

Stenographic Transcript
Before the

Subcommittee on Airland

COMMITTEE ON
ARMED SERVICES

UNITED STATES SENATE

HEARING TO RECEIVE TESTIMONY ON
ARMY MODERNIZATION IN REVIEW OF THE
DEFENSE AUTHORIZATION REQUEST FOR
FISCAL YEAR 2024 AND THE
FUTURE YEARS DEFENSE PROGRAM

Tuesday, April 18, 2023

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ALDERSON COURT REPORTING
1111 14TH STREET NW
SUITE 1050
WASHINGTON, D.C. 20005
(202) 289-2260
www.aldersonreporting.com

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7 U.S. Senate

8 Subcommittee on Airland

9 Committee on Armed Services

10 Washington, D.C.
11

12 The subcommittee met, pursuant to notice, at 2:30
13 p.m., in Room 232A, Russell Senate Office Building, Hon.
14 Mark Kelly, chairman of the subcommittee, presiding.

15 Subcommittee Members Present: Senators Kelly
16 [presiding], Peters, Duckworth, Cotton, Fischer, Ernst, and
17 Scott.
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1 OPENING STATEMENT OF HON. MARK KELLY, U.S. SENATOR
2 FROM ARIZONA

3 Senator Kelly: The Airland subcommittee will come to
4 order. And first, I would like to say how honored I am to
5 have the opportunity to chair this subcommittee and its
6 oversight responsibilities of our nation's primary land and
7 air forces.

8 Not sure how a Navy guy got this job, but, you know,
9 don't worry, I am not going to start asking Army and Air
10 Force pilots to land on a ship. And luckily, I have got an
11 Army guy next to me to partner with.

12 Senator Cotton, I look forward to working with you and
13 all of the committee members as we continue the
14 subcommittee's collaborative approach during this critical
15 time. And I know we can find broad agreement within the
16 subcommittee and work jointly to confront the issues facing
17 our soldiers, our Airmen, and their families.

18 And I would like to welcome our witnesses to the
19 hearing this afternoon, Mr. Douglas Bush, Assistant
20 Secretary of the Army for Acquisition, Logistics and
21 Technology, General James Rainey, Commanding General, Army
22 Futures Command, and Major General Michelle Schmidt, the
23 Director of Force Development or Army G-8.

24 I welcome each of you and thank you for your service,
25 and your willingness to appear before us today. And as we

1 meet to review the Department of the Army's Investment and
2 Modernization Strategy as presented in the Fiscal Year 2024
3 budget request, I want to acknowledge the work soldiers are
4 doing all across the globe and express our gratitude to
5 them and their families for the vital role that they play.

6 Today's Army remains engaged in operations and
7 training events worldwide that build confidence and
8 interoperability with our allies and our partners, test and
9 experiment with equipment to identify needs, capabilities,
10 and present combat credible forces to deter our
11 competitors.

12 Today, as Ukrainians battle to defend their homeland,
13 thousands of U.S. soldiers remain deployed to the European
14 continent to deter the expansion of Russian aggression. I
15 had the occasion to meet many members of the 10th Mountain
16 Division in Poland just last week. And these missions
17 underscore both the complexity of contested logistics and
18 the importance of our pre-positioned stocks.

19 Operations in Ukraine also demonstrate how critical
20 effective multi-domain operations are for a ground force,
21 as well as the power that joint and coalition operations
22 can have. They also provide a stark contrast to the
23 complexities the Joint Force would face if compelled to
24 conduct similar operations in a contested maritime theater.

25 This is why the Army's focus on long range fires,

1 integrated air missile defense, deep sensing and contested
2 logistics is critical to the current and the future force.
3 And we look forward to hearing about lessons learned over
4 the past year. And as we begin work on the 2024 National
5 Defense Authorization Act, we recognize that the Army
6 continues to operate with a largely flat budget.

7 At the same time, the Army is providing significant
8 equipment and munitions in support of Ukraine. Mr. Bush,
9 we have had occasion to discuss this work before, and today
10 I would like to hear how the Army is using the
11 replenishment of these items to build future modernization
12 in concert with the organic industrial base modernization
13 strategy, and your assessment of any additional risks the
14 Army may be incurring in discussion of any additional
15 resources or flexibilities that would further improve
16 munitions development and production.

17 In this budget submission, the Army continues to
18 prioritize its signature modernization efforts while
19 slowing procurement of enduring capabilities. This
20 supports the current National Defense Strategy that I think
21 accurately ranks China as the most consequential strategic
22 competitor and the pacing challenge for the Department.

23 As you all know, China has been investing heavily in
24 its military and in emerging technologies, and the best way
25 to deter them is not to just keep pace on the cutting edge,

1 but also to continue modernizing our forces to make clear
2 to our adversaries that they cannot beat us on the
3 battlefield.

4 At the same time, Russia continues to demonstrate an
5 aggressive posture, and operations in Europe remind us that
6 enduring systems require modernization investments too. We
7 would like to better understand how the army is balancing
8 risk between newer modernization priorities and supporting
9 enduring programs.

10 And we are interested in the specific investments and
11 capabilities the Army included in the '24 budget requests
12 that continue the implementation of the current NDS,
13 including efforts across six modernization priorities,
14 which are long range precision fires, next generation
15 combat vehicles, future vertical lift, the Army network,
16 air and missile defense, soldier lethality, and its rapid
17 capability -- capabilities' development efforts in
18 hypersonics, directed energy, indirect fire protection, and
19 mid-range capability.

20 We appreciate the Army's employment of more flexible
21 acquisition authorities and increased use of
22 experimentation and soldier touch points to better defined
23 capabilities and requirements. The Yuma Proving Ground in
24 Arizona has been a proud host for signature efforts like
25 Project Convergence, which continues to guide modernization

1 activity.

2 These practices make more rapid fielding possible, and
3 we applaud the Army's progress in this area and are
4 interested in the Army's assessment of its current testing
5 and training facilities, that capability and that capacity
6 to support the modernization force.

7 The broader organic industrial base also remains
8 critical to the Army's overall modernization strategy. We
9 would like to better understand how the Army is ensuring
10 that it is identifying and maintaining critical industrial
11 capacity. The Army is now faced with competing pressures
12 on its structure, a significant shortfall in recruiting and
13 a generational modernization effort.

14 For the purpose of this subcommittee, we are deeply
15 interested in how the Army is determining the structure,
16 ops concepts, and posture it requires to field these new
17 capabilities and best meet the threat environment.
18 Additionally, we must understand the impact of these
19 decisions on the modernization of the Army National Guard
20 and Army Reserves, and critical components of the total
21 Army.

22 The Army continues to make significant progress in
23 these efforts, but difficult decisions lie ahead, and I
24 have great confidence in all of you and look forward to a
25 productive year here as we work to continue to field the

1 world's best Army.

2 On that, I now recognize our Ranking Member, Senator
3 Cotton.

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1 STATEMENT OF HON. TOM COTTON, U.S. SENATOR FROM
2 ARKANSAS

3 Senator Cotton: Thank you, Mr. Chairman. Let me
4 begin by saying congratulations on your new role as
5 chairman of the Armed Services subcommittee on Air and Land
6 Power. I look forward to working with you.

7 I had a productive working relationship with your
8 predecessor, Senator Duckworth. And I know that we will
9 have one as well, despite your suspect service in our Navy.
10 I want to thank our witnesses for being here as well. The
11 subcommittee meets to discuss the Army's modernization
12 efforts with a focus on the Fiscal Year 2024 budget
13 submission from President Biden.

14 China is this nation's chief threat, even as we face
15 continued threats from adversaries like Russia, Iran, North
16 Korea, and others. Ensuring that we can prevail in any
17 conflict with China will require a joint effort, and the
18 U.S. Army will play a key role in any such conflict.

19 Beginning in 2014, China undertook a force
20 reorganization and modernization plan that has resulted in
21 key advantages, including strategically located forces,
22 mass and magazine depth. If called upon to compete with
23 this improved Chinese force, the U.S. Army will need to be
24 modernized and ready to provide key capabilities such as
25 command and control, logistics, and long-range precision

1 fires.

2 But I am still concerned that the plan for the Army of
3 2030, and now General Rainey's plan for the Army of 2040
4 may be insufficient to produce the Army we need now and in
5 the near term to counter China. For instance, Russia's
6 unprovoked war of aggression against Ukraine has exposed
7 severe weaknesses in the Army's industrial base, as in the
8 other services.

9 I want to commend Assistant Secretary Bush for his
10 yeoman's work in executing drawdown authorities and
11 contracting new equipment to support Ukraine. But the
12 Army's World War II era plants and depots cannot fully
13 support the Army's munitions and equipment needs, and the
14 industrial base continues to be undermanned and under-
15 resourced.

16 Mr. Bush notes in the Army ammunition plant
17 modernization plan that "several projects could be moved to
18 the left if additional resourcing becomes available." The
19 Army's unfunded priority list and also includes funding for
20 planning and design, as well as one project, the Radford
21 Army Ammo Plant.

22 I look forward to hearing about these and other
23 organic industrial base projects ready for funding in
24 Fiscal Year 2024. For the past several years, the Army has
25 focused on its -- focused its modernization efforts on six

1 critical areas, long range precision fires, next generation
2 combat vehicles, future vertical lift network, air and
3 missile defense, and soldier lethality.

4 I am most encouraged by the progress made in long
5 range precision fires, specifically the Fiscal Year 2024
6 budget support of the precision strike missile, mid-range
7 capability, and long-range hypersonic weapon. All three
8 will play direct roles in any future conflict in the
9 Western Pacific. But as Mr. Bush noted in a recent
10 interview, important trades had to be made in crafting this
11 year's budget.

12 I believe the Biden Administration did the Army a
13 disservice by forcing it to make these trades. When
14 adjusted for inflation, President Biden's budget proposes
15 to cut the Army's funding by 2 percent compared to last
16 year's enacted levels. As a result, the Army submitted
17 almost \$2 billion worth of unfunded priorities, including
18 air defense, tanks, helicopters, military construction, and
19 training.

20 All of these priorities will help modernize the Army,
21 and this subcommittee will look to include many of them in
22 this year's National Defense Authorization Act. Again, I
23 thank the witnesses and look forward to their testimony.

24 Senator Kelly: Thank you, Senator Cotton. I will --
25 testifying today are the Honorable Doug Bush, Assistant

1 Secretary of the Army for Acquisition, Logistics and
2 Technology and Army Acquisitions Executive, General Rainey,
3 the Commanding General of the United States Army Futures
4 Command, and Major General Michelle Schmidt, Director of
5 Force Development, or G-8.

6 I know the witnesses together submitted a single joint
7 statement, but I want to start with Secretary Bush for an
8 individual statement and then we will go in that order.

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1 STATEMENT OF HON. DOUGLAS R. BUSH, ASSISTANT
2 SECRETARY OF THE ARMY FOR, ACQUISITION, LOGISTICS AND
3 TECHNOLOGY

4 Mr. Bush: Sir, thank you. Chairman Kelly, Ranking
5 Member Cotton, and distinguished members of the Senate
6 Armed Services committee on Airland, good afternoon. Thank
7 you for the invitation to appear before you to discuss the
8 Army modernization program and the resources requested in
9 the President's budget for Fiscal Year 2024.

10 I am pleased to be joined by my teammates, General
11 James Rainey, Army Futures Command, and Major General
12 Michelle Schmidt, the Army Deputy Chief of Staff, G-8. We
13 appreciate your making our written statement a part of the
14 record for today's hearing.

15 With your support, the Army's Fiscal Year 2024 budget
16 gives us the opportunity to maintain critical momentum
17 across the board. The Army's budget request puts us on a
18 sustainable path to equip today's soldiers with modern
19 equipment while we invest in the technologies and systems
20 necessary to build the Army of 2030.

21 It represents our sustained commitment to our key
22 modernization portfolios that both the distinguished
23 chairman and ranking member outlined in their statements.
24 It also continues modernization and procurement of our
25 enduring platforms and equipment that will remain in the

1 force for years to come.

2 However, no budget proposal can be built without
3 balancing risks, and this one is no different. I believe
4 that this budget request reflects a thoughtful and balanced
5 approach between developing future capabilities and
6 modernizing our enduring systems. But at the end of the
7 day, members of Congress will decide if we struck the
8 appropriate balance, and I welcome that dialog.

9 In that spirit, I would like to address a few specific
10 issues raised in the invitation for this hearing. First,
11 the hearing invitation asked us to address how the Army's
12 budget request supports requirements in the Indo-Pacific
13 theater, including long range fires, area missile defense,
14 and sensing capabilities.

15 I can say with confidence that this year's budget
16 request fully recognizes and funds the Army's role in the
17 Pacific in these areas. As you look at the future years'
18 defense program overall, you will see significant new
19 investments and procurement dollars for the network, long
20 range fires, air missile defense, and deep sensing, all
21 vital to the Army's mission in the Indo-Pacific region.

22 And critically, to shift from doing just R&D to actual
23 procurement is a major step for the Army that gets us
24 another step closer to fielding real capabilities to real
25 soldiers, not just doing R&D. Second, the hearing

1 invitation asked that we provide an update on the Army's
2 efforts to expand critical munitions production, including
3 opportunities to further expand production timelines -- or
4 reduce production timelines.

5 As part of the Army's role in the overall U.S.
6 Government response to Ukraine, we are using the generous
7 funding from Congress and every authority at our disposal,
8 including those new ones we received in the Fiscal Year
9 2023 NDAA, while working closely with our industry partners
10 to dramatically increase production rates across the board.

11 We have here a generational opportunity working with
12 Congress to improve the quality and modernization of our
13 organic industrial base, as well as making capital
14 investments with our private sector industry partners to
15 put the United States Army in a better place in the long
16 term.

17 Through your support, production rates in key areas
18 such as munitions replenishment is on -- they are on the
19 rise and we are able to address obsolescence issues with
20 the machinery in our precision munitions manufacturing as
21 well, critical to deterring China.

22 Third, the hearing invitation requests an update on
23 the Army's efforts to adapt experimentation and testing to
24 support concept development and accelerate our
25 modernization efforts.

1 As highlighted in our written statement, the Army is
2 modernizing our business practices by embracing industry
3 best practices, such as the use of soldier-centered design
4 and rigorous experimentation.

5 General Rainey will elaborate further on the great
6 work AFC is doing in this regard, specifically in the areas
7 of Project Convergence and the Experimental Demonstration
8 Gateway Event, otherwise known as EDGE, and other efforts.

9 Lastly, the hearing invitation asked how the army is
10 managing risk in modernizing enduring capabilities while
11 concurrently prioritizing future programs. As members are
12 aware, in order to protect the Army's highest priority
13 modernization efforts, the Army did accept some risk in
14 other areas, and specifically the pace of modernization of
15 our brigade combat teams -- armored brigade combat teams,
16 excuse me.

17 However, in doing so, the Army sought to ensure that
18 we didn't go so low on any system that we put the
19 industrial base at risk to a degree that forecloses the
20 ability of the army to ramp back up if the Army's
21 priorities change. In short, we sought to ensure we did
22 not close off options for Army leaders or Congress to
23 adjust our plans in the future, if they judge that is the
24 right thing to do.

25 That is a careful balance to strike. I acknowledge we

1 don't always get it exactly right. There are often
2 differences of opinion with industry on the right balance
3 between a production line being viable and fully
4 productive, but I look forward to working with you and
5 other members to -- on this issue of where you think the
6 Army got it right and where you think we got it wrong.

7 A final issue I would mention is the Army is fully
8 utilizing the new acquisition authorities provided by
9 Congress, such as the urgent need pathway, middle tier
10 acquisition pathway, and software acquisition pathway to
11 make the Army's acquisition system work much more quickly
12 than in the past.

13 In closing, I want to say thank you for both the
14 funding and authorities we need to support our
15 modernization efforts. Thank you for your time today. I
16 look forward to your questions.

17 [The prepared statement of Mr. Bush follows:]

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1 Senator Kelly: Thank you, Secretary Bush. General
2 Rainey.

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1 STATEMENT OF GENERAL JAMES E. RAINEY, COMMANDING
2 GENERAL, UNITED STATES ARMY FUTURES COMMAND

3 General Rainey: Chairman Kelly, Ranking Member
4 Cotton, distinguished members of the Senate Armed Services
5 subcommittee on Airland, good afternoon and thank you for
6 the opportunity to testify about how the Army's Fiscal Year
7 2024 budget request supports the Army's comprehensive
8 approach to modernization, as we both deliver the Army of
9 2030 and design the Army of 2040.

10 Army Futures Command is accountable for transformation
11 or transforming the Army, and modernization is obviously an
12 essential part of that important mission. I am honored to
13 be here with great teammates, the honorable Mr. Bush and
14 Major General Michelle Schmidt. I agree with Mr. Bush that
15 Army modernization is on track.

16 I think there are four primary reasons for that, that
17 I would offer. The first is very strong teamwork. AFC
18 works very closely with ASA (ALT). I respect Mr. Bush. We
19 have a very positive and professional working relationship,
20 and I think that transcends both of our organizations and
21 is critical to our success.

22 Putting new equipment and weapons into soldiers' hands
23 to increase lethality is what both of us work hard on every
24 day. Teamwork also includes integrating efforts across the
25 whole army, so Training and Doctrine Command, Army Materiel

1 Command, FORCECOM, our service component commanders.

2 So, working closely with General Flynn and General
3 Williams, who are out on the edge in Europe and INDOPACOM
4 are critical partners in them because we don't fight as an
5 Army, we fight as a Joint Force.

6 Our teamwork with the rest of the Joint Force has been
7 very positive and is contributing to our success. The
8 second thing is consistency. We have gone on five years
9 now where the Army has stuck with the modernization
10 priorities as previously discussed, and that consistency is
11 translating into success.

12 The third one is organizational changes. Five years
13 ago, to get after those six priorities, the Army came up
14 with the idea of cross-functional teams that have been one
15 of the absolute success stories of the adjustments, not
16 just of AFC, of the way the Army has adjusted, and
17 sustaining those where we are capitalizing on that success
18 by adding, as we announced recently, a new contested
19 logistics, CFT, to get after what is absolutely one of the
20 things we have to address as we modernize the Army. Fourth
21 is our commitment to continuous learning.

22 As asked in the invitation, Project Convergence is the
23 Army's campaign of persistent experimentation. So not a
24 one-time event, but a campaign of persistent
25 experimentation. Project Convergence includes linked

1 learning events throughout the year that inform each other.

2 For example, Balikatan, an annual bilateral exercise
3 is underway now in the Philippines. And we have AFC
4 teammates and analysts participating with General Flynn in
5 that critical experiment. An Experimental Demonstration
6 Gateway Event, also known as EDGE, is scheduled to take
7 place next month, 1 through 19 May in Yuma Proving Grounds,
8 and I would be glad to talk more about that.

9 All of these things work together to deliver the
10 speed, range, and convergence our Army needs as part of the
11 Joint Force to ensure overmatch against our adversaries.
12 Material modernization is absolutely essential part of
13 transforming our Army to ensure war winning future
14 readiness.

15 Transforming turns material modernization into true
16 warfighting capability and lethality to make sure that we
17 are the dominant land force in the world now, in 2030, in
18 2040, and every point in between. And transformation means
19 thinking in terms of formations, not just platforms.

20 We buy things, but we fight formations. It is
21 absolutely essential that we modernize our equipment in a
22 holistic way, but also address organizational changes,
23 continue to develop our people and develop our leaders,
24 create the training capacity for that equipment, make sure
25 we have facilities that enable us to utilize that

1 equipment.

2 And transforming means thinking further out into the
3 future also, out to 2040 and beyond. So, we are reaching
4 out to the best experts we can find to think with us about
5 the future of warfare as we define the future operational
6 environment, develop future concepts, and experiment
7 aggressively.

8 We need to approach 2040 with a sense of urgency now,
9 over the next 18 to 24 months. Transforming the Army to
10 ensure we are winning future readiness and doing that
11 persistently and urgently is the best guarantee that our
12 successful material modernization efforts will produce
13 lethal formations that can dominate the land domain.

14 Thank you for your support to the soldiers and
15 civilians of our organizations in the Army. I look forward
16 to your questions.

