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NEXT STEPS FOR THE ARMY:
A CONVERSATION WITH UNDER SECRETARY RYAN McCARTHY

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Featured Speakers:

THE HONORABLE RYAN D. McCARTHY
Under Secretary of the United States Army
U.S. Department of Defense

MAJOR GENERAL PETER GALLAGHER
Director, Network CFT
Department of the Army, Office of the Army

Moderator:

MICHAEL O'HANLON
Senior Fellow and Director of Research, Foreign Policy
The Brookings Institution

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P R O C E E D I N G S

MR. O'HANLON: Good afternoon, everyone and thank you for coming to Brookings. I'm Michael O'Hanlon with the Foreign Policy Program and it's my distinct honor today to have the Under Secretary of the Army, Ryan McCarthy, here with us to talk about all things army, but specifically, some of the Army's ideas on modernization of its future force. Let me just say a brief word of introduction of Secretary McCarthy and I'll ask you to join me in giving him a big Brookings welcome and then we'll hear a couple of thoughts from him by way of framing our topic. We'll follow up with a little big of discussion up here between him and me and then, go to your questions. All of that by 2:30, so it'll be a crisp, boom, boom, kind of session.

Mr. McCarthy is a proud native of Chicago. Went to Virginia Military Institute, bachelor's degree in history there which seems appropriate given the aura I have around VMI and all the traditions and histories that it upholds and sustains in our country. Then, joined an operational army unit; was deployed to Afghanistan during his 1997 to 2002 period as a soldier. Saw combat with the rangers in Afghanistan. I think First Med Secretary Mattis there if I understand the story correctly. And since that tie, has done really all the kinds of additional things you'd want someone to do who's got the kind of job he has today because he's worked on Capitol Hill. He's worked as a special assistant to both Secretary of Defense Gates, but also, the Under Secretary of Defense for Acquisition Technology and Logistics. And he's been in defense industry most recently prior to coming to the Pentagon when he was with Lockheed Martin.

Many of you know that after his confirmation this past summer, he was the Acting Secretary of the Army in addition to being the Under Secretary of the Army while we waited for Dr. Mark Esper to get through the nomination and confirmation process. So, he's got a lot on his plate, including some very interesting ideas in army

modernization, as I mentioned earlier, that we're here to talk about today. Before we start that conversation, please join me in welcoming the Under Secretary of the Army to Brookings.

(Applause)

Over to you, my friend.

UNDER SECRETARY MCCARTHY: Thank you, Dr. O'Hanlon. I really appreciate this opportunity to come sit here with the Brookings Institution. This is a world-class organization that I had my first blush with when I worked on Capitol Hill and then in the Department of Defense. And then, in my job interview with Secretary Mattis and I was looking at his bookcase and there was two books of Dr. O'Hanlon on the bookcase, so, I, of course, came to Amazon and bought them and read them after that. But this -- a stored history, obviously, all the way back helping General Marshall -- sorry, Secretary Marshall with the Marshall Plan, so it's a real privilege for me to be here. Thank you and thank you for the support you've given me. This is our third evolution in the last four months, so we've been looking a lot outside of the Army to help us think through this major initiative that we have been restructuring, the entire Department of the Army. So thank you for having me. Thank you for all the support you've given us at this point.

Just very quickly, I come into the job back in August, but really it started in the springtime in my interview with Secretary Mattis and he had said he was going to be working on this national defense strategy they intend to publish and we're -- I think he was publishing, what, a couple weeks ago about how do we modernize the force to maintain our overmatched position against near peer competitors. The rise of four countries in particular, North Korea, Iran, China and Russia. The investments and the competition will militarily, economically has definitely garnered a lot of attention and it's

clear that the choices that they've made has started to get closer in closing the gap towards our overmatched position, so that's the kind of "Why now?" The Army has to continue to modernize itself to maintain its position as number one in the world. So, that there's no time like the present, even though when you look at the challenges the Army faced over 185,000 troops deployed worldwide.

We've been in challenges with our fiscal position as a country, which has affected defense budgets over the last several years, but we know even in the midst of all of the challenges we face, we know we have to evolve. We have an industrial age system that was created in 1973. The major commands that we have today, TRADOC, AMC, and FORSCOM and the responsibilities of how we do material development design, weapons system development is spread across these commands. And that the relationships are not a close and as formed and the fusing of information of how we develop a requirement, work through the trade office and go through the process. So, there was really on my first day on the job when I was talking to General Mills and General Macondo at the time, was how do we get better and how do we get faster?

We had to look at where the responsibilities lie in the institution. But first and foremost, we had to be very specific about what we wanted. One of the priorities that we need to put our management attention, put our funding against and drive -- and pull through the knothole and get increased capability. And they were very simple. An army shoots, it blows and it communicates. So we sat through and looked at the capabilities and we recognize that long-range precision fires, next generation combat vehicles, future vertical lift, networks, integrated air missile defense -- that spans across all fundamentals. Shoot, move and communicate is the same as protect.

We locked in on these capabilities and then, said, "How are we investing against these capabilities?" Conducted several S&T reviews; move the funding against

these six priorities in the upwards of 80 percent of our S&T budget, lock it in against those six capabilities. Then, we look at how are we looking at the process and we conduct material development. And we saw across the enterprise, there were responsibilities that laid in against these major commands and said, "Rather than just creating a new organization, how do you restructure and put it all under one roof?" So the talent is where it is in the country, but where it to and how it works together is what we're really focused on.

Formalizing relationship between the requirements community and the acquisition community. Now, how do you do that? It's entirely about people. I give all the credit to my wingman, General Jim McConville, Chief of Staff of the Army. He went and handpicked the officers that we put in against these cross-functional teams. We're post (inaudible) community qualified officers that lead these cross-functional teams that fuses requirements, acquisitions, technical, testing. One of them is sitting here in the front row, Major General Pete Gallagher. And it was amazing, we went through this process with General McConville, talked about their education, their staff experiences, their command experiences. Because if you look in history, whenever we've been successful in the Department of Defense, it really was about people. Who you put in charge; who's accountable; and who -- how you generationally changed the outcome at a more (inaudible) or Lieutenant General Leslie Groves. They were very successful because they laid in the right people and over time they worked their career paths to sustain those great outcomes. So, we have these cross-functional teams that we stood up immediately. I signed out eight acquisition directives last fall that were authorities that were granted to us, the FY16 National Defense Authorization Act to really put this in play; put the system in motion. Dr. Esper was confirmed in November and his biggest thing that he's brought into the modernization process is communication. That the four of us in

the Marshall corridor has to be constantly interacting and engaging senior leadership and industry. And not just the traditional defense industry, across the country. So much so that even when we look at foreign partners as the potential doing -- we work with them as well. So, wanted to open up the abiturs wide as could be to get the best ideas the industry could bring to bear. And even said in those first days, said, "Okay, the four of us going to sit down. Let's blood oath, we're not changing our priorities. We have to communicate and put our money where our mouth is. And so, we've -- we hit strive very quickly since he came on in November and we're now approaching the 120 day mark that I laid in last fall for our condition setting task force that's looking at the restructuring. And the teeing up the courses of action that we need to look at and ultimately make the decision on how we move some of these roles and responsibilities into this organization that we call the Army's Future Command.

Ideally looking at the end of March timeframe to make a national announcement and have an interim operating capability by the summer of this calendar year 2018. So, I thought maybe that'd be helpful. Lay some context.

MR. O'HANLON: So, thank you and let me now, if I could try my own narrative -- my understanding of what you're doing and then, ask you to comment, if I have it right. Because I'll take a little different slant and maybe starting further back in history. So, we know that the U.S. Army had a tremendous success story in the Reagan period and into the 1990s with the so-called Big Five, Abrams Tank and so forth. And great helicopters, good missile defense system that kept getting better. And did very well and then, did very well in Operation Desert Storm, but then we already started to see war getting more complicated and messier, even a couple of years after that in Somalia and we also started to see the Army have trouble. So, just as it had a Big Five of success, it sort of had a Big Five or problems. Sergeant York Armored Gun System, Future Combat

System, Comanche Crusader, we all know the list. That was all sort of '90s into early 2000s, none of those programs quite lived up to what was hoped for and then most of them were ultimately canceled. The Army's done a lot of great stuff even during that period and I think your predecessors in both uniform and the civilian workforce did a lot of innovative things, but the big programs were less successful.

On top of that and maybe even more importantly, this is where I'm hoping you'll comment, we've also seen the pace of innovation pick up. Not only here, not only in the United States military, but in foreign militaries, China and Russia as the National Defense Strategy underscored, as you said, as Secretary Mattis mentioned across the street when he was at CISE unveiling the strategy two weeks ago. And we have this tremendous technological base in our country of rapid innovation that the Department of Defense is not very well placed to keep pace with to benefit from in the kind of time cycles that really modern Silicon Valley and other parts of our technology base are capable of generating new capability.

So both -- if I understand right, both because of past problems and mistakes, like those Big Five legacy issues, but maybe even more because of the rise of China and Russia and the pace of defense innovation around the world. You just decided you needed to do things differently and if I understand, there are at least two big things you're accomplishing with this -- aspiring to accomplish. One, as you said, is to create these cross-functional teams in six major areas of army technology that involve the technologist, the war fighters and the acquisition experts talking and operating as a team in real-time. And then, secondly, you may have to go to Congress and you may have to change within the Department of Defense itself and the Department of the Army, how fast you make certain kinds of decisions; what kinds of authorities you have to reallocate funds and move quickly. So, how much of that story did I get right and please

feel free to correct me where I'm wrong?

UNDER SECRETARY MCCARTHY: Keep going. I absolutely -- the nature of the cross-functional teams is to really tie that operation concept with the technical concept. If you highlighted some of the more catastrophic failures with Media Defense Acquisition Programs, we changed the operational concept midstream because whether you got it right or not, or world events altered the thinking of what objectives you want to achieve with the system. Instead, discipline, along with getting it right in the first place, making it -- it'll survive first contact, so that aligning those technical and requirement communities, it's the foundational element of the cross-functional teams. With respect to the governance model we described, if you look at these cross-functional teams and then the Army Futures Command and then getting it to the Secretary and then, the Army staff, we're trying to reduce the number of layers. By the reduction of layers, it also brings accountability in the system. Speedy decision-making and so that's where the challenge and the frustration of Congress has been for a long time is when a program fails, who's accountable. Maybe we should start -- it really does start with the four people in the hallway and the Marshall corridor in the (inaudible). It's the Secretary, myself, the Chief and the Vice. And we're trying to bring that into the fold that we have to sit over top of this and provide the access to the -- get decisions brought faster so we can move money and provide the authorities necessary. It is at the heart of what we're trying to achieve.

MR. O'HANLON: So, your six categories, if I can summarize, its long-range fire. So, artillery and missile strikes where we realize that we've been sort of falling behind. It's defenses against those same technologies being used by the enemy against us. So, its missile and air defense is a second category. Ground vehicles is a third category. Rotary wing or future lift is a fourth and then, the networks, command and

control, sensor networks would be the fifth and then, the soldier is, of course, the sixth. Not sixth in priority, just six the way I've listed it. Is there any one of those six that you feel is most in need of this reform, that's going to benefit the most above all others from the new concept.

UNDER SECRETARY MCCARTHY: So, I, you know, not to side step that, but the -- we find as a formation in the choices that we make within those portfolios affect the others. So, wherever the technology comes forward will make those choices. What I've described before to our six CFT leaders is, you provide us a portfolio of capabilities, like a hedge fund manager. How are you going to be able to help us defeat a variety of threats, but then, how does it laterally integrate against your other five teammates? So, when these choices come through, we can mitigate a threat if the technology isn't there based off of an investment in one of the other portfolios. So, General McConville and I kind of sit back with those six knobs and have to turn them just right. The teams have been in place for about three months and are bringing forward recommendations to influence this FY20 program. I'm anxious -- it'll be a very interesting 35 days ahead of us, right Pete? But that's how we're approaching the challenge because you can't make deep bets on the technology isn't mature. So, how can you mitigate debtor increase capability? You got to look through the other weapon systems in the formation.

MR. O'HANLON: Is it fair to -- you've described a couple of things you're hoping to accomplish. One of them is improve speed, but also, maybe even more to the point, you've talked about these cross-functional teams and the combination of talent they bring together. And to make the link between the visionaries and the doctrine writers with the technologists make that link real day-to-day. It strikes me as I think through the sixth technologies that the speed benefit is perhaps going to be most notable

in the network area where you've got, as we were discussing earlier, you know, the pace of modern electronics innovation is so fast that you need to be able to react. Whereas, a benefit of having the CFTs and having the technologists talk to the visionaries is maybe you avoid the problem we had with Future Combat System, hopefully, where a concept that sounded great in a Brookings seminar maybe wasn't quite as readily deployable and it was partly because you had, you know, visionaries here in one command, technologists here in another and they didn't see themselves as part of the same day-to-day team. Is that a fair way to look at some of the potential benefits?

UNDER SECRETARY MCCARTHY: Want to jump in, Pete?

MR. O'HANLON: We've got General Gallagher here with us in the front row. One of the CFT leaders and --

UNDER SECRETARY MCCARTHY: Major General Pete Gallagher, who's the CFT director from the network. So, sorry --

MG GALLAGHER: Thank you, Mr. O'Hanlon. Thank you, Mr. Secretary and then, for all of you, it's an honor to be here today. One of the things that we've learned relatively -- I mean, we've got to move with speed and precision. We got to stay ahead of our adversaries and we have not been able to do that because we have very large programs that are taking us years to field based on how the money is allocated to actually field those programs. So, as we took a good, hard look at the network, we really realized that we needed to cut bait on a few of those programs, right, not deliver in the future. Fix out ability to fight tonight by adapting and buying new solutions that are readily available.

If our Marine Corp. teammates, our joint teammates, if industry has something that we can port in immediately, we want to get it in the hands of our soldiers as quickly as we can so we can improve our ability to fight tonight. And then, we're

pivoting to what's next. What will allow us to explore the art of the possible and be able to insert technology, so our -- what we've been trying to do relatively quickly is get associated with units that are focused on the global response force and our most pressing O plans. Get capability in the hands of those soldiers as quickly as we can. Get iterative feedback, make adjustments and learn as we go and as the Secretary and I have talked about, we want to fail early; fail cheap, but when something is working and it's ready, we want to test the scalability of it and get it out there as quickly as we can into formation. So, we've got to move at a much more rapid pace, especially in IT. For every one of those cross-functional teams, you know, we and the network, we're cross-cutting. Okay, sensor the shooter; target acquisition for long-range precision fires, we've got to have a network that enables that. We've got to have a network that enables the short-range missile defense, integrated missile air defense. The network's got to be trusted. It's got to make sure that what we're shooting at is -- we're going to hit the target we need to hit.

Our vehicles are platforms, air-to-ground integration. It's got to be an ecosystem and so the Secretary mentioned it before, but all of the cross-functional teams, the horizontal integration, day in and day out, making sure we have shared understanding of what the priorities are and what we're focused on has really been, I think, pretty significant. As I have had the privilege to do this for the last 75 days, we've taken a good, hard look at some areas that we probably weren't looking at before and that's our science and technology portfolio. What are we investing in, in the network that's going to delivery capability and what does industry research and development efforts (inaudible), what are they investing in that we may not need to worry about? What is so common investing in? You know, DOD, DARPA, what are other players in the S&T space that have network implications? Where are they investing? So a lot of my past 75

days since we stood up is finding out who's doing what in this space; where are the investments that's going to deliver capability; and then, how do we explore that and exploit it as quickly as we can by getting it into the hands of the soldiers and making sound recommendations to the Secretary, the Chief and other senior leaders on how to move the money to get the best possible capability that we can, so we can fight and win. And that's really what it's all about is fighting and winning.

MR. O'HANLON: Could I ask for an example from either one of you? Maybe it's unfair because it's just too broad of a question. There's too many different technologies that you're trying to buy, but how much faster do you want to get? So if there's a notional program that historically has taken us five or 10 years, you know, use whatever example you like. How much faster can we realistically become in the space of the network?

MG GALLAGHER: Yeah, I would say in the network, we can't be -- in my opinion, there's technology today we can port in pretty quickly and where we've been hampered is large ACAT programs that have taken years to field. In many cases, you know, because of the budget being where it is, you know, we're fielding a couple of brigade combat teams a year and we're on a path to a 30-yer fielding schedule of a big box and a solution set, so we're, you know, we're giving them the day after tomorrow -- we're giving them -- the day before yesterday's technology in many cases and it's not going to be what we need to fight against the peer adversary. So, there's no doubt in my mind we can cycle faster. And then there are some things where -- and we're working with industry to identify what are the quick wins and what can we get in there quickly. It's about moving the money though and making sure we have freedom of action to insert the technology and then scale as we need to. But I think we can move pretty fast. I think there are some long over the horizon technologies that we don't know yet to really get

after the next generation threats more, you know, artificial intelligence, knowledge, learning internet works, so it's much more intuitive and simpler, so we can simplify what the soldier and the leader has to do on the edge so they're not worrying about configuration management -- change management and all that stuff. That's done on echelon or that's done in sanctuary and the machinery does all the work. There's, you know, technology is evolving and we just need to keep pace with it.

UNDER SECRETARY MCCARTHY: In his space, in particular, utilization of OTA authority that was granted to us in the FY16 National Defense Authorization is critical. Getting out of procurity as quickly as possible. Above threshold programs are challenging. Going through the Committees and jurisdiction to get that authority to move the money around. So, that will always be a challenge. We got to be clear and articulate. We got to move quickly.

With respect to the other portfolios, some of the larger hardware development, we've got to get requirements done in two years or less because in taking five, seven years, it's just too long and it becomes just a mountain you're climbing, so we're going to get better at that. We put a lot of focus and emphasis there and by putting the teams together compressing the timing. It gives those program executive officers much more clarity of what the operators want because they do it right there in real time, so we're encouraged by what we see so far, but that would -- his space in particular is why we want him here today. It's going to be the biggest challenge. The speed of technology.

MR. O'HANLON: So, I've only got really one more question, which is going to be what do you need from the Department of Defense and/or the Congress to do this? You just mentioned that two years ago, the Congress further expanded the ability of the Department of Defense to use OTA, other transaction authority. For those of you

who don't follow this, a day in and day out, which basically allows you to circumvent a lot of the traditional requirements on paperwork and on laying out, you know, detailed sways of complying with a lot of complex standards and to get commercial of-the-shelf technology, or otherwise move fast. If I didn't summarize that well, you can correct me here in a second. But my -- my question really is, again, what do you need from either the Department of Defense or the Congress that you haven't yet received that will allow the rest of Washington and the rest of the country to support you in what you're trying to do?

UNDER SECRETARY MCCARTHY: Yeah, so I've been repeatedly hedging in public with what I say that we may need legislation. Depending upon the course of action that Secretary Esper and the Chief pick here and of the early March timeframe, it may require legislation. But we may also want it to codify and institutionalize the changes because it will be different in how our relationship with the Congress, Office of the Secretary of Defense will -- how do we line up with them and communicate with them and work together.

So, we have consistently said that if you -- if we were to move different roles and responsibilities out of each command to start a new one, that we'll be different. We'll operate differently. It will be entirely different. So, we've had a very robust dialogue with congress since the fall. We consistently communicate every week where we're heading, so they're not going to be surprised when this comes out. But we're really not in a position because we just haven't slept to say we -- on the course of action development. But in particular, with governance and we will talk a lot about speed and the challenges associated with talking about the point Pete made with above threshold programming's, the challenge in that goes across all of the communities of jurisdiction and that's something we would have to have much longer discussion on and there's a

pure rational from that. The oversight is necessary. Why are you moving dollars around?

And when you deliver a budget that's a pact deal with Congress. So there's institutional traditional challenges with that and it's important, but we notice that a lot lately because of just the speed and change of technology and threats. So, we're going to have those conversations.

MR. O'HANLON: Just one clarification. On the Department of Defense part, before we go to questions and the crowd. You gave a very good answer on the Congress part, but I just want to, you know, two weeks ago, as I mentioned, we had General Holmes here, the head of Air Combat Command, who's now working on this concept, as you well know, called Multi-Demand Battle with General Perkins of Army Training and Doctrine command. So, it's an army/air force collaboration. As we all think about, Heaven forbid, the possibility of conflict in Korea, we know that an ability to share information quickly in real-time so that whatever shooter is in a position to silence North Korean artillery as fast as possible. That's a priority. So, my question is about jointness and DOD-wide efforts and how you link up to that. We also know that Senator McCain has and the Congress have asked the Office of Secretary of Defense to break apart some of their acquisition efforts at the same time you're trying to integrate within the Army. And I suppose there are ways to make those two simultaneous actions support each other. But I'm just curious about the whole question of jointness and how your concept relates to what you need to do with the other services.

UNDER SECRETARY MCCARTHY: Inoperability is everything. So, we're trying to get better just internally to the Army. The effort that General Holmes and General Perkins, who's really been the champion and (inaudible) main battle. Bringing all those macro pieces together. The work that the CFT is doing is bringing that down to

how to fight in an echelon. The advantage of our cross-functional leaders, multiple combat tours. Pete's spent a lot of time in Special Operations Command, so the value of our folks that are in these positions, the relationships and experiences they have are bringing that down to how we fight that at the street level. But that is spending an enormous amount of time internally, the department working on that. And I don't know the timing, some of the roll outs of what they're going to do making changes. But the way that, you know, from my lane, the defense management process group process with you sitting with all the service leadership on the budget process every investment decision. General Silva and Mr. Shanahan are pressing us on inoperability and how it becomes joint. So, the behavior is there. The cultural changes are being made. It's very encouraging. Six years ago, when I was in the Department of Defense, it was really head down and we're fighting the wars and now, it's a very different feel for me this time around.

MR. O'HANLAN: Thank you. Let's go over here first. Please wait for a microphone. Identify yourself and then, question for the Secretary. So we'll start here in the second row, please and then after that we'll come over here to the third row.

MR. CLARK: Thanks. Colin Clark, Breaking Defense, representing Sydney Freedberg, of course.

MR. O'HANLON: I miss him, where is he?

MR. CLARK: He's out in San Diego having a good time --

MR. O'HANLON: Good.

MR. CLARK: So, the question from him, if you had to choose, Mr. Secretary, where would the next dollar added to the Army budget and why? In strength, modernization or more readiness, you have to pick one.

UNDER SECRETARY MCCARTHY: I -- let me think. It'll probably be

readiness. You know, readiness is our number one priority. If you -- we have troops deployed, 185,000 worldwide. In every instance, it will always be our number priority. We'll know -- we had this discussion. We knew we had to make a greater emphasis on modernization. We are doing that. There will be a substantial change in the modernization budget, but the readiness will always be number one for us.

MR. CLARK: You want to tell us how much?

UNDER SECRETARY MCCARTHY: What's that?

MR. CLARK: You want to tell us how much the increase will be?

UNDER SECRETARY MCCARTHY: I will on Tuesday.

(Laughter)

MR. O'HANLON: Go here in the third row, please.

MS. MYERS: Meghann Myers, Army Times.

UNDER SECRETARY MCCARTHY: How are you?

MS. MYERