 spreading dangerous propaganda to American citizens, and
18 denying access to lifesaving goods.

19 Advancement in artificial intelligence by our
20 adversaries, of course, they heighten the sense of urgency
21 we must all feel right now, we must have to protect against
22 AI-orchestrated campaigns aimed at targeting, well,
23 targeting us, our critical infrastructure, our supply
24 chains. And we cannot defend against these disturbing yet
25 real threats without cyber professionals every step along



1 the way, armed with the requisite skills and abilities to
2 bolster the cyber enterprise.

3 And so for too long the approach to manning, training,
4 and equipping our cyber forces, we have just lagged behind,
5 and we need to really step that up, in my opinion. The
6 Department of Defense, we know we struggle, continue to
7 struggle with recruitment, retaining cyber talent,
8 particularly against such a competitive private sector. So
9 this issue undermines our readiness across all domains, and
10 it is a priority of this Subcommittee, and the Committee at
11 large, to help the Department do everything that we can to
12 fix it, because we cannot fight today's digital wars with
13 the outdated infrastructure, with our inflexible personnel
14 structures. We need a skilled, professional cybersecurity
15 force. It is not a luxury; it is a foundational
16 requirement for all of us.

17 So I am committed to work together in a bipartisan
18 way, on this Committee, on the full Committee, with all of
19 you, to be sure that we have the cyber force of the future
20 that we need and will continue to need, going forward.

21 Thank you again for your work and for being here. Mr.
22 Chairman, thank you.

23 Senator Rounds: Thank you, Vice Chair Rosen. Let me
24 just begin with Secretary Sutton. We welcome you back.
25 She has been on this side for quite a while, and we all



1 know you and appreciate what you do, and appreciate what
2 you have already done in terms of providing for a lot of
3 the language. But right now you operate under the
4 International Defense Authorization Act that were
5 implemented when you served on this side. So we appreciate
6 having you back. We welcome you back, and we look forward
7 to your opening comments.

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1 STATEMENT OF THE HONORABLE KATHERINE SUTTON,

2 ASSISTANT SECRETARY OF DEFENSE FOR CYBER POLICY

3 Ms. Sutton: Thank you. Chairman Rounds, Ranking
4 Member Rosen, and distinguished members of the Committee,
5 it is an honor to appear before you today. As you
6 mentioned, it is really quite the privilege to be on this
7 side of the table, representing the Department and all of
8 the efforts that we are working forward to tackle those
9 challenges that Senator Rosen highlighted in her opening
10 remarks.

11 I am grateful for the opportunity today, in particular
12 to discuss the Department of War's comprehensive efforts to
13 organize, train, and equip our cyber forces to meet the
14 complex changes the nation faces in the 21st century.

15 The subject of today's hearing, Cyber Command 2.0,
16 represents what the Secretary of War, Secretary Hegseth,
17 mentioned at the Reagan Defense Forum the most significant
18 transformation of U.S. Cyber Command since its inception 15
19 years ago. This initiative is the cornerstone of our
20 effort to ensure American dominance in a rapidly evolving
21 cyberspace domain, meeting the President's clear mission to
22 the Department of War, achieving peace through strength.

23 Cyber Command 2.0 is only one of the key initiatives
24 we are working to maximize our cyber forces. We are
25 also working to validate, and if necessary, update our



1 force design and force employment to ensure we are able to
2 achieve the maximum outcomes.

3 For many years, the Department has recognized that our
4 approach to building and sustaining cyber talent was not
5 keeping PACE. Our adversaries are investing heavily in
6 cyber, while we have been constrained by traditional force
7 generation models which, while effective for conventional
8 forces, failed to fully address the unique requirements of
9 cyberspace operations. This has created significant
10 challenges in recruiting the right people, retaining our
11 best operators, and providing the agile specialized
12 training needed to win.

13 Our legacy force generation model is inconsistent,
14 hindering our ability to adapt at speed and scale to
15 counter threats like Volt Typhoon and Salt Typhoon, and
16 quickly integrate emerging technologies like artificial
17 intelligence.

18 To address these systematic challenges head on, the
19 Secretary of War approved Cyber Command 2.0, a fundamental
20 reimagining of how we build and manage our cyber forces.
21 At its core, Cyber Command 2.0 is founded on three
22 essential, fundamental pillars.

23 The first of those is domain mastery. We are shifting
24 from a compliance-based paradigm to one that fosters deep,
25 career-long expertise. Our goal is to cultivate a cadre of



1 cyber personnel who achieve true mastery through enduring
2 operational experience rather than rotating through cyber
3 assignments as generalists.

4 Second is specialization. The cyber domain is not one
5 size fits all. Cyber Command 2.0 establishes dedicated
6 pathways for our personnel to become deep experts in fields
7 like industrial control systems or space asset protection,
8 resulting in specialized units aligned to our most critical
9 missions.

10 And third is agility. The cyber threat landscape
11 evolves with unparalleled speed. We require a force that
12 can adapt and employ new technology just as quickly. This
13 model allows for dynamic allocation of talent, ensuring we
14 maintain a proactive posture against the most pressing
15 threats.

16 To bring these pillars to life we are implementing
17 seven core attributes. The first is targeting recruiting
18 and assessment. We are shifting from general recruiting to
19 targeted talent acquisition, beginning with an in-service
20 recruiting pilot using validated instruments like a Cyber
21 Assessment Battery to identify individuals with inherent
22 aptitude and suitability for cyber warfare.

23 Second are incentives for recruiting and retention.
24 To remain competitive, we must implement robust incentive
25 pay and retention bonuses that reward mastery, and we will



1 standardize this pay across the services.

2 Third is tailored and agile training. Through our
3 Advanced Cyber Training and Education center we will focus
4 mission-specific skills on demand, ensuring our forces
5 remain ahead of technological advancements and adversarial
6 tactics.

7 Fourth, tailored assignment management. We are
8 engineering career pathways that enable sustained operator
9 engagement, allowing operators to build a comprehensive
10 portfolio of tailored experience rather than being forced
11 to move on after a single tour. This approach generates
12 domain mastery within the Cyber Mission Force while also
13 providing greater operational effectiveness when
14 warfighters return to their services and apply their
15 developed talent to service mission sets.

16 Fifth is specialized mission sets. We are developing
17 dedicated units of experts focused on highly specialized
18 missions, such as protection of space assets or the defense
19 of critical infrastructure, making them the world's leading
20 authorities in their fields.

21 Sixth is integrated headquarters and combat support.
22 Our tactical cyber teams will be presented with dedicated
23 headquarters and combat support, ensuring they have the
24 leadership and resources needed to execute their missions
25 without the distractions they have today.



1 And last is optimized unit phasing. To prevent
2 burnout and sustain readiness, we are instituting a unit
3 phasing model that creates a sustainable operational tempo,
4 keeping our personnel focused and effective for the long
5 haul.

6 While each one of these attributes offers merit, the
7 true power lies in their synergy, creating an exponential
8 effect on our ability to generate and sustain cyber talent
9 across the entire talent management lifecycle. These
10 efforts are driven by the creation of three enabler
11 organizations within Cyber Command, that General Hartman
12 will talk about in his speech.

13 As directed by the Secretary of War, I will oversee
14 the Cyber Command 2.0 implementation, consisting of 97
15 tasks across 26 lines of effort. This revised force
16 generation model empowers the commander of U.S. Cyber
17 Command to directly influence how our forces are manned,
18 trained, and equipped, to deliver immediate warfighting
19 outcomes while preserving decision space on future
20 organizational constructs. The core attributes of mastery,
21 specialization, and agility are indispensable, regardless
22 of any future structural changes.

23 Cyber Command 2.0 represents the beginning of a
24 necessary journey and the Department's commitment to
25 providing our cyber warriors with the careers, talent, and



1 support they deserve. In addition to Cyber Command 2.0,
2 the Department is undertaking several initiatives to
3 enhance our warfighting capabilities in the cyber domain.
4 They include validating and updating our cyber force design
5 and developing a force employment model that ensures
6 maximum lethality and operational outcomes.

7 Importantly, Cyber Command 2.0's purpose extends
8 beyond the cyber domain. It is a critical Joint Force
9 capability that must be integrated across all warfighting
10 domains. This sends a clear message to our adversaries:
11 the United States is all in on achieving and maintaining
12 cyber superiority in support of our national interests.

13 Thank you for the opportunity to testify today. I
14 look forward to continuing to work closely with this
15 Subcommittee on this critical national security priority,
16 and I welcome any questions that you have.

17 [The prepared statement of Ms. Sutton follows:]

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1 Senator Rounds: Thank you, and I appreciate your
2 comments, Secretary Sutton.

3 General Hartman, welcome, and as you get started I
4 just want to personally say thank you for your dedicated
5 service to our country and everything that you have done to
6 forward our security through implementation of these types
7 of policies in the cyber domain. And I appreciate that.

8 Thank you, sir.

9 Go ahead with your statement, please.

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1 STATEMENT OF LIEUTENANT GENERAL WILLIAM HARTMAN, USA,
2 ACTING COMMANDER, UNITED STATES CYBER COMMAND/ PERFORMING
3 THE DUTIES OF DIRECTOR, NATIONAL SECURITY AGENCY/ ACTING
4 CHIEF, CENTRAL SECURITY SERVICE

5 General Hartman: Thank you. Chairman Rounds, Ranking
6 Member Rosen, and distinguished members of the Committee,
7 thank you for the opportunity to discuss the future of our
8 nation's cyber force. Thank you specifically for the
9 requirements in Section 1533 of the fiscal year 2023 NDAA
10 that brings us here today.

11 The revised Cyber Force Generation Model approved by
12 the Department is fundamental to a more lethal, agile, and
13 enduring cyber force, capable of deterring, and if
14 necessary, defeating our adversaries in cyberspace.
15 CYBERCOM 2.0 directly addresses our national security
16 challenges and fixes many of the issues facing our
17 servicemembers. This is a significant upgrade in how we
18 man, train, and equip the world's best cyber force.

19 Since the standup of U.S. Cyber Command we have had
20 challenges manning the cyber force and ensuring we had
21 viable cyber-centric career models across all services. We
22 face many challenges, ranging from duplicative training,
23 uncompetitive and inconsistent compensation, excessive
24 administrative burdens, and a high operational tempo that
25 contributes to an unsustainable stress on the force.



1 CYBERCOM 2.0 targets these problems through seven key
2 deliverables that overhaul how the Department of War
3 generates and sustains lethal cyber warfighters. These
4 deliverables include overhauls in targeted recruiting,
5 modernized incentives, specialized mission teams, and
6 optimized operational tempos.

7 This plan gives us what we need. It forges cyber
8 warrior by building upon the warfighting culture and lethal
9 capabilities of the military departments, harnessing their
10 institutional mastery of sustained warfare, their capacity
11 for precise global operations, and their core competency
12 and expeditionary and agile power projection in denied
13 environments.

14 To lead this effort I have established three key
15 enabling organizations. The Cyber Talent Management
16 Organization is developing the cyber assessment battery
17 test to better align incoming talent. To ensure we retain
18 high-end warfighters, we are using our Title 10, Section
19 167b authorities to budget for standard skills pay and will
20 next focus on retention incentives.

21 The Advanced Cyber Training and Education and Center
22 is tailoring training to specialize mission needs while
23 eliminating training redundancy in areas like artificial
24 intelligence, expeditionary cyber, and advanced tradecraft.

25 Our Cyber Innovation Warfare Center will more rapidly



1 equip our cyber forces with cutting-edge capabilities and
2 game-changing trade craft. We will build capabilities we
3 need for the future, not focused on past requirements.
4 This center will serve as the central point of
5 collaboration for industry, academic, government partners,
6 and the cyber operating force.

7 These enabling organizations are being designed to be
8 AI by birth, built from the outset to be data centric,
9 automated, and decision optimized. This means that data
10 will be treated as a strategic asset, workflows are
11 engineered for automation, artificial intelligence is
12 embedded into planning, operations, and sustainment, not
13 bolted on later.

14 Artificial intelligence is no longer a future concept.
15 It is an operational capability we are integrating today.
16 In line with our Cyber Command 2.0 vision, we are
17 transforming how the command is organized, enabled, and
18 resourced to operate at the speed and scale required in the
19 cyber domain. We are fundamentally changing how we bring
20 Thank you into the fight. Rather than relying on long,
21 bespoke government development cycles, we are aggressively
22 leveraging commercial proven AI technologies, the same
23 systems driving productivity, analytics, and automation
24 across the global economy, and rapidly adapting them for
25 military use, while also building classified and mission-



1 specific capabilities internally, when required.

2 This industry-first approach allows us to move at the
3 pace of relevance. It enables continuous iteration, rapid
4 upgrades, and alignment with the global AI innovation
5 ecosystem, which no single government entity can replicated
6 on its own. In a domain where our adversaries are already
7 exploiting automation and machine learning and large-scale
8 analytics, speed is not a luxury. It is a necessity.

9 Importantly, we are no longer piloting AI for
10 learning. We are operating AI for mission outcomes. Today
11 AI is being used to accelerate cyber threat detection and
12 response, prioritize and automate defensive actions across
13 large networks, improve operational planning, targeting,
14 and operations, and reducing analyst workloads so human
15 expertise is focused on the highest value decisions. These
16 are not experiments. These are capabilities already being
17 delivered across the force.

18 Because getting this right is so critical, we have
19 aligned our Chief AI Officer as a direct report to me,
20 outside traditional stovepipes. This ensure AI data
21 architecture and operational design are integrated from day
22 one, rather than competing for priority after the fact.

23 CYBERCOM 2.0 strengthens our integration with other
24 combatant commands. By building more proficient cyber
25 forces, we provide more lethal and capable support to the



1 Joint Force. When our cyber operators are expertly matched
2 to their roles, receive cutting-edge training, and are
3 freed from administrative burdens to focus on the fight,
4 their operational effectiveness increases exponentially.
5 This enhanced capability directly translates to delivering
6 decisive outcomes for CYBERCOM and other combatant
7 commanders at the timing and tempo our senior leaders
8 require.

9 In closing, I want to reiterate my appreciation for
10 Congress' support and partnership over the past several
11 years. Changes to our budget and acquisition authorities,
12 as well as the fiscal year 2023 NDAA Section 1533 provided
13 us the required tools and a clear mandate to address
14 persistent readiness challenges and implement solutions
15 across the Cyber Mission Force. We are using those
16 authorities to implement CYBERCOM 2.0.

17 I assess implementing CYBERCOM 2.0 as the best path to
18 get our cyber warriors and our cyber force where it needs
19 to be to support the Joint Force, in crisis and conflict.
20 The Secretary's direction is clear, and we have buy-in and
21 participation with services. Already we are leveraging
22 the Army model for proficiency pay, and the Navy is
23 implementing clear career progression for the maritime
24 cyber warfare officers.

25 Your continued support, both in sustained investment



1 and providing flexible authorities to partner with the full
2 spectrum of U.S. AI companies, from major defense primes to
3 venture-backed startups, is what allow us to move fast,
4 stay secure, and maintain our advantage. The success of
5 this endeavor will depend on continued partnership with
6 Congress and the Department to ensure adequate oversight
7 and sustain funding to implement these necessary changes
8 and maintain the world's premier cyber force. This is how
9 we ensure that American innovation remains decisive in
10 cyberspace.

11 Thank you. I look forward to your questions.

12 [The prepared statement of General Hartman follows:]

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1 Senator Rounds: Thank you, General Hartman.
2 And General Messer, thank you. Welcome. I appreciate
3 your service to our country. And with your statement,
4 please proceed.

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1 STATEMENT OF BRIGADIER GENERAL R. RYAN MESSER, USAF,
2 DEPUTY DIRECTOR FOR GLOBAL OPERATIONS, J3 JOINT STAFF

3 General Messer: Chairman Rounds, Ranking Member
4 Rosen, and distinguished members of the Subcommittee, thank
5 you for the opportunity to join this hearing and speak to
6 the importance of cyberspace as an integral part of joint
7 all-domain military operations.

8 Joint Operations are reliant on operators who are
9 masters of their craft. For example, an aviation strike
10 operation requires aircrew who are exceptionally skilled in
11 aerial refueling, air intercept control, air-to-air
12 warfare, and strike warfare. It takes years of specialized
13 training to build a team who can succeed in such mission
14 areas. The same is true for our cyber operations.

15 At the same time, the demand for cyber forces across
16 the Joint Force is steadily rising. As you will hear in
17 combatant commander posture statements, our adversaries are
18 using the cyber domain as part of their multi-faceted
19 campaigns to degrade U.S. and allied interests.

20 USINDOPACOM has emphasized defensive cyber operations as
21 the "Joint Forces' first line in defense" in their theater,
22 and USSOUTHCOM highlighted "cyber espionage" as a vector
23 for both intelligence gathering and persuading audiences
24 against U.S. interests in their theater.

25 Amid these threats, demand for cyber capabilities is



1 at an all-time high. Threats in cyberspace are currently
2 growing faster than we can scale our actions. The size of
3 the existing Cyber Mission Force requires us to prioritize
4 some efforts and take risks in others, which could delay
5 our response to meeting emerging threats.

6 For all military operations, actions in cyberspace are
7 playing an increasingly important role. That includes
8 operations where the cyber element may not be self-evident.
9 Whether protecting our forces from harm, complementing
10 kinetic action, imposing costs on adversaries, or defending
11 friendly infrastructure, cyberspace operations are critical
12 to the successful employment of the Joint Force. To
13 succeed, we must be proactive, not reactive. Cyber
14 activities must be integrated into every phase of
15 operations, starting with concept development.

16 Military operations in every domain require
17 specialists. Just as specialized aircrew support every air
18 operation, specialized cyber operators are essential to
19 ensure U.S. dominance in cyber and all-domain operations.

20 CYBERCOM 2.0 will help us combat the adversary's
21 ability to mass forces with domain mastery and advanced
22 tools, extracting the greatest value from the force that we
23 have. Training, experience, tools, and resourcing will
24 give our operators what they need to prevail in this
25 dynamic domain.



1 On behalf of the men and women of the Joint Force, we
2 appreciate your support for the Cyber Mission Force and for
3 this vital initiative. And with that we will open it up
4 for questions.

5 [The prepared statement of General Messer follows:]

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1 Senator Rounds: Thank you, General Messer.

2 Look, to begin with, we are in an open session right
3 now so we have an opportunity to not only ask questions but
4 to help educate, as well. Five domains -- air, land, sea,
5 space, and cyberspace. It appears that there will never be
6 another kinetic activity that does on in terms of our
7 Department of Defense or Department of War without having
8 some cyber activity to the left of it, basically to make
9 the field of battle a little bit safer for our young men
10 and women.

11 But in order to do that it has to be integrated and a
12 part of the larger force. And in order to make that
13 happen, you need professionals that clearly understand
14 their role. That is lot about what this discussion today
15 is about. It is about the cyber force itself and how they
16 actually provide the needed services to different COCOM
17 commanders, combatant commanders, that we lay out
18 throughout the world. In order to do that, we have got to
19 make sure that the cyber operations can be integrated as
20 quickly and as efficiently as possible.

21 Ms. Sutton, part of the CYBERCOM 2.0 initiative
22 recommends maturing the Assistant Secretary of Defense for
23 Cyber Policy position to meet the demands of executing
24 Section 167b authority for cyberspace operations peculiar
25 activities. And I just want you to describe what that



1 maturation might look like in practice. Specifically, how
2 would an enhanced Assistant Secretary for Cyber Policy, how
3 would that office support the force generation objectives
4 outlined in CYBERCOM 2.0, and what additional
5 responsibilities or authorities would be necessary to
6 effectively execute this expanded role? In other words,
7 what specific resourcing would be required to enable that
8 maturity of the ASD Cyber Policy office?

9 I know you are new in the role and so forth, but you
10 have got a great deal of experience in the cyber domain and
11 what we have done within the National Defense Authorization
12 Act in the past. Your thoughts, please.

13 Ms. Sutton: Senator Rounds, than you for that really
14 important question. So as you mentioned, one of my top
15 priorities going forward, and what I think one of the key
16 responsibilities of my office, is to make sure that cyber
17 is integrated into multi-domain operations. And so having
18 this role be fundamental and be embedded within the Under
19 Secretary of Policies organizations allows that to happen
20 on a daily basis, to bring the cyber domain to all of the
21 policy discussions happening more broadly.

22 I think historically we have seen cyber treated very
23 much in a stovepipe, where the cyber people go off and talk
24 about the cyber domain and do their things in a silo and in
25 a vacuum. And I see one of the primary roles of my office,



1 both as the Assistant Secretary for Cyber Policy as well as
2 the principal cyber advisor in my role to be an advisor to
3 the Secretary of War, is to be that coordinating function
4 across the Department, to really bring cyber to all of the
5 other domains of warfighting, to coordinate across the
6 services, and to look for opportunities where resourcing is
7 needed and where we need to really focus the Department's
8 efforts to achieve these outcomes that are going to be
9 critical to all future conflicts going forward.

10 Senator Rounds: Thank you. And just in order to make
11 sure that all of our members get an opportunity to speak,
12 and we are going to do several rounds of questions, I will
13 defer right now to Senator Rosen.

14 Senator Rosen: I am going to defer to Senator
15 Gillibrand, because we are here the whole time and everyone
16 has a lot of hearings going on. So Senator Gillibrand, you
17 are recognized.

18 Senator Gillibrand: Thank you, Mr. Chairman. Thank
19 you, Madam Vice Chairman.

20 General Hartman, since the fiscal year 2017 NDAA,
21 CYBERCOM has had the authority over the training of
22 assigned joint forces, conducting specialized courses of
23 instruction, monitoring and promotion of Cyber Operation
24 Forces, coordinating with the military departments
25 regarding assignment, retention, training, education, and



1 special and incentive pays for Cyber Operation Forces. The
2 command has been the Joint Force trainer for almost as
3 long. Much of CYBERCOM 2.0 appears to be tinkering with
4 this space rather than fundamental reimagining. Can you
5 speak to why the command did not take these steps before
6 and why you believe this is a dramatic transformation?

7 General Hartman: Senator, thanks for your questions.
8 As you point out, in 2017 we were given certain
9 authorities. But what we did not have control of at the
10 time was the funding, Senator. So as you are aware, in
11 2023, we were given enhanced budget control. There were a
12 series of issues that actually caused us to not receive
13 control of that funding until 2024. And so when we had
14 some authorities we really had no enforcement mechanisms,
15 and we have started to execute those enforcement
16 mechanisms, and we have seen benefit from that.

17 Senator, CYBERCOM 2.0 does not intend to totally
18 reinvent how we train the force, but what it does intend to
19 do is make sure that the services are held to the standard
20 of 1,000-level training. The CYBERCOM J7 will continue to
21 execute 2,000-level training. So basic training by the
22 services, qualification through CYBERCOM, which we have
23 made a lot of progress on in the last 2 years. And then
24 what CYBERCOM 2.0 is really going to bring is advanced and
25 specialized training, moving at the pace of industry, that



1 is really required, that will allow us to both compete and
2 really plan to outpace China. That is the construct that
3 we are laying out, Senator.

4 Senator Gillibrand: Thank you. Secretary Sutton,
5 while the services largely say cyber is important, it is
6 not a top priority for any of them. Agreeing to a notional
7 plan is easy, but the services are notoriously protective
8 of their control over their recruiting, retention, and
9 talent management. How will your office hold services
10 accountable and ensure they do not steamroll CYBERCOM on
11 career and talent management?

12 And I will just say that this Committee, we have had
13 hearing after hearing, year after year, and we have drilled
14 down to how many personnel you are getting from each
15 service, and which services are slower than the other, and
16 what level of staff you could acquire. And frankly, it is
17 never good enough. So I just really want to know how you
18 intend to succeed?

19 Ms. Sutton: Senator, I appreciate your question and
20 understand the frustration. I think you are really
21 highlighting what is fundamental about Cyber Command 2.0,
22 which is involvement at the Secretary's level to really
23 coordinate and make sure that the services are all doing
24 things consistently and that we rise everybody to the top
25 bar.



1 We see best practices in pockets across the services,
2 but have historically lacked a coherent effort to bring all
3 those together and rise all levels up. It is going to
4 require hard discussions internal to the building. It is
5 going to require prioritization. And we have a clear
6 direction from the Secretary of War when he approved this
7 plan about the importance of increasing the lethality of
8 our cyber warriors.

9 I look forward to having all those internal battles
10 within the Pentagon, because I think it is fundamental to
11 what we owe our cyber warriors that come to work every day
12 and do this mission, is to be able to train them and retain
13 them in ways that allow us to maintain the world's most
14 competitive cyber force.

15 Senator Gillibrand: General Hartman, it was just
16 reported that China improved the import of H200 chips to
17 ByteDance, Alibaba, and Tencent. These companies all work
18 closely with Chinese military, and just a few months ago
19 reports indicated a White House memo raised concerns that
20 Alibaba provides support for PRC military operations
21 against targets in the U.S.

22 If these sales go through, what impacted will this
23 acquisition of H200s have on their ability to target U.S.
24 military and U.S. critical infrastructure?

25 General Hartman: Senator, I have not studied that



1 question, so I will agree to get back to you with an
2 answer.

3 Senator Gillibrand: Thank you. And just my last
4 point. I would like to hear from each of you. I still do
5 not understand why you do not want a Cyber Academy. I just
6 do not know why you do not want a service academy that will
7 just train the personnel you need, from top to bottom,
8 consistently and regularly. We tried to create small
9 pipelines for you through Cyber Academy for non-military
10 personnel, but I still do not know why you do not want your
11 own. I get why you are going to use existing services and
12 try to do better training, but future war is going to be
13 cyber, and I do not know why we are taking so long to do
14 this.

15 And I think also in your testimony you said that your
16 goal for -- what is the group? -- the ACTEC, the Advanced
17 Cyber Training and Education Center, will not be fully
18 operational capable to Q3 fiscal year 2031. I mean, that
19 is a really long time for any bricks and mortar.

20 But can you each talk about why you do not have this
21 vision, and why is it so difficult?

22 Ms. Sutton: So I really appreciate that question
23 because I think how we get the right training to our people
24 and what courses we have available and what mechanisms we
25 have is really important.



1 I really want to highlight the importance in Cyber
2 Command 2.0 of the ACTEC, the Advanced Cyber Training and
3 Education Center. And the intent of it is actually not to
4 be a brick-and-mortar institution, because what we see is
5 having an internal developed training system is probably
6 always going to be slow to need. As we look at the
7 timelines it takes to get basic training updated, we are
8 losing out to the best of breed that is happening in
9 industry and academia. So that Advanced Cyber Training and
10 Education Center model is really intended to figure out
11 what our requirements are, where we have skills and key
12 knowledge gaps that we need training on, and then to be
13 able to go out to industry and academia, find the best of
14 breed, if it is available out there, bring that in, and
15 then we can have standards that we are trained to.

16 So that is really the model that we are looking to
17 move out on quickly. The timelines that we are talking
18 about are to get it fully up and scaled across the entire
19 force, across an entire curriculum. I will let General
20 Hartman talk about some of the early pilots that we are
21 aiming to get some quicks wins in.

22 Senator Gillibrand: Again, the Chairman can take
23 control of this, but honestly, we have been saying that for
24 a decade, and it just does not work. We cannot compete.
25 We do not pay enough. Our salaries are too low. So the



1 benefit that the service academies have is it is free
2 college for 4 years, or 2 years, or whatever it is going to
3 be. So kids will choose to do that route because we can
4 compete on that.

5 Let's say you set your standard, every 6 months of the
6 perfect person. They are not going to join you, because
7 they are making \$400,000 or \$600,000 where they are. You
8 are not going to get them.

9 So you guys can answer the question if you want, but
10 you can also take the time back if you would like, Mr.
11 Chairman.

12 Senator Rounds: I will allow the question, if you
13 have got it, and if not we can bring it back in and you can
14 respond with a written response. But I would be curious to
15 hear what your thoughts are on it.

16 Ms. Sutton: Just one thing and then I will let
17 General Hartman also provide his answer. I am a firm
18 believer in exactly what you mentioned. I am a Scholarship
19 for Service recipient. My master's degree was funded
20 through government funds with a service obligation, and
21 over 20 years later I am still in government. I see it is
22 a very powerful recruiting tool and something that we are
23 continuing to look to opportunities to continue to
24 leverage.

25 General Hartman: Senator, I am not opposed to a joint



1 cyber service training academy. I think there is great
2 merit in that. What I do not think is the best answer
3 right now is to divorce our cyber capability in the
4 Department from the services. And that is based on
5 everything that we are doing from an operational
6 standpoint. And if I have got to build a cyber plan
7 against an adversary's air defense network, the Air Force,
8 as a service, brings tremendous capability to me that I do
9 not believe we need to separate.

10 Senator Gillibrand: Got it.

11 General Hartman: And then the second piece is, the
12 Advanced Cyber Training Academy, what we are trying to do
13 is really marry the training to the operational elements of
14 the command. So we learn things in an Ops Room, both
15 offensive and defensively, that we immediately turn into a
16 training requirement, that we train across the force. So
17 each disparate element is not learning every time they get
18 on keyboard in order to execute operations. We just think
19 that is fundamentally important, but there is a huge
20 institutional training environment, and I support your
21 idea.

22 Senator Rounds: Thank you, Senator Gillibrand, for
23 the excellent questions. I appreciate that.

24 Ms. Sutton and General Hartman, you are likely aware
25 of the calls -- and this follows the same line -- for the



1 establishment of a separate military service dedicated to
2 the cyber domain or a cyber force. Like me, you are no
3 doubt close with and respect many of those who are
4 supportive of a cyber force. What would you say to those
5 national security and cyber experts who are advocating for
6 a separate cyber force? Step right into it.

7 Senator Rosen: You knew he was going to ask that,
8 didn't you?

9 Ms. Sutton: I appreciate that question. I think this
10 is a really important debate for us all to be having about
11 the future of the cyber warfighting domain. I do think one
12 of the most common misconceptions about Cyber Command is
13 that it is a debate between Cyber Command 2.0 and a cyber
14 force, and they are actually separate debates that I
15 believe both need to be had, and we need to look closely at
16 the pros and cons of both.

17 Cyber Command 2.0 is inherently about building a
18 talent model. It is looking across the entire talent
19 pipeline from when we recruit someone, how we make sure we
20 have the right talent, how we train them, how we retain
21 them, how we build careers for them, how we really build
22 our cyber warriors. We know how to do this. As Cyber
23 Command has become operational we have built a set of very
24 capable cyber operators. Now we need to do that at scale
25 and have a system that supports that, rather than doing it



1 in an ad hoc method.

2 And so Cyber Command 2.0 is really that talent
3 management model, and we have been very careful as we have
4 built that model that it is agnostic to the organizational
5 model and that it would support both the current model,
6 where five services present, as well as other
7 organizational models, such as the establishment of a cyber
8 force.

9 So I think they are both really important debates to
10 have, but they are separate debates that we need to make
11 sure that we are quickly moving ahead with Cyber Command
12 2.0. We have a lot of work done, and it is required
13 regardless of what model we have. We have to build the
14 talent. And so that is our immediate focus, is working on
15 all of these fundamental activities that we are going to
16 need, going forward, that would enable any future decisions
17 to be made about an organizational change.

18 Senator Rounds: General Hartman?

19 General Hartman: Chairman, I just would like to add
20 three things to what the Honorable Sutton said. I agree
21 with her that this CYBERCOM 2.0 is certainly important
22 regardless of any future decision.

23 I do believe when we did the analysis for CYBERCOM 2.0
24 the timeline was fundamentally important, so we did view
25 this through a 2027 lens. We viewed it through a



1 resourcing lens. And through that lens, CYBERCOM 2.0
2 provided us the best opportunity in order to build the
3 force that we needed on a 2027 timeline. And I think that
4 is important.

5 The second piece is, I fundamentally believe the
6 ability to integrate across the Joint Force is best suited
7 to the model that we are developing here in CYBERCOM 2.0,
8 and that is fundamentally important. I did not answer the
9 question that you asked earlier, but our ability to
10 integrate not just left of conflict but during a conflict,
11 in all phases of the operation, just like any other
12 traditional military capability, is absolutely essential to
13 us delivering the capability that the nation needs. And I
14 think CYBERCOM 2.0 is really the best course to do that.

15 Senator Rounds: And I am going to be asking a
16 question in a little bit about some of that, the cyber
17 activity that might occur during an operation, as well.

18 But I do want to follow up a little bit. With
19 CYBERCOM 2.0, where does a civilian workforce fit into a
20 CYBERCOM 2.0 concept?

21 Ms. Sutton: So the scope of Cyber Command 2.0 is
22 primarily focused on the Cyber Mission Force and it is
23 enabling organizations, the headquarters, Cyber Command
24 headquarters, the Joint Force, Cyber headquarters, which is
25 a blended workforce of both military and civilian and



1 contractor work roles. So as a result, within Cyber
2 Command 2.0, the majority of initiatives do apply to both
3 military and civilian populations, and we have sort of
4 dedicated lines of effort that also target some things that
5 are unique to both sides. So in short, we are addressing
6 both issues for those elements that support the Cyber
7 Mission Force.

8 Senator Rounds: Plenty of room for Guard units to
9 continue to participate?

10 Ms. Sutton: Absolutely. The Guard and the Reserve
11 are going to be critical on how we bring in some of that
12 unique talent that has special expertise, and there are
13 specific lines of effort in the implementation plan where
14 we look at how to bring that in, as well as they will be a
15 fundamental part of our cross-functional team that we are
16 building to roll out the implementation.

17 Senator Rounds: Senator Rosen.

18 Senator Rosen: Thank you. Well, you actually set me
19 up for my next question, you did not even know. But I want
20 to thank you for the testimony so far, because cyber is not
21 an add-on or service adjacent anymore. It has to be part
22 of the fabric of everything we do, woven in.

23 And talking about data, I always say this data tells a
24 story if you know how to listen to it. And so I hope that
25 we can maybe have a hearing to talk about how we think



1 about data and its role in everything that we do going
2 forward. That is a separate issue.

3 But I actually want to talk about the servicemembers,
4 to what Senator Rounds was talking about. So I have two
5 questions for you, General Hartman. One is on the regular
6 force and the second one is on the Guard and Reserve.

7 The first one, can you talk a little bit how you build
8 a fully qualified cyber operator? What does the training
9 pipeline look like at service and joint level, and what
10 kind of on-the-job experience is required before they can
11 be deemed full qualified, and how often do they, I guess,
12 have their benchmarks taken, I guess if you think of it
13 like that.

14 General Hartman: Thanks, Senator. Each of the
15 services produce a cyber operator, and that is a blanket
16 term. We have a number of different specialties across the
17 force. And then we, CYBERCOM, supervise what we call work
18 role training. So if you are an interactive on-net
19 operator you go to a specific training course. If you are
20 an exploitation analyst or another specialty you would do
21 the same thing. And we work through a process that allows
22 them to meet a series of benchmarks and then become fully
23 qualified. Once they become fully qualified they execute a
24 series of operations and move from basic to journeyman to
25 master level of qualification.



1 Historically, we have not produced a lot of operators
2 at the master level, because the training and the
3 certification process has taken too long. And part of
4 CYBERCOM 2.0 is how do we reduce that training timeline and
5 allow them to focus more on operations vice less on
6 qualifications.

7 So I think we have, over the years, reduced that
8 benchmark, but you get trained, you get qualified, you
9 execute operations, you become a noncommissioned officer,
10 and then you supervise the next group of people that we are
11 bringing up.

12 It is a process that works, but it does not work fast
13 enough, and that is really the focus of 2.0 and the ACTEC
14 program.

15 Senator Rosen: Thank you. I want to ask a similar
16 question about the skills for our National Guard and
17 Reserve members. They are not currently tracked, it is my
18 understanding, at the same fidelity as the active force, so
19 they are going to be a critical part, to your point, of
20 bringing in the public sector, I guess, if you will, say it
21 that way.

22 So what specific steps, can you talk to us about how
23 you are going to ensure that a Guardsman or Reservist with
24 those high-end cyber skills, they might be doing it in the
25 regular world, their civilian career, how can they be



1 activated for special mission? How are you working with
2 that? Because I do think that is a big part of our
3 pipeline and training. So whatever, you both can answer,
4 please.

5 General Hartman: Thanks, Senator. We do have
6 organizations in the National Guard that are exemplars that
7 we are trying to really use to leverage it across the
8 entire Reserve component. We have got the Delaware and the
9 Maryland Air National Guard that is part of our Cyber
10 National Mission Force. So one of our most elite
11 organizations really for the last decade. We bring those
12 servicemembers on active duty and they participate as full
13 members of the team. To be honest with you, they bring
14 deep expertise, because when they are not mobilized, as you
15 highlighted, they go back to civilian jobs.

16 We have an organization down in Texas supporting our
17 Air Force cyber organization that, again, provides a
18 significant amount of expertise. And we have the same
19 model on the defensive side.

20 What we have to do is scale that across the force. We
21 have got to get them all in JCC2-R, our readiness tool, and
22 we have got to be able to track them just like we are
23 tracking our active duty servicemembers.

24 Senator Rosen: Because you may, across the country,
25 each state may have one or two that are working in this



1 area in their civilian life. And so how do we pull them
2 in?

3 General Hartman: Senator, that is our plan. We are
4 in the relatively early stages, but as we build this out,
5 that is our intent.

6 Senator Rosen: Thank you. Senator Rounds.

7 Senator Rounds: Thank you. General Messer, you have
8 gotten off too easy so far. I am going to throw you the
9 hard one now, and this is sitting in an unclassified
10 setting. I want you to talk a little bit about successes,
11 and I want to specifically talk Venezuela.

12 It has been in the news, there has been a lot of
13 discussion about the fact that this was a good example of
14 what happens when you combine all of the Joint Forces,
15 including cyber operations. Once again, I understand that
16 this is an unclassified, but there are a lot of folks out
17 there that might now have a curiosity about this, and they
18 may very well want to be a part of a team in the future
19 that you are going to have to try to recruit.

20 Can you share with us -- and I would open up to anyone
21 else, as well here -- can you share with us the types of
22 operations and how this happened -- it is not just at the
23 national level or the international level or the big
24 picture, strategically, but tactically, how critical cyber
25 is when you are doing -- and this was a law enforcement



1 operation -- but a required support of the armed forces of
2 the United States. Can you share a little bit about what
3 that meant for the cyber teams involved? And a no answer
4 is not acceptable.

5 General Messer: Senator, thanks for the question.
6 What I probably will not do is go into specifics of the
7 Venezuela operation. But what I will tell you is as has
8 been mentioned by Honorable Sutton and General Hartman, the
9 role that they play as leaders in pushing cyber to the
10 forefront I think is critical. And that is one of the
11 things we have seen from Chairman Caine, is his emphasis on
12 not just traditional kinetic effects but the role non-
13 kinetic effects play in all of our global operations,
14 especially cyber.

15 So leading up to the events in Venezuela over the last
16 6 months we have been developing something new on the Joint
17 Staff called a non-kinetic effect cell. This is designed
18 to integrate, coordinate, and synchronize all of our non-
19 kinetics into the planning and then, of course, the
20 execution of any operation globally.

21 I think it is important to point out that one of the
22 reasons that it has been successful is the emphasis that
23 the Chairman has placed on the role of non-kinetics and, in
24 particular, cyber, and then the coordination that has
25 continued to grow and mature with CYBERCOM as we work



1 through various operations around the globe.

2 Senator Rounds: So in this particular case, not only
3 was there a huge amount of work to be done beforehand, but
4 then it had to be executed at the time, as we say, not just
5 on the left side but during the operation itself.

6 For young men and women that are out there and they
7 want to be involved in a growing and very exciting field,
8 can you talk a little bit about what that means in terms of
9 why we want these folks to actually be a part of not just
10 the large Cyber Mission Force but actually within their own
11 branches, and the need to maintain that continuity and
12 understanding of the big picture by individuals who are
13 back in with their regular units, and how that gets
14 integrated in terms of providing direct assistance on a
15 unit-by-unit basis. How integrated is this? As a member
16 of the Joint Forces, I just kind of wanted to hear you talk
17 about how critical that is.

18 General Messer: Yes, sir. Cyber operations are
19 critical to everything we do, whether it is just day-to-day
20 operations of the functioning of the Department of War or
21 it is actual execution and operations.

22 One of the things that I will point out is growing up
23 in the Air Force there was always a non-kinetic effect cell
24 at an Air Operations Center, but it usually existed back in
25 a back room, it was a very dark place, and usually we did



1 not ask for many inputs from that team until we wanted to
2 sprinkle what we called the lightning bolts onto some form
3 of operation. The reality is that we have now pulled cyber
4 operators to the forefront.

5 So if I were talking to a group of young people who
6 were considering a career, and joining General Hartman's
7 team over at CYBERCOM, I would say, "You are not just going
8 to be integral to every option we are going to do, but you
9 will be at the forefront of everything we do, both now and
10 in the future."

11 Senator Rounds: So let's just say that there is a
12 young man or woman out there, and they enjoy the keyboard
13 work, and they are fascinated by cyber. They have seen
14 what hackers do. Is there a place for the good guy hackers
15 to be, and how would they be able to let you know that they
16 want to go to work for you? What is the best way to get
17 that word out?

18 General Messer: Sir, I think there would absolutely
19 be a role for them to play, and I think that the targeted
20 recruiting and assessments that will be a focus of CYBERCOM
21 2.0 will open up more of those opportunities to find those
22 unique individuals. And I wanted to see if General Hartman
23 wanted to say more about that.

24 General Hartman: There is a place for them to go,
25 Chairman, absolutely. Our intent is part of CYBERCOM 2.0



1 is if you are a young person, a hacker, you want to come
2 serve your country when you show up at your recruiting
3 station, we want you to be administered a cyber aptitude
4 test. If you score well on that test we would like you to
5 be offered a contract to become a cyber operator in
6 whatever your service of choice is. And we would like you
7 to then go through the pipeline and come to CYBERCOM. That
8 is the first way.

9 The second way is we are going to execute an in-
10 service recruiting pilot. And so if you are out in another
11 specialty, the same way that you might attract a Delta
12 Force operator in the Army, we are going to also give you
13 an aptitude test, and if you meet a certain score on that
14 aptitude test we are going to work with your service to
15 have you move to the Cyber Operational Force.

16 And so we believe those two areas are ways that we can
17 really attract world-class talent.

18 I do want to go back, if you allow me, to just address
19 a little bit the question you asked the J39. I would tell
20 you not just Absolute Resolve but Midnight Hammer and a
21 number of other operations. We have really graduated to
22 the point where we are treating a cyber capability just
23 like we would a kinetic capability. We are not sprinkling
24 cyber on. We are integrating cyber operations into the
25 Joint Force Commander's plan, and we are executing it to



1 achieve specific effects that are ultimately tied to what
2 the commander is trying to achieve, and we are doing it in
3 a repeatable, sustainable manner, across a number of
4 different COCOMs.

5 So while we cannot go into detail here, Chairman, I
6 would love to get an opportunity to brief you in some level
7 of detail. I do believe it is fundamentally one of the
8 reasons we created CYBERCOM, and I do believe we have
9 achieved a certain level of integration that is really
10 important for our nation.

11 Senator Rounds: Thank you for that. And we will make
12 arrangements to have a classified meeting, and we would
13 invite you to come back and share that with the members of
14 this Subcommittee. Thank you for that. Senator Rosen.

15 Senator Rosen: Thank you. I can tell you, the young
16 woman who started her career in computer programming in
17 1980-something could not dream of what is happening now and
18 what have been so excited about all the things that you are
19 doing or having even been recruited. Of course, these
20 things did not exist in the same way they do now. So I can
21 tell you all those folks are out there, because if the
22 wayback clock, if you went back, that would have been
23 something that would have excited me, and it still excited
24 me to this day to think about it. Cyber is kinetic
25 capability. It is in the fabric of everything we do. We



1 use it the same as every bit of intelligence and every bit
2 of capability, and it is really important.

3 But I just want to ask, I think, the last question I
4 am going to ask. How do we leverage security automation
5 tools to defend our DoD networks? We are talking a lot
6 about the pipeline. We know we have more to go to recruit
7 and train and figure out how we are blending all of this
8 together so it is seamless, in the same ways that we do a
9 lot of our intelligence capabilities, right.

10 But I want to just move for a second to security
11 automation tools. General Hartman, you have to defend
12 those DoD networks. It is fundamental, right? And so I
13 had a provision in the Cyber Defense Command to s
14 subordinate unified command included in the fiscal year
15 2025 NDAA. It is a structural change that reflects the
16 sophistication of the current threat landscape.

17 So as our adversaries increasingly utilize AI, as we
18 talked around the circle about AI, to execute cyberattacks
19 at machine speed, the Department's ability to maintain
20 real-time visibility over the DoD information network is
21 being tested like never before. So detecting a
22 vulnerability, it is only half the battle, right? You know
23 you have a vulnerability, and now you have got to close the
24 door. So it requires a speed that manual process may not
25 be able to achieve.



1 By deploying security automation tools, can we move
2 from a reactive posture to a proactive defense that keeps
3 China, Russia, other adversaries off our networks, and how
4 you are factoring in this use of automation and AI into
5 CYBERCOM 2.0 for our developing cyber operators who defend
6 the network?

7 General Hartman: Senator, thanks for the question.
8 First of all, thanks for the legislation as it relates to
9 DCDC and a subunified command. I assure you, General
10 Stanton has taken that legislation and is running with it,
11 and certainly implementing that.

12 Look, the use of automation, artificial intelligence
13 in order to secure the Department of War information
14 network is absolutely a part of CYBERCOM 2.0 and our plan
15 for the defense of the DoD. It is not going to entirely
16 take the human out of the loop, but what it is going to do
17 is identify the most important data that our analysts need
18 to look at in order to best protect our network.

19 We have executed a number of pilots, one I think we
20 previously briefed called an Optic Junction, that the Army
21 executed down at Fort Gordon. We are looking at scaling
22 that technology. It was specifically focused about how to
23 find Chinese living off the land techniques, that we have
24 seen repeatedly used.

25 But the bigger piece, though, is really closing the



1 loop between what we learn in our offensive capability and
2 what our defensive teams are prepared to defend against,
3 and literally, in real time, turning around that knowledge
4 so that as we learn more, we use that information to drive
5 our own defense of our networks, and artificial
6 intelligence and automation is absolutely, 100 percent part
7 of our plan.

8 Senator Rosen: Thank you.

9 Ms. Sutton: If you would not mind if I added in just
10 one additional comment.

11 Senator Rosen: Of course.

12 Ms. Sutton: one of the things that I am really
13 excited about with Cyber Command 2.0 is the Cyber
14 Innovation Warfare Center, or the CIWC, which is really
15 looking at how do we adopt all the innovation that is
16 moving very rapidly in this domain, particularly AI and
17 automation, and how do we operationalize that most
18 effectively in the Department.

19 So it is not just about acquiring a tool or a
20 technology. There are a lot of non-material aspects that
21 we will need to be successful. How do we need to train our
22 workforce to most effectively use that tool? AI is going
23 to change fundamentally what many of our work roles do in
24 this domain, so how do we develop new training modules?
25 What doctrine, what new tactics, techniques, and procedures



1 do we need to develop to be able to fully leverage these
2 new capabilities?

3 So the model of the CIWC is to have an Innovation
4 Warfare Center that can look at technologies that are going
5 to have game-changing effects in our domain, bring in the
6 operational input that General Hartman mentioned, and in a
7 very short term, look at how we need to address everything
8 we need to adopt that technology, both material and non-
9 material, and then get that into our platforms as quickly
10 as possible.

11 It will be our tie to industry. It ties our
12 operational force directly to industry, to allow this to
13 happen at the speed at which we are seeing the capabilities
14 come out.

15 Senator Rosen: No, I could not agree more. Thank you
16 for that answer. I do think artificial intelligence will
17 potentiate what we can do, help us do it faster, maybe a
18 little bit smarter. But it will help us pull it all
19 together. Thank you for that.

20 Senator Rounds: General Hartman, just a follow-up
21 with regard to the response that you gave to Senator Rosen.
22 One of the items that you talked about was kind of term of
23 art when you say the Chinese are living off the land.
24 Since this is an open meeting and it is going to be
25 broadcast, can you share a little bit about what that means



1 for folks that are out there, about how that works, what
2 that means?

3 General Hartman: It just means that the Chinese have
4 executed a deliberate campaign in order to compromise U.S.
5 networks, and they use negative commands and native
6 features inside those networks to move around, to look like
7 legitimate traffic that makes it difficult for us to find
8 those.

9 Senator Rounds: Is it fair to say, just confirm, they
10 would be within our telecommunications systems today?

11 General Hartman: So have seen them in
12 telecommunications systems. We have seen them in critical
13 infrastructure. That is the bad news. The good news is we
14 see them, and we report them, and we execute operations to
15 get them out of those networks. And increasingly, as we
16 build expertise under the CYBERCOM 2.0 program, it will
17 allow us to do that more effectively.

18 Senator Rounds: Thank you. I am just curious, as
19 well, I am thinking now about universities across this
20 country, and I am going to use an example in South Dakota,
21 Dakota State University, where they produce, perhaps, 400
22 cyber professionals per year. They have jobs basically
23 before they are out of school. They are in the
24 Madison/Sioux Falls area in South Dakota. But a lot of
25 them want to be a part of providing cyber protections.



1 You have, and you need to be able to do not only cyber
2 protection, defensive capabilities for the Department of
3 Defense's programs, but you also then do offensive stuff,
4 as well, and you need tools for both. Can you talk a
5 little bit about what you have for capabilities in terms of
6 getting young people involved in the development of those
7 specific tools? And these are tools that are not just
8 traditional cyber tools but ones that have basically been
9 agent-sized, for lack of a better term, using AI as a part
10 of that process.

11 Can you talk about the need for that and the
12 availability for young people out there that want to be
13 involved in this, who may not necessarily want to be
14 directly involved full-time, but either through Guard units
15 or through a civilian contract, and your interest in
16 actually having them make contact with you along that line?

17 General Hartman: Absolutely. So in the command, in
18 our service components, each of those organizations have
19 development organizations, and those development
20 organizations work specifically with operational teams in
21 order to produce capabilities. To date, that effort has
22 not been as unified as we would like. It is one of the key
23 work roles that we talk about. When Honorable Sutton
24 talked about the CIWC, the CIWC is really going to be the
25 organization that brings our service development units



1 together and ensures that they have the absolute best
2 training and they have access to the best development
3 environments, they have modeling and simulation
4 capabilities to really look at what are future
5 capabilities. In each of those organizations we have both
6 military and civilian members, and certainly there is an
7 opportunity to work there. Across a number of our Reserve
8 component units, we partner with them from a development
9 standpoint.

10 But I think that the latter part, Chairman, is where
11 we really have to move forward with CYBERCOM 2.0, and it is
12 how do we partner with cutting-edge, innovative, private
13 companies that we can work with in order to produce
14 capabilities that we need in order to execute operations.
15 And as I said in my opening statement, this probably is not
16 the extremely large defense firms. It is these smaller
17 organizations, often times made up of members that used to
18 be in the Cyber Mission Force, or as part of the
19 intelligence community. And we are working with a number
20 of those organizations right now in order to do that.

21 Senator Rounds: Thank you. Senator Rosen?

22 Senator Rosen: So you need the developers of the
23 software for the end user, so this is where you are writing
24 application software. This is where the collaboration
25 between a software developer and your end user is, because



1 we do not want to give you what we think you need. We want
2 to give you what you actually need. So these are where the
3 conversations about creating what you need, and the person
4 goes to write that software for you, or however that gets
5 done, or gives you the tools to let that happen dynamically
6 with giving you the framework and they can put in certain
7 particulars. So I am very excited about you doing this.

8 That leads me to the question we always ask. What do
9 you need from us? So you might need new authorities. You
10 might need incentives -- retention incentive payments,
11 rotational programs, other legislation, things with the
12 private sector, expedited clearance perhaps, if you are
13 going to be using folks from the private sector.

14 So we are going to be working. We are working on the
15 NDAA, this next years, right, as we speak. So as you think
16 about this, what are some things, off the top of your head,
17 that will help us with readiness, workforce retention,
18 private sector? What do you need from us as we go back and
19 think about our next hearings, to get us ready for our good
20 mark?

21 Ms. Sutton: I will start out by saying how grateful
22 we are for all of the things you have given us. I think
23 there has been significant focus over the last 5 to 7 years
24 on additional authorities, additional funding, additional
25 pay. I think the Department, at this point, has a



1 significant obligation to execute all of those, and I think
2 we are on a good path to do that.

3 At the moment, we have not identified any specific new
4 authorities that are necessary. A lot of it is
5 implementing the authorities and really maturing and fully
6 leveraging the authorities that we already have. But do
7 appreciate the offer, and intending that we will continue
8 to work with you iteratively as we work through the
9 implementation of Cyber Command 2.0, and identify things
10 that we do need. You will be the first ones to know, and
11 we will gladly get you that information.

12 Senator Rosen: Anything else?

13 General Hartman: I agree with Honorable Sutton. We
14 appreciate all the additional authorities that we have been
15 offered. We appreciate your advocacy for funding. It will
16 be important as we implement 2.0, as we really build out
17 the capabilities that we need from an artificial
18 intelligence standpoint.

19 I do believe there will be a discussion about how do
20 we best fund the activation of our Reserve component
21 forces, to ensure that we can do that in a sustainable,
22 repeatable manner, that we are able to bring the talent to
23 the active force in order to execute specific missions.
24 There have been some good use case examples, but it is a
25 system that is not optimized, and I do think we will work



1 with the Department and Congress on how we might like to do
2 that better in the future.

3 Senator Rosen: So like my Civilian Cyber Reserve
4 idea, perhaps.

5 General Hartman: I think it is a great idea, Senator.

6 Senator Rosen: General, you wanted to add something?

7 General Messer: Ma'am, I was just going to say thank
8 you very much for the support that you have provided. I
9 reflect what Honorable Sutton said of, you know, you have
10 been exceptionally supportive. I think it is now time to
11 fulfill CYBERCOM 2.0's objectives, and then from there
12 continued support from Congress is much appreciated.

13 Because as you both pointed out, this is a part of warfare
14 in the 21st century, and will continue to be. So your
15 support and advocacy, as well, is tremendous. So thank
16 you.

17 Senator Rosen: Well, I know I am thankful for your
18 work and everyone that works with you, and I am especially
19 grateful to be Ranking Member with Senator Rounds. Because
20 on this Committee, we just see cyber on this Committee,
21 right? And so it is really a pleasure to be able to think
22 about these things in a meaningful way, going forward.
23 Thank you, Mr. Chairman.

24 Senator Rounds: Thank you, Senator Rosen. And it is
25 bipartisan, and it needs to stay that way. And we need to



1 look at how we fully mature this particular protection
2 within this particular domain. I appreciate your help and
3 the cooperation that the entire members on both sides have
4 done in moving this forward, as clearly evidenced by the
5 amount that we are getting done in each of the NDAs over
6 the last couple of years. So we appreciate that. Thank
7 you.

8 With that, this will conclude the open portion of
9 today's Cybersecurity Subcommittee hearing. Questions for
10 the record will be due to the Committee within two business
11 days of the conclusion of this hearing. And General
12 Hartman, I will take you up, at some point in the future we
13 will set aside time for a classified hearing to learn a
14 little bit more about the processes and the procedures that
15 you did use so successfully. Thank you.

16 General Hartman: Thank you, Senator.

17 Senator Rounds: Thank you all for your sacrifice and
18 service for our country. And with that, this Committee
19 meeting is adjourned.

20 [Whereupon, at 3:41 p.m., the hearing was adjourned.]

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