17 [The prepared statement of General Rainey follows:]

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Senator Kelly: Thank you, General. General Schmitt.

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1 STATEMENT OF MAJOR GENERAL MICHELLE A. SCHMIDT,
2 DIRECTOR, FORCE DEVELOPMENT, G-8, UNITED STATES ARMY

3 General Schmidt: Good afternoon. Thank you, Chairman
4 Kelly, Ranking Member Cotton, and the distinguished members
5 of the Senate Armed Services subcommittee on Airland for
6 the opportunity to appear and testify regarding the Army's
7 Fiscal Year 2024 modernization efforts.

8 A special thank you to our committee members for your
9 enduring support of our soldiers, civilians, and our
10 families as they continue to play such a vital role in
11 defense of our nation.

12 I am honored to be here today with the Honorable Bush
13 and General Rainey, who are both incredible professionals
14 and leaders. Our modernization budget request for Fiscal
15 Year 2024 reflects our multiyear effort to accelerate
16 focused modernization and place transformational
17 capabilities into the hands of our soldiers.

18 Our single focus is to make our soldiers and units
19 more lethal to fight and win our nation's wars. And these
20 investments will assist with building enduring advantages
21 over our nation's adversaries, whether in the Indo-Pacific
22 or European theaters, or wherever threats may arise, and
23 the transformation you are assisting us with is being
24 brought to bear.

25 We must modernize responsibly, maintaining readiness

1 now, while transforming at a pace informed by available
2 resources. Several years of difficult prioritization,
3 eliminating, reducing, and deferring lower priority and
4 less necessary modernization efforts, as well as divesting
5 legacy capabilities, affords little flexibility in our
6 budget top line, so every decision we make now is a
7 difficult one.

8 These are hard choices, tough choices about the pace
9 of modernization and the balance we must achieve in
10 integrating new capabilities while maintaining our ability
11 to deter and respond to crisis. As such, we ask for your
12 continued support to maintain a sustainable modernization
13 path for the Army.

14 In closing, I would like to thank your staffs and all
15 those who professionally facilitate the engagement
16 necessary to advance our shared commitment to the defense
17 of our nation. Thank you, and I look forward to your
18 questions.

19 [The prepared statement of General Schmidt follows:]

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1 Senator Kelly: Thank you. And I will start by
2 recognizing myself here for five minutes. And let me start
3 with General Rainey.

4 You mentioned cross-functional teams in your opening
5 statement, and I understand that the maturity of efforts in
6 the original Army's Futures Command cross-functional teams,
7 you know, your focus, as you mentioned, is shifting to the
8 Army of 2040 and you are considering adding, and you
9 mentioned, new cross-functional teams to tackle additional
10 challenges like contested logistics.

11 So can you please describe in more detail to the
12 committee how you are shifting AFC's focus, and what
13 requirements you may be considering for our cross-
14 functional team on this specific issue of contested
15 logistics.

16 General Rainey: [Technical problems] -- thank you
17 very much, Chairman. I appreciate that question. If I
18 may, when I talk about 2030 and 2040, so I don't want to
19 create the impression that I am shifting away from 2030 to
20 2040. To be clear, Army modernization is going well.

21 We need to stay laser focused on delivering on the
22 modernization efforts we have going and start thinking
23 about the opportunities to outthink and get ahead of our
24 adversaries as we start to think about what is going to
25 change in this like second and third depths of that time

1 period, but not at the expense of staying focused on
2 delivering on our current efforts.

3 The contested logistics CFT, working in partnership
4 with Army Materiel Command, who does the strategic and
5 operational level. So, the CFT initial operating
6 capability, our Chief and Secretary improved the stand up,
7 so they have already started with the small team. They
8 will be fully operational, I would say, by about 1 October
9 of this year, and they are going to focus at the tactical
10 level of contested logistics.

11 To specifically answer your question, predictive
12 logistics, the technology absolutely exists today for us to
13 do a better job of understanding what the logistics
14 requirements, because one of the keyways to reduce domestic
15 -- our logistics burden is to be more precise. So, we
16 can't afford to push stuff just to push it.

17 We need to know what the maintenance status, fuel
18 status, and ammo status of our combat systems are.
19 Autonomous and robotic distribution, so how can we leverage
20 technology to minimize the amount of humans we are putting
21 at risk to deliver logistics and sustainment. Demand
22 reduction, hybrid electric, for example, that can start by
23 lowering the amount of fuel we require forward. Tactical
24 power generation.

25 As we become more and more technology focused in and

1 for all the great things that brings you, it also creates
2 an increased demand in terms of battery, which especially
3 at the most important level of the Army, the rifle squads,
4 the soldiers who are walking and carrying everything they
5 have, every pound matters, so I think there is
6 opportunities there --

7 Senator Kelly: General, does that mean the ability to
8 generate power forward or carry more dense batteries?

9 General Rainey: Chairman, I think that the
10 opportunity of the CFT, the way it has been successful, is
11 to clearly identify a problem, put together the right
12 talent from across the organizations, and let them develop
13 those things.

14 So, I wouldn't want to rule out any possibilities, but
15 to reduce the amount of energy consumed forward and reduce
16 the weight on the soldier would be two of the things that
17 they would start out pursuing.

18 Senator Kelly: Are you looking at any artificial
19 intelligence decision making in the logistics decisions?

20 General Rainey: There are opportunities. We are
21 employing AI and machine learning now to manage the massive
22 amounts of data and analyze it. So predictive logistics
23 has an opportunity -- well, now it is an opportunity to use
24 AI to analyze the amount of data. The opportunity to get
25 into aided decision making in terms of predictive

1 logistics, I have not seen that yet, but I would not rule
2 that out.

3 Senator Kelly: I had dinner with the V Corps
4 Commander last Thursday night in Poland. And, you know,
5 this is an area where we do really well, logistics. And he
6 was -- but he was stressing just how critical it is for any
7 large-scale Army operation is we have got to get the
8 logistics right.

9 And I have got more questions about this for Secretary
10 Bush, when it comes back to me. But for now, let me
11 recognize Senator Cotton.

12 Senator Cotton: Thank you. Mr. Bush, I want to
13 return to what I said in my opening statement and commend
14 you for your work to try to accelerate timelines for
15 production of munitions.

16 I know you and a lot of others have really been
17 rolling up your sleeves and working long hours, but I think
18 you would agree that we are still not producing enough of
19 what we need fast enough. That is both in our Army
20 ammunition plants and the industrial base. I have dug into
21 the tables behind the budget request.

22 It is a shocking timeline, really, in some of these
23 cases. Basic munitions, not ones that are complicated or
24 advanced, like artillery shells can take up to two to three
25 years to produce. Can you give us a general sense of why

1 that is? I mean, we built the Pentagon in less time than
2 it takes to make basic artillery shells today. So, what is
3 up with that?

4 Mr. Bush: So, Senator, the actual time, I believe --
5 the timeline is reflected in the formal budget documents
6 are, I guess I would say those are the traditional
7 timelines that assume a lengthy contracting process,
8 followed by, you know, a staggered, sometimes slow on
9 purpose to maintain a level workload at the factory,
10 approach.

11 So, for conventional munitions, I can tell you that
12 artillery shells, for example, it takes about a month to
13 get the steel once it -- now there is always a flow of
14 steel, but about a month to get the steel. That steel is
15 only at Scranton Army Ammunition Plant for about three
16 days. Then it goes to Iowa.

17 Army Ammunition Plant for load, assemble, pack, which
18 also only takes about a week. So, when we are going as
19 fast as we can, like we are right now, those timelines can
20 be faster. However, sir, right now, as you mentioned, the
21 issue is capacity, not timeline. On precision munitions,
22 your point is very well taken and still very much the case.

23 So advanced munitions, patriots, sometimes even GMLRS,
24 things with seekers or advanced electronics, we are still,
25 sir, in those, at times, one- or two-year timelines, but

1 trying to go faster right now.

2 Senator Cotton: So, thank you for that, and I
3 probably want to continue that distinction. Another
4 distinction I want to drill down on is what you said about
5 contracting processes or timelines.

6 I view those as bureaucratic constraints. Those are
7 gordian knots. I think in my opinion, gordian knots exist
8 to be cut, in many cases a sword, or at least this Congress
9 can be the sword. Then there is actual real-world
10 constraints on the availability of certain inputs, whether
11 it is steel, energetics, ships, what have you.

12 Let's focus on that area first. What are the single
13 worst bottlenecks we face in the real-world constraints
14 about these munitions? Because again, we are not talking
15 about an aircraft carrier or stealth fighter.

16 We are talking about in what are -- most cases are man
17 portable munitions. But what are the concrete real-world
18 bottlenecks that the Army is facing right now?

19 Mr. Bush: Yes, sir. So, I think, you know, if we are
20 talking about precision munitions, often it is the
21 sensitive electronic components. So, computer chips and
22 everything behind that leads to some of those timelines.

23 So, the -- if you trace back to the original sources,
24 that is where some of that comes from. Also, of course,
25 our systems, you have sophisticated systems to make them

1 safer than what the Russians might produce or exportable.
2 That also adds time.

3 But most often it is the electronic components that
4 take the most time, probably followed by solid rocket
5 motors for a lot of our munitions that are rockets or
6 missiles. The other elements are the explosives and such,
7 sir, really are the shorter holes in the tent.

8 Senator Cotton: Okay. And what are the best ways
9 this committee and this Congress can provide the Army with
10 ways to reduce those timelines, to open up those
11 bottlenecks?

12 Mr. Bush: Yes, sir. So, first of all, the most
13 economically efficient way to make a production line better
14 is to buy more.

15 So that way you let the market do its thing and
16 downstream suppliers get better and it helps the whole
17 system, so that is number one. And thank you for your
18 support on all that. Number two, and thank you for the
19 support last year, is multi-year techniques like multiyear
20 procurement and advanced procurement.

21 I think when we testified last year, we were exploring
22 the ideas of doing those things for munitions. They hadn't
23 been done before. We are doing them now. And making that
24 normal, not an exception, will be vital, sir.

25 So, we have to get that right. One other leg in a

1 store would be over time working on continued, for example,
2 Defense Production Act investments. So that is the tool
3 the Department has to go way down in the supply chain and
4 directly invest in companies, often small ones, at the
5 third and fourth tier. Congress provided very generous
6 additional DPA, Title 3 funding last year.

7 I think we are putting it to great work. I think we
8 did it in the Cold War on a much larger scale, and I think
9 that is a model for how with the right authorities and the
10 right money in the right place, we can be better prepared
11 next time, sir.

12 Senator Cotton: So, and to be clear on that, you are
13 not talking about up here at the primes or assembling
14 things, but at the subcontractor or maybe even the sub-
15 subcontractor doing fairly kind of basic inputs, let's call
16 them valves or gaskets or what have you, reaching down to
17 that level with DPA authorities.

18 Mr. Bush: Yes, sir. And it is a big difference with
19 DPA. So really our normal input is at the top with the
20 prime and you hope that funding flows down and goodness of
21 the production line gets down to those suppliers.

22 DPA lets us go directly at some of those subs, which
23 are often actually the most weak points. It is not the
24 bigs, it is the sub-tier contractors.

25 Senator Cotton: Yes. And oftentimes those

1 subcontractors, one or two levels down, are providing those
2 inputs for multiple primes or multiple different weapon
3 systems, so there is a bottleneck there as well, right?

4 Mr. Bush: Yes, sir. In many cases, when -- and we
5 have got this now. I think we have got a much better
6 handle on mapping our own supply chains -- from the
7 Government side. We see those overlaps, and industry might
8 not see it because they are looking at their supply chain,
9 not the national supply chains.

10 Senator Cotton: One final question about inputs
11 drawing from a partner. Are you aware of Nammo's
12 challenges and expanding in central Norway?

13 Mr. Bush: Not specifically, sir.

14 Senator Cotton: Their CEO said a couple of weeks ago
15 that they would like to expand. Obviously, they are
16 producing a lot of munitions that are in very high demand
17 in Ukraine, but there is no electricity available in
18 central Norway because all of the excess capacity is going
19 to power servers for TikTok videos.

20 He said that they literally can't make more munition
21 shells because of cat videos. Are you aware of any
22 constraints on either our Army ammunition plants or in the
23 defense industrial base because of electricity or other
24 power inputs?

25 Mr. Bush: I am not, sir. I believe we have other

1 challenges. Some of I have mentioned and others, but I
2 have definitely not heard that one -- not in the United
3 States.

4 Senator Cotton: The Nammo CEO said he wouldn't have
5 even put it past TikTok and the Chinese to specifically
6 have sited their cat videos next to Nammo's production
7 facility in central Norway. All right, I have more
8 specific questions I will save for a second round.

9 Senator Kelly: Senator Peters.

10 Senator Peters: Thank you, Mr. Chairman. General
11 Rainey, on several occasions this committee has expressed
12 concerns about how the Department of Defense is as tasked
13 and organized to support electronic warfare operations in
14 support of the Joint Force or our newly established multi-
15 domain task forces.

16 And although both cyber and electronic warfare
17 personnel are attached to the Army's cyber branch,
18 electronic warfare lacks a designated entity for cross-
19 cutting electronic warfare attack, for sensing and
20 protection across all Army formations and echelon.

21 So, my question for you, sir, is can you can you
22 outline what entity will own the manning, training,
23 equipping, budgeting, and capability deployment for
24 electronic warfare operations in the Army?

25 General Rainey: Thank you, Senator. Yes, I can.

1 Major-General Paul Stanton is the Commander of the Cyber
2 Center of Excellence and is responsible for the force
3 generation of electronic warfare forces.

4 And General Barrett is the Army Cyber Command, who is
5 the operational commander, who is the senior cyber and
6 electronic warfare officer we have. If I may, because I
7 share your interest. One, it is something we have been
8 working on as part of the Army 2030. The importance of
9 electronic warfare is blindingly obvious if you are an
10 observer of what is going on in Ukraine right now.

11 So, it is going to become more and more important as
12 we go forward. And the Army modernization efforts address
13 that. So, we are adding new capabilities at every echelon.
14 So, technology wise, the TLS brigade combat team capability
15 is an acknowledgment that we need to put the ability to
16 sense and strike into our most forward formations and work
17 in that at a higher echelon.

18 Also, organizationally, the Army is adding
19 intelligence and electronic warfare battalions back into
20 our divisions, or at least our Army 2030 priority
21 modernization efforts. So those are a couple examples.

22 Theater information advantage groups, the multi-domain
23 task force have a dedicated electronic warfare capability
24 both in humans and technology built into them. So
25 absolutely critical. Something we need to keep working on.

1 But I believe it is a matter of delivering and following
2 through on our plans.

3 Senator Peters: All right. Absolutely. Well, thank
4 you. Thank you for that deeper dive. General Schmidt,
5 outside of JRTC and NTC, do you believe the Army would
6 benefit from having training locations with standing
7 approvals from the necessary DOD and non-DOD bodies to
8 conduct electronic warfare operations during large scale
9 combat operation training exercises?

10 General Schmidt: Senator, thank you. I think our
11 Army is the best army in the world because we are committed
12 to training as we fight. And so, we try to replicate an
13 operational environment, a realistic operational
14 environment, an environment wherever we can.

15 That said, I know there are some challenges in
16 conducting electronic warfare operations in areas outside
17 of the few designated areas, and I welcome your support in
18 overcoming some of those challenges. If I may, you know,
19 General Rainey, sir, would you have more to offer on that
20 one?

21 General Rainey: Well, thank you, Michelle. We
22 absolutely need to continue to add the capability to train
23 with multi-domain capabilities that keeps up with both the
24 pace of war and the capabilities that we are adding.

25 So, it would be tragic if all our material

1 modernization, Senator, resulted in real equipment showing
2 up in formations that we couldn't then train with. So,
3 there are some clear challenges. I would love the
4 opportunity to follow up and brief you in great detail on
5 this, but some examples.

6 If you think about what the National Training Center
7 did, standing that up and how that translated into the Army
8 of Desert Storm time frame, that that same opportunity is
9 presenting us. So, we are adding electronic warfare and
10 multi-domain training capabilities to both Paulk and Fort
11 Irwin.

12 But there is other great opportunities -- Fox training
13 range at Fort Huachuca is uniquely postured to get in there
14 and do things with authorities, populations, and we are
15 probably going to need help from the entire Government
16 because the FCC, FCA, there some authorities and challenges
17 that will have to work their way up through the Joint Staff
18 to oversee, obviously, but I think we should be pursuing
19 expanded capabilities very aggressively.

20 Senator Peters: Well, I appreciate that from both of
21 you. And we have some ideas about how to do that in some
22 locations, so if we could follow up with you offline and
23 talk about that, because I agree this is absolutely
24 essential.

25 And there are a limited number of places where you can

1 do it, and there are some places where we -- I think in my
2 home State, where we can expand some of this, we would love
3 to have that conversation with you. Thank you, Mr.
4 Chairman.

5 Senator Kelly: Senator Ernst.

6 Senator Ernst: Yes. Thank you, Mr. Chair. And thank
7 you, Mr. Bush and General, General. Thank you for being
8 here. So, we have witnessed the last year of the war in
9 Ukraine, and it has just made it extremely clear that we
10 need a responsive munitions industrial base.

11 And Mr. Bush, we have talked this a number of times,
12 and I do commend the Army's investment and the Iowa Army
13 Ammunition Plant and other munitions enterprises. So,
14 thank you very much for that. We know that this is a
15 critical down payment for the future needs of our Army.

16 There is still an acute vulnerability, though, that
17 exists out there in the munitions industrial base, and
18 something that the ranking member addressed just a bit ago,
19 and that is our energetics. And these are the chemicals
20 that are critical for our explosives and propellants, and
21 yet our supply chain for energetics is decades old.

22 And we have limited suppliers for energetics, and they
23 have created some very vulnerable points in our industrial
24 base. And so, we all know that if we can't sustain this
25 for our future fight, we are going to lose -- we are going

1 to lose.

2 So, General Rainey, would you agree that advanced
3 energetics like CL-20 can provide improved munition range,
4 lethality, and size? And will this help U.S. forces end
5 long range salvo exchanges against our peer militaries? Or
6 Mr. Bush. Whoever would like to take that --

7 General Rainey: Well, Senator, yes, if I could,
8 please. So, the CL-20 issue, I am aware of some recent
9 thoughtful articles and some studies that have highlighted
10 that potential of using that different formulation to get
11 improved range, for example, out of the same size rockets
12 and missiles.

13 When I asked my experts at Picatinny, they are doing
14 research on that. I think it is really -- the questions
15 come down to safety standards and handling. We have very
16 high standards for that, probably the highest in the world.

17 But I think my first contact with them on that issue,
18 they said that where in the past it was kind of ruled out
19 that there might be additional potential. So, ma'am, that
20 could be an area of some additional R&D focus, could
21 certainly potentially pay dividends from that or something
22 else like that.

23 Senator Ernst: Okay. No, that is important, that we
24 don't completely rule it out, but we continue to research
25 that. So, I appreciate that. And then Mr. Bush as well,

1 what is the state of energetics supply chain? Where are
2 those risk? Where are the vulnerabilities, and how can we
3 shore that up?

4 Mr. Bush: Yes, Senator. I think when we usually --
5 when we do our usually -- I have seen that our first pass
6 is the supply chains. What you often see is kind of what
7 the most economical version of that supply chain is, so you
8 often go to lowest price suppliers, which are often in
9 countries, some of which we really don't want to be
10 dependent on. I think we are taking a more fulsome look at
11 that.

12 I think we are seeing that we need not just suppliers
13 in the right countries, so friend-shoring, or if it is not
14 in the United States, which is ideal, but if it is in like
15 perhaps a neighboring country or a strong ally, and we need
16 more than one for everything.

17 And critically, we have to spend the money in advance
18 to qualify those sources so that when we need to ramp up,
19 and this is advanced planning for a surge, you already have
20 a qualified vendor, meaning all the safety and other
21 standards have been addressed to make sure that we get what
22 we pay for. We are doing that now.

23 But one of my lessons learned from this -- in
24 munitions expansion is that that kind of work needs to be
25 done in advance and coordinated with allies. We have a lot

1 of the capability that we can also draw on, and so it is
2 not just us doing it, but using the whole Western world to
3 do this together.

4 Senator Ernst: Absolutely. And as we look towards
5 the fight in Ukraine, obviously, what we do at the Iowa
6 Army Ammunition Plant is very important. If we look at
7 other fights that may occur around the globe, it may take
8 different types of munitions.

9 So, as we are in the planning with that, we want to
10 know how we can be very helpful there because we need to be
11 able to sustain peacetime, but then also be able to surge
12 for any future fight we might have.

13 So, thank you. Mr. Bush, would you agree that
14 enterprise level coordination would reduce risk in the
15 energetics industrial base?

16 Mr. Bush: Senator, I want to say, yes. Enterprise
17 between --

18 Senator Ernst: Different industries, yes --

19 Mr. Bush: Well, I think definitely a Department of
20 Defense approach would be more efficient than the services
21 doing it themselves because we wouldn't want to step on
22 each other. For example, we often go back, you know, the
23 Navy is buying missiles, we are buying missiles, we don't
24 want to step on each other's toes.

25 And then certainly there are avenues for cooperation

1 through, for example, industry consortiums where you are
2 able to get in the room and really share information with
3 the Government and among the suppliers. That could pay
4 benefits, yes, ma'am.

5 Senator Ernst: Yes. Appreciate that very much. And
6 thanks for the great work. I really do appreciate it. I
7 know with Ukraine and all the discussions that we have had,
8 both in open and closed sessions, has been extremely
9 helpful to identifying where some of our vulnerabilities
10 are and where they exist. So, thanks. Really appreciate
11 your input. Appreciate it. Thank you.

12 Senator Kelly: Thank you, Senator Ernst. I will now
13 take another five minutes here. So back to the contested
14 logistics, Secretary Bush.

15 The Secretary of the Army describes the Army's role in
16 the Pacific, in part to sustain the Joint Force over vast
17 distances by providing secure communications, establishing
18 an air of theater distribution network or networks,
19 maintaining munitions stockpiles in theater, as well as
20 forward arming and refueling points in the Western Pacific.

21 And this all gets to the importance of contested
22 logistics. I saw not the contested part, but I saw the
23 great job in Chechlo, Poland that the Army is doing in
24 getting the equipment needed for the fight in Ukraine to
25 the border essentially.

1 Uncontested and contested, but contested is much more
2 challenging -- orders of magnitude more challenging
3 situation. So how does the Fiscal Year 2024 budget invest
4 in this Army contested logistic capabilities? Secretary
5 Bush.

6 Mr. Bush: Yes, Senator. So, I think we did start in
7 '24 for moving the dial on logistics investments. So, a
8 couple of areas I would mention, there is more funding than
9 I think if you compared to '23 for maintaining our
10 watercraft fleet, at least keeping it viable, but also
11 starting in '24 production of one of our first new vessels,
12 the maneuver support vessel light in many, many years that
13 will replace some very old platforms. So that is one.

14 We also put more funding back into things like just
15 trucks and wheeled vehicles. So, the Army has that Title V
16 role, as you mentioned. That logistics force is vast and
17 requires up to date equipment, so we put more funding back
18 there. And also ammunition stocks, conventional ammunition
19 stockpiles, was a third area of investment.

20 So, I think how that though works in a specific
21 context is where you get into the transport legs, the
22 communications networks, General Rainey mentioned having
23 predictive logistics and more accurate logistics, and also
24 just needing less, so demand reduction, be it ammunition or
25 fuel.

1 The more efficient platforms we have, that is part of
2 solving a contested logistics problem.

3 Senator Kelly: Mr. Secretary, even though it is
4 obviously a different Army, different operations, different
5 tactics, I mean, the needing less is not a scenario that
6 has played out, you know, well in Ukraine.

7 So, are there any lessons that were taken from
8 operations in Europe right now? How does that affect our
9 thought here on, you know, getting to the point where we
10 could potentially need less ammo?

11 Because right now we are seeing in the first major
12 land conflict in Europe that there -- it is exactly the
13 opposite.

14 Mr. Bush: Senator, if I could start and ask General
15 Rainey to provide his thoughts, if that is okay. First
16 off, I think, you know, the U.S. Army, when we fight, we
17 tend to fight with a lot of precision.

18 We also have our Joint Force providing a lot of fires
19 from the air, again, with precision. Ukraine doesn't have
20 that. So, for the large part, they are fighting
21 differently than we would. Does not mean it is not a
22 concern.

23 And sir, by needing less, I think I was speaking
24 simply at the individual platform level, which would make
25 us more efficient with the same logistics flow. You can

1 sustain more forces if they were more efficient.

2 I didn't mean to suggest that -- overall wars tend to
3 always, as you note, require vastly more resources than we
4 think. And beyond that, if I could have General Rainey
5 talk a little bit more about that.

6 General Rainey: Thank you, Mr. Bush. And thank you,
7 Senator. What we are observing is obviously horrific, what
8 is going on in Ukraine right now. But from a military
9 standpoint, we are observing attrition warfare.

10 Two armies frontally assaulting and using attrition as
11 opposed to maneuver warfare, which is the strength of the
12 United States Joint Force. You know, our really asymmetric
13 superpower is our people.

14 A close second to that is the fact that we practice
15 maneuver warfare, joint warfare that is underpinned by
16 really disciplined and tough training, which is why things
17 like being able to train on these capabilities, like
18 General Schmidt said, is just as important as having the
19 capabilities.

20 In terms of contested logistics, the two biggest
21 opportunities for our Army as we modernize is to increase
22 the lethality and survivability of our light formations.
23 So, we have very deployable formations. They just have a
24 problem with things like protection from counter UAS and
25 the lethality.

1 So, we have tanks to kill tanks, but the technology
2 absolutely exists, as we have seen, to kill tanks with
3 javelin missiles, for example. So, increase the lethality
4 and survivability of our light formations and do things to
5 drive down the weight and the logistics tail of our heavy
6 formations.

7 So, pursuing those, and those are -- that can give you
8 several examples of how our modernization efforts. Do
9 that, if you are interested. Silent drive and silent
10 watch, for example, is the hybrid technology that lets our
11 tanks not become dependent on electricity, but it makes a
12 better tank because it can be silent, and both when it is
13 standing still and limited approach.

14 And those kind of requirements as we modernize our
15 vehicles is an opportunity to reduce our long tail and
16 improve the lethality of our formations.

17 Senator Kelly: Well, thank you. Senator Cotton.

18 Senator Cotton: Mr. Bush, I want to return to one
19 more question about our opening conversation of the
20 munitions issue. At a high level, you stressed demand and
21 how high demand can help keep lines going, you know, keep
22 people employed in their high skilled, specialized
23 functions. I assume that means demand not just from our
24 military, but also allied and partner military as well,
25 right?

1 Mr. Bush: Yes, sir. Ideally, we don't have to
2 provide all that demand. So, it is very encouraging in
3 that light that many countries in Europe in particular are
4 now committing to spending more and buying some of our
5 equipment. That is enormously helpful to keeping healthy
6 production lines.

7 Senator Cotton: So, it is good -- it is not just good
8 from a military standpoint that we have friends in Europe
9 and the Middle East and the Western Pacific that are
10 wanting to buy more ammunition, but it is also good for our
11 workers and our companies here in the United States.

12 Mr. Bush: Yes, sir. Absolutely.

13 Senator Cotton: Thank you. Now, I want to get a
14 little more specific. The budget request includes
15 investments to support prototyping for the long-range
16 hypersonic missile, flight test for the midrange capability
17 missile, and initial fielding of the precision strike
18 missile or PrSM.

19 As PrSM is one of the key long range fire capabilities
20 necessary and will be vital in a Pacific conflict, I just
21 want to dig a little bit deeper on this. The Army is
22 requesting \$273 million to work on future increments of
23 PrSM, and \$384 million or 110, Increment 1, missiles, but I
24 suspect that is likely inadequate for the need.

25 What are the plans to expand production capacity of

1 the PrSM Increment 1 beyond 110 missiles per year?

2 Mr. Bush: So, Senator, I think that initial number
3 reflects mostly the fact that it is a new missile. We are
4 just ramping into production and transitioning away from
5 ATACMS production to PrSM. I think to the degree we can, I
6 know there was great support inside the Department for this
7 capability.

8 So, I think there is an opportunity there for expanded
9 production, assuming current initial testing goes well. On
10 the R&D, for Increment 2 and Increment 4, improve future
11 versions, production for those are still a few years out,
12 but if we set conditions right with a healthy production
13 line for Increment 1, that will put us in a better place.

14 Senator Cotton: Can you say a little more about your
15 plan for both Increment 2, and especially Increment 4?

16 Mr. Bush: Yes, sir. So, Increment 2, we hope to be
17 able to give us an anti-ship capability that would provide
18 anti-ship capability out of a HIMARS launcher at
19 significant range. Increment 4, we hope, could more than
20 double the range of Increment 1. That will require a new
21 propulsion system, but the science, technology is underway
22 on that.

23 Again, all launch out of HIMARS, which has proven
24 highly successful in Ukraine. Very difficult to locate,
25 easy to move around. This would be a dramatic increase in

1 the Army's ability to, you know, create problems for a
2 potential fight with China, for example, because we could
3 station those everywhere.

4 Senator Cotton: Okay. What is the prospect for a
5 multi-year procurement for PrSM, as you have done for PAC-3
6 and GMLRS?

7 Mr. Bush: So, Senator, as soon as we have that
8 production line up and running, and the cost is well
9 understood on Increment 1, I think it could be a very good
10 candidate for a multi-year approach.

11 Senator Cotton: Okay. I also understand from your
12 testimony and statement that the operational evaluation of
13 the extended range cannon has revealed some engineering
14 problems. Would you please say a little bit more about
15 those challenges and about the Army's progress on the
16 cannon?

17 Mr. Bush: Yes, sir. So, the Extended Range Cannon
18 Program, I think we have been on a very aggressive
19 timeline. We have built, you know, seven or eight
20 prototypes, and we took them immediately into full testing.
21 That testing has revealed challenges. I would say there
22 are more engineering and mechanical challenges, but still,
23 there they are.

24 While disappointing, I think it is good that we found
25 them now before we went into a full production for this

1 system, for example. We are still doing testing.

2 I believe we will know more over the summer about the
3 degree of the challenge and the extent to which we need to
4 adjust our budget request this year and in future years and
5 look at the portfolio overall and see where that capability
6 fits in terms of just overall improvement in Army range for
7 cannon systems.

8 I would mention there is great R&D work going on, for
9 example, on new munitions that can also provide very long
10 range out of existing cannons. So, a mix of those two
11 approaches might be warranted.

12 Senator Cotton: Okay.

13 Senator Kelly: Thank you. So, General, I want to
14 move on to a little bit of a different topic here, which
15 is, you know, testing critical capabilities.

16 And General Rainey, you know, I am concerned that our
17 ability, you know, to test certain capabilities ranging
18 from things like electronic warfare to directed energy, to
19 hypersonics, are constrained by some current limitations
20 that we have to conduct like open air as well as hardware
21 in the loop and simulated test environments and
22 experimentation, but also, you know, real world testing.

23 I come from a flight test, you know, background for a
24 number of years. We have some facilities around the
25 country. Some really good ones happen to be in Arizona.

1 The electronic proving ground at Fort Huachuca, the Yuma
2 Proving Ground.

3 I think both of these facilities are crucial to the
4 Army's efforts. General Rainey, can you explain how the
5 Army is ensuring that it has sufficient capacity and
6 capability to proceed on its modernization requirements at
7 the pace that our National Defense Strategy demands?

8 General Rainey: Yes. Thank you, Senator. And to
9 just acknowledge the point there. The ability to test is
10 absolutely critical. We currently are not -- that is not
11 the pacing item. We currently aren't waiting for the
12 ability to test on any modernization efforts. But as we
13 continue to make progress, we have identified that as a
14 potential.

15 And that is why we are continuing to invest heavily in
16 places like Yuma and Fort Huachuca and Camp Grayling and
17 other places. So, what we can't afford to do, from the
18 modernization and transformation standpoint, would be to
19 continue to pay for test capability and pay for training
20 capability as a separate thing.

21 So, one of the very positive initiatives Army has, is
22 to bring those test and training capabilities together, so
23 to make sure we don't ask for resources, use it in a test,
24 and then let it go to waste. We need to use it for tests
25 and then be able to train.

1 And that is why a place like the Fox training complex
2 that gives you the ability to both test effectively and
3 train effectively is one of our priorities.

4 Senator Kelly: So, at the same facility. You know, I
5 think for Huachuca especially, when we, you know, look at
6 issues we have that we are facing with electronic warfare,
7 and it offers a very unique geography, let's say, to be
8 able to transmit that relatively high-power level without
9 disrupting, you know, populations.

10 I don't think we do a lot of training there yet. My
11 understanding is I think we might do more in the Yuma area.
12 But I agree with you that the more we can, you know,
13 integrate those two facilities into one, it would certainly
14 make sense to me. In the Navy and the Air Force, we
15 traditionally haven't done that.

16 So maybe more recently we have, but like the Pax
17 River, you know, Naval Air Station is really about, you
18 know, developmental tests. Edwards Air Force Base, you
19 know, the same for the Air Force. So, it is good to see
20 the Army is doing this. Beyond that, like, how do you
21 leverage, you know, the full capacity of an installation?

22 I have found, as I have traveled down to Fort Huachuca
23 and down to Yuma proving ground, you know, they often have
24 the range -- well, what they tend to be missing is like an
25 investment in the test infrastructure.

1 It might be theater lights, it might be, you know,
2 other equipment to gather data. And I think we often under
3 invest in those systems. Is that your sense, General?

4 General Rainey: On the specifics of our investment in
5 that, I will defer to the Honorable Bush. But to your
6 point about how do you optimize them, another thing is
7 using all the tools you have, so live, virtual, and
8 constructed, and having the ability to link those
9 capabilities.

10 So, linking someplace like Yuma to the National
11 Training Center to Camp Pendleton, which is something that
12 we do during Project Convergence and need to continue to do
13 that to find efficiencies.

14 To your point about the joint, you know, we need to
15 not just be able to do that in the Army, but we need to be
16 able to train together, experiment together as a Joint
17 Force, and that is one of the main efforts of the
18 persistent experimentation we have in Project Convergence.

19 You will see a lot of that, hopefully if you can come
20 visit us, at EDGE, when we do the -- it is the biggest
21 annual aviation experiment we do out of Yuma next month.

22 Senator Kelly: If we have more time, I would like to
23 talk about EDGE maybe at the end of the hearing, Senator
24 Cotton.

25 Senator Cotton: Mr. Bush, again, I want to go back to

1 the defense industrial base question. For the past few
2 years, Congress has shown a willingness to fund and
3 accelerate needed projects for the Army's organic
4 industrial base.

5 To that end, what projects within the Army ammunition
6 plant modernization plan could be accelerated if Congress
7 provides you with the necessary funding? And could you
8 also explain how these projects would prepare the army for
9 conflict with China?

10 Mr. Bush: Yes, sir. So, I think the great work done
11 by my predecessor and General Daly at AMC was to develop a
12 15-year plan. And at the time, some questions, like why
13 have a 15-year plan? Well, sure enough, all of a sudden
14 there were more resources and we had a plan with shovel
15 ready projects ready to go.

16 We still have that. So, sir, you mentioned one, I
17 think it is the UPL list that certainly would be a strong
18 candidate for Radford. There are others, and we can
19 provide a detailed list. One to and up to perhaps 10 or 15
20 projects as a follow up, if I could. There is a limit of
21 absorption at some places because we, of course, have to
22 keep these plants running while we are modernizing them.

23 So, we can't just shut the whole place down and
24 modernize it. We are bumping up against that in a couple
25 of places, but there is -- I think we found that there is

1 always more work that can be done. And there are two types
2 of projects. Some are really directly tied to increasing
3 production capacity or automating systems or modernizing
4 with regard to safety. Those are the ones that usually get
5 the most attention.

6 Others, though, that are equally as important is those
7 long-term investments in the infrastructure of these
8 places. So, security, cyber investments, more resilient
9 electricity, generation onsite, better roads. Those things
10 matter too, sir.

11 So, I think we are open to a dialog and a detailed
12 level of what projects could be accelerated where based on
13 what members might have in mind.

14 Senator Cotton: Okay. We have been talking a lot
15 about how to make these things. Let's talk about it now,
16 where to put them and how we would use them. General
17 Rainey, could you talk a little bit about how pre-
18 positioned stocks could support the Army's role in the
19 Western Pacific to include the possibility to pre-position
20 stocks afloat?

21 General Rainey: Senator, thank you very much. So, it
22 gets to both the priority of the Indo-Pacific, the long
23 lines of communication and contested logistics. So
24 absolutely, the pre-position has kind of like the deferred
25 term.

1 So, whether you are talking about APS traditionally,
2 but absolutely, the ability to position supplies forward in
3 theater and INDOPACOM, I fully agree that that is something
4 we need to be doing. I know General Flynn is pursuing that
5 aggressively as the Army Commander out in the Pacific.

6 If you look at one of the observations and lessons
7 from Ukraine, I think is if you look at how fast we were
8 able as a country to react and support Ukraine, it was
9 underpinned by a lot of things, one of which was the amount
10 of capability that we already had, forward position, the
11 partnerships we had, the training capabilities that we had
12 in Europe at 7th ATC, and the relationships we had with
13 partners.

14 So, replicating that in the priority theater, I fully
15 support and I agree with, sir.

16 Senator Cotton: And what about the prospects
17 specifically of floating pre-positioned stock?

18 General Rainey: There is a business case and ships at
19 sea with a lot of stuff on them, have some risks associated
20 with it. But I would defer to Mr. Bush on that.

21 Mr. Bush: Sir, we have our APS-3 set, which is our
22 current one afloat set. We did have to add funding for it
23 in '24 just to maintain it due to some increased costs, for
24 example, on ship leases.

25 But that is a vital capability and the Army is

1 committed to maintaining it. Expansion of APS-4 beyond
2 where it is today, heavily relies on really work of the
3 State Department and others on getting access to these
4 countries so we can build the locations. There is, you
5 know, there is -- anywhere in the Philippines, Australia,
6 other Southeast Asian locations would be things that the
7 Army I know has looked at and planned against.

8 I believe the Department is working through getting to
9 good -- so we can start that process. I can tell you, you
10 know, in our current, of course we are working on Fiscal
11 Year 2025 already, how to expand APS-4 is a critical issue
12 the Army is still working through.

13 Senator Cotton: If they are not floating, they have
14 to be on land somewhere, as you just alluded to. Just tell
15 us in plain language, like what is the plan or the concept
16 for preventing China from blowing all that stuff up in the
17 early stages of a conflict?

18 General Rainey: Yes, Senator. So, the ability to
19 position anything gets to the one thing that is an even
20 bigger problem than contested logistics, and that is the
21 ability to protect anything you forward position. And
22 there is a kinetic aspect, so air and missile defense and
23 integrated -- that is never going to be the total solution.

24 So, utilizing concealment, deception. One of the
25 advantages of land-based capabilities, whether it be

1 sustainment or long-range fires, is they are more agile and
2 able to move them. So good tactics and fighting.

3 You know, we are not going to be able to put anything
4 in range and assume it is going to stay safe unless we
5 fight to keep it safe. So, it is a balancing act. How
6 much you go forward, you better be able to protect it. And
7 we are pursuing those efforts.

8 Senator Cotton: You just touch indirectly, so I will
9 ask you directly about something -- I sometimes hear from
10 other Senators who are on the committee or just normal
11 Arkansans who wonder about it, it is like, you know, if we
12 are going to be fighting China one day, isn't it going to
13 be all out in the sea and in the air?

14 You know, the Army is fighting on the ground. So,
15 what is the Army going to be up to out in the Western
16 Pacific? Why does the Army need to worry about that?

17 So, could you just here in public, explain in plain
18 language what the Army has to do with a fight that, if you
19 just look at the map, appears to be all on water and in the
20 air?

21 General Rainey: Well, thank you, Senator, and I will
22 try and do that. We fight as a Joint Force. So, there is
23 not such a thing as an air maritime theater or any more
24 than there is such a thing as a land theater.

25 So, the strength of the Joint Force is everybody

1 brings their capabilities to bear. More specifically, the
2 Army, as our Secretary has said, has several
3 responsibilities to enable the Joint Force. So, command
4 and control, our Title 10 responsibilities for both
5 protection and sustained logistics.

6 But we are absolutely going to be able and need to
7 control land, whether it is to position Air Force assets to
8 support the Navy's operations, or they have to come and
9 touch land, to secure ammunition sustainment.

10 So, there is absolutely a role. We are going to
11 always need the ability, number one, to deter them first,
12 because this is a war we don't want to have, and that is
13 underpinned by them believing that they would lose in a
14 ground war with us.

15 And if we do transition to conflict, we are going to
16 have to be able to take land away from the enemy. And if
17 they defend it, that means taking it the old-fashioned way
18 by killing them and secure it and protect the Joint Force.
19 So, there is absolutely a role for our Army and every other
20 service in what would be a horrific war.

21 Senator Cotton: Thank you.

22 Senator Kelly: Follow up on something Senator Cotton
23 said about China blowing the stuff up. So, if we forward
24 position things, as we should, and, you know, have the
25 munitions, the fuel, the equipment, you know, forward

1 deployed, at some point in a conflict, we might need to be
2 moving fuel, munitions, equipment across, say, you know,
3 thousands of miles of ocean.

4 I want to see what your thought is about our ability
5 to do that. I mean, it is not specifically the job of the
6 United States Army, but it is your stuff. And right now,
7 today, we have in our Merchant Marine about 85 oceangoing
8 merchant vessels. This is beyond what Military Sealift
9 Command has.

10 And China has 5,500. Are you concerned about the
11 ability, in a conflict, after it starts, about a logistics,
12 you know, chain that goes across the Pacific Ocean, and our
13 ability to sustain that?

14 General Rainey: Yes, Senator. I think everybody in
15 the Joint Forces is very concerned about that. I mean, you
16 are talking the longest lines of communication that you can
17 possibly imagine, and then fighting a really good enemy at
18 the end of those.

19 General Flynn is doing a lot of work, I know, to
20 shorten those lines of communications by improving the pre-
21 positioning of assets like we just previously discussed.
22 But no, we are going to have to fight for that. And there
23 are challenges.

24 It will be contested at sea. And I am aware of the
25 limitations of the Merchant Marine, but I am not an expert

1 on it. But it is going to be a challenge, and we are going
2 to have to fight for it, and we are going to have to
3 protect it.

4 Senator Kelly: I want to turn back in the last three
5 minutes here before I turn it back over to Senator Cotton,
6 about back over to Europe.

7 So I was in Poland, went to Kyiv, met with President
8 Zelensky, spent over an hour with him, talking about a lot
9 of the challenges he has faced. Some of the lessons
10 learned. Met with his national security team.

11 There are a lot of lessons coming from this conflict,
12 lessons that they are learning, lessons I think that we
13 should be learning as well. So, General, from what you
14 have been briefed on so far, what have the operations in
15 Ukraine exposed about, first -- let's start, first about
16 the value of heavy ground forces and how they are being
17 deployed in Europe.

18 General Rainey: Thank you. The observations from --
19 one, I am very proud of the Army and the Joint Force. We
20 had our dedicated collection and lesson learned teams in
21 place before the Russians even invaded -- General Brito,
22 the TRADOC Commander. And we have numerous efforts
23 ongoing.

24 We take it very seriously. We have at my level, chief
25 of staff at the level weekly conversations to pay attention

1 to make sure we are learning everything we can from this
2 tragedy. There are some things that haven't changed
3 dramatically, if I may start there -- the importance of
4 humans.

5 The war is fundamentally still a contest of will
6 between humans and you are seeing the value of people
7 fighting for something they believe in and inspirational
8 leadership, and the impacts of those, you know.

9 So, some things don't change a lot about the nature of
10 war, the importance of land. I think armored formations
11 are absolutely relevant now and at any point in the future,
12 but specifically now.

13 Both, you know, we are providing the Ukrainians are
14 asking for them, the Russians are trying to sustain them --
15 the increasing lethality of the war, especially the AG, you
16 know, artillery precision stuff matters and is really
17 fascinating. But AG artillery is still the number one
18 killer. And you have to be able to protect your soldiers
19 and that space would be another example.

20 Urban warfare, right. Everybody knows it is not what
21 -- you know, nobody wants to do it. It is the worst kind
22 of attrition and it is the hardest thing, but it is
23 unavoidable, when the people move to the cities, and urban
24 areas sit astride your lines of communication.

25 We are going to have to fight in urban areas and it is

1 impossible to do that without the ability to penetrate
2 them, and you can't do that unless you have mobile
3 protected firepower to do that. So those would be some
4 observations.

5 Senator Kelly: You know, one observation I had had to
6 do with, and I hadn't seen this before, it is the way we
7 are helping the maintenance and repair of systems,
8 artillery systems, and others. And it is -- reminded me of
9 telemedicine. And the 10th Mountain Division Commander
10 actually mentioned, and he used the word tele-maintenance,
11 and that is what we are doing.

12 And I think that is something we need to try to
13 capture is, you know, the ability to repair things in the
14 field in a way we never really had before, where you can
15 put the, you know, the company's tech rep, technical
16 representative for the piece of hardware. It might be BA
17 systems, it might be, you know, Lockheed Martin.

18 You essentially can virtually put them right there on
19 the front lines when they need to repair something, not
20 something I expected to see. Ukrainians are, you know,
21 they are manufacturing parts. They can't make everything.

22 They can make parts out of titanium. You know, right
23 now, that is a complicated machining process that they
24 don't have the capability within the country to do. But
25 there is a lot they can do.

1 And I never, you know, really expected -- and it is
2 us, you know, with the assistance the 10th Mountain
3 Division is giving in trying to repair their equipment in a
4 way that I don't think we have done before. I think that
5 is a specific lesson that we need to capture and try to
6 expand on. Senator Duckworth.

7 Senator Duckworth: Thank you, Mr. Chairman. And good
8 afternoon to our witnesses. General Rainey, thanks for the
9 discussion we had about Futures Command a few weeks ago. I
10 thought it was very illuminating.

11 Last month, we learned about another delay with the
12 improved turbine engine program, ITEP, and it won't be
13 expected now until 2024. These delays not only affect the
14 new aircraft, but also the already fielded 60s and 64s.
15 Assistant Secretary Bush, in an interview with Defense
16 News, you characterized the source of the delay as
17 manufacturing challenges and not design challenges for GE
18 Aerospace.

19 I know the Army is briefing me next month on the finer
20 details of ITEP, and I look forward to getting to this
21 issue in-depth then. But broadly, can you talk about the
22 supply chain and component issues that are affecting ITEP?
23 Is that what the manufacturing issue is, supply chain, or
24 what is going on here?

25 Mr. Bush: Senator, frankly, it is quality control

1 further down the supply chain. Not -- I mean GE is
2 responsible for all of it, but of course, they have
3 hundreds of subs that they deal with.

4 A few very important ones have had trouble building
5 some of the new parts. For example, some of them are 3D
6 printed. So, we are using some new techniques here, making
7 them at the quality levels needed to get engines to go to
8 test. The good news is we did just last we laid off the
9 second test engine. So, we are on a path to a better
10 situation, but that is my understanding of the challenge.

11 GE leadership is fully aware of it. I have had many
12 conversations with myself. They know we are watching
13 closely. They know how vital the program is. They are
14 committed to getting it right. Right now, I am cautiously
15 optimistic that our updated timelines will hold, but this
16 will require constant attention, ma'am.

17 Senator Duckworth: Yes. I mean, I have been very
18 impressed with the Army and how they have developed this
19 new -- the two new aircraft. And, you know, and actually
20 has always moved the timeline to the left, and now we are
21 starting to slip right so, I do -- I am concerned about
22 that.

23 Are these concerns something that would affect other
24 Army modernization programs like combat vehicle, the next
25 generation combat vehicles, the downstream supply chain

1 manufacturing tolerances? Is this something that is going
2 to spread to other areas?

3 Mr. Bush: I don't expect so, ma'am. Not -- I mean,
4 of course, in aviation, we have the highest standards. It
5 is the most difficult things to produce. We have not seen
6 anything like that recently with any of our ground vehicle
7 programs, either of the new ones like mobile protective
8 firepower, or the older ones.

9 But it is certainly a potential cause for concern.
10 But I would say right now I don't believe so, but it is
11 definitely worth watching.

12 Senator Duckworth: Okay, thank you. General Rainey,
13 in our discussion last month, you described how Army
14 Futures Command was reevaluating cross-functional teams,
15 and how the Command is looking at the Army's new priorities
16 and organizational changes.

17 As you emphasized, the purpose of modernization is to
18 drive transformation across a Joint Force. And I am
19 interested in hearing more about the integration across the
20 total force, and your 75th Innovation Command in
21 particular.

22 How does Features Command integrate the experience of
23 its reserve component members? Are there best practices
24 for the Army at large to incorporate into other not -- into
25 other active reserve units?

1 General Rainey: Thank you, Senator --

2 Senator Duckworth: I know -- like tee ball, I just
3 put the ball right on top of the tee for you. Just --

4 General Rainey: So, the 75th Innovation Command is a
5 great success story of the total Army, right. So, it is
6 not, you know, you get this from COMPO 1 and something less
7 in COMPO 2 or 3. That is absolutely not the case. Some of
8 -- when it comes to what I do, I am trying to innovate,
9 trying to find tech expertise without paying a whole bunch
10 of money or taken a lot of time.

11 So, the fact that the 75th Innovation Command and
12 General Marty Klein, I can call him and say, here is a
13 problem or here is what we think is a solution, we want
14 somebody to troubleshoot.

15 And his ability to reach out through his entire
16 enterprise and find people that are not just experts but --
17 you know, the best people in the military, a lot of them
18 are the best people in the country in academia and
19 industry, and being able to leverage that capability as we
20 modernize the Army is kind of like a superpower.

21 So absolutely, we should continue to expand it. As
22 far as integrating across the Joint Force, I would offer
23 Project Convergence as an example of that. It is our
24 persistent experimentation approach nested with exercises
25 and then periodically having capstone advancement.

1 But we believe that Project Convergence is an Army
2 hosted joint experiment, and as for every year, as we do
3 those capstone events, they become more and more joint, we
4 add more and more partners, and that is another way that we
5 are continuing to apply a sense of urgency into our
6 integration efforts.

7 Senator Duckworth: Thank you. Just -- I am over
8 time, but if you could reply for the record, I would like
9 to know what the Army's plans are to a program and
10 integrate Great Eagle into the National Guard and reserve
11 -- or active and reserve components.

12 I want to make sure that the Army has a holistic view
13 of concurrent and proportional fielding of weapon systems
14 to achieve the total true force interoperability so that
15 the National Guard is also getting the Great Eagle in a way
16 that they can actually also train up and operate them.

17 General Rainey: Yes, Senator.

18 Senator Duckworth: Thank you. Mr. Chairman.

19 Senator Kelly: You could take it. General, I am
20 fine, if Senator Cotton is. If you want to take that and
21 if you could talk about that briefly.

22 General Rainey: I can talk about modernization of the
23 total Army and transformation of the total Army. So,
24 General McConville has been clear and adamant, as I know,
25 because he was formerly his G-3.

1 And there is no modernization effort we have that is
2 COMPO 1 only. They are all spread and prioritized across,
3 and I will follow up with you on the specifics of the Great
4 Eagle.

5 Senator Duckworth: Yes, probably General Schmidt
6 would be better positioned to answer that. I am sorry.
7 Should have asked her that.

8 General Schmidt: No, that is okay, ma'am. But I
9 would also just like to follow up with you on that one
10 afterwards.

11 Senator Duckworth: Thank you.

12 Mr. Bush: Ma'am, I would add, if I could, Congress,
13 we got the message. Congress was very clear about that
14 capability in the Guard. We are in make it work, make it
15 happen mode, with the Guard really in the lead in
16 determining how they are going to build units where -- what
17 composition with the MQIs that Congress directed.

18 Senator Duckworth: Thank you.

19 Senator Kelly: Just make sure you hang the right
20 stuff on it. Senator Cotton.

21 Senator Cotton: Mr. Bush, I want to talk about the
22 integrated visual augmentation system, or IVAS, began a new
23 stage of development recently in December 2022. After
24 several critical soldier touch points, the Army approved
25 the purchase of 5,000 IVAS 1.1 systems.

1 At the same time, Microsoft agreed to develop the new
2 IVAS 1.2 system, which will, if successful, change the
3 design of the system and improve its performance.

4 Fiscal Year 2022 appropriations included a \$394
5 million reduction in IVAS procurement, citing the original
6 spending request as ahead of need. In March 2021, the Army
7 awarded Microsoft a deal worth up to \$22 billion over the
8 next 10 years to move the IVAS program from rapid
9 prototyping to production.

10 Mr. Bush, why has the Army included some IVAS funding
11 in the base budget while shifting some funds to two
12 different projects on the Army's unfunded priority list?

13 Mr. Bush: Senator, I think what you are seeing there
14 is the Army trying to re-phase that program. We
15 unfortunately, you know, we did a very difficult test with
16 it and found all the problems.

17 While that is good that we found the problems, still
18 disappointing and not the outcome we were looking for. One
19 thing I would say is our ability to restructure that
20 program on the fly here, very quickly to try to get to 1.2,
21 is because of the new authorities we are using. That would
22 have been almost impossible under a traditional system.

23 To your specific question, we laid in funding we
24 thought was sufficient to just get over the line to get 1.2
25 developed in '24. The UFR items would let us go a little

1 faster into actual production, if it proves successful this
2 year, sir. So, I think we are taking a deliberate
3 approach. Whereas the first time around was honestly very,
4 very aggressive on timeline and production ramp up, this
5 time we are being more cautious.

6 We want to make sure, you know, Microsoft, they have
7 to deliver. This 1.2 system needs to be exactly what the
8 Army needs or we are not going to produce it. So, I think,
9 sir, that is one reason we scaled the funding back that
10 way.

11 Senator Cotton: Okay. General Rainey, Mr. Bush
12 hinted at my next question. How confident are you that the
13 testing for 1.2 will be successful?

14 General Rainey: I am very confident. It is not just
15 the technical testing aspect, but the -- one of the
16 successes of our modernization effort is using soldier
17 touch points.

18 So, because we have 5,000 of them, we are going to
19 continue -- not putting them into operational units where
20 there would be a potential impact, but we are going to not
21 just let them sit in a Conex somewhere.

22 We are moving them around to places like the Maneuver
23 Center of Excellence, for example, where we have some of
24 our experienced soldiers continue to do that. We are
25 working with Microsoft, so we have the users working hand

1 in hand as we develop the next thing. And we are going to
2 get it and we are going to test it with real warfighters
3 and get that soldier feedback.

4 So, I am confident both, that we will test it
5 effectively because we always do, the rigor that we put in
6 the last one. But I am really kind of -- what I am going
7 to wait and hear from is the staff sergeants and the
8 lieutenants and company commanders providing user feedback.

9 Senator Cotton: Okay. And if that testing does not
10 go as well as we had hoped, the Army is prepared to take a
11 look at the program?

12 Mr. Bush: Yes, sir. So institutionally for the Army,
13 it is always a very hard decision to, you know, admit we
14 can't succeed somewhere.

15 But this is a potential area where, look, if the
16 testing doesn't prove out very quickly that it is capable
17 and going to get us what we need, the Army is absolutely
18 prepared to end that arrangement and seek a new
19 competition.

20 Senator Cotton: Okay. I want to turn in the time
21 remaining to Abrams tanks, Mr. Bush. The Army's Fiscal
22 Year 2024 unfunded priority list includes \$533 million for
23 Abrams set V3 procurement to achieve a complete armored
24 brigade combat team set. Those additional tanks would
25 decrease the estimated costs per unit from \$17 million,

1 that is 34 tanks at current funding, to \$12.3 million, 87
2 tanks.

3 In resourcing this, this requirement would accelerate
4 the fielding of the M1A2 set V3 tanks to one active
5 component BCT by year. So, the Army included \$533 million
6 on its unfunded priority list for the Abrams tank
7 procurement, but that seems to have become something of an
8 annual occurrence, appearing on the unfunded priority list
9 as opposed to the base request.

10 Can you tell me why this seems to continue year after
11 year of this funding for tanks going on the unfunded list
12 as opposed to the base request?

13 Mr. Bush: So, Senator, of course, the Chief of Staff
14 of the Army, it is his list in terms of why it appears
15 there, but your question is a very fair one. I believe, as
16 I mentioned, we have accepted some risk there in the base
17 budget request.

18 We don't think it is too low, but that is less funding
19 than as articulated in the UPIL would be perhaps ideal.
20 There is another mitigating factor, however, and that is
21 increased -- recent increases in foreign military sales.

22 So, a very large order from Poland is going to end up
23 being more than 300 tanks worth of work. A recent order
24 from Romania will give us an excess of 50 or 60 or so
25 additional tanks of work.

1 And then there is, of course, potential for additional
2 tanks for Ukraine long term. So, we are always trying to
3 balance between foreign military sales and our production
4 to keep a healthy production line.

5 But I think the Chief, as articulated in the UPL,
6 believes that was an important one. It is a very large
7 amount of money, so I think I would defer to him on his
8 specific thoughts for why that was so high on his list.

9 Senator Cotton: Thank you.

10 Senator Kelly: Similar to tanks, I want to move to
11 helicopters. Not something I have a ton of experience
12 with, though I did get to fly the Apache last year out of
13 Boeing in Phoenix, which was quite the experience.

14 The Army has placed a big focus and resources on its
15 future vertical lift priorities, the future long range
16 assault aircraft and the future attack reconnaissance
17 aircraft. Neither of these systems are projected to field
18 until 2030 or beyond, and they are going to augment, not
19 replace, the current, you know, Black Hawk and Apache
20 fleet. And the Chinook remains the Army's only heavy lift
21 capability.

22 Yet in large part, the Army continues to defer
23 investments in the stuff we have in order to fund these
24 longer term two systems that are just going to augment what
25 we have today. So, does the Army still consider a manned

1 reconnaissance aircraft the right solution here?

2 And can you just, in general, just give me an update
3 on the future long range assault aircraft and the
4 reconnaissance aircraft?

5 General Rainey: Thank you, Senator. And the short
6 answer is yes, there is absolutely going to be a
7 requirement for the United States Army, as part of the
8 Joint Force, to conduct vertical envelopment in the future,
9 now or at any point. So, the ability to avoid that
10 attrition warfare I was talking earlier by maneuvering, by
11 ground, and by air to dislocate our enemies and envelop our
12 enemies.

13 So, we absolutely need to maintain what is the
14 strength of our current Army, and that is Army aviation.
15 So, looking forward as our -- if you look at your specific
16 question, there is always going to be a requirement for
17 human reconnaissance. So, reconnaissance and security is
18 an essential of warfare. You have to not get surprised and
19 you want to make contact on your own terms.

20 How much of that can go unmanned versus manned is very
21 much at issue, and we should be paying attention to
22 learning from that. But the ability in an all-weather
23 chaos, fighting the Chinese who are very good at not only
24 disrupting our technical capabilities, but also injecting
25 mis and disinformation, have the ability to talk to a human

1 that you know and train who is looking at something and
2 provide that back to the commander will always be a
3 requirement.

4 And where that falls out on our other requirements
5 will be a decision that we will make. But pursuing that
6 capability, I agree, sir, I believe is the right thing.

7 Senator Kelly: You know, Blackhawks moving people,
8 the Chinook, people and equipment, and the Apache putting
9 ordinance on target. I mean those are missions that we
10 can't, you know, take our eye off of.

11 General Rainey: Absolutely.

12 Senator Kelly: And they are going to be around with
13 these platforms, you know, for a number of years. So, you
14 know, my concern is that we do have to -- you know, we have
15 to focus on the future and beyond 2030.

16 At the same time, we have got to make sure that we
17 continue to be able to support the warfighter with what he
18 needs today, too, and I think that is those three
19 platforms. Senator Cotton, you have any further questions?

20 Well, with that, General Rainey, Secretary Bush,
21 General Schmidt, thank you very much for being here today,
22 and the hearing is concluded.

23 [Whereupon, at 4:04 p.m., the hearing was adjourned.]

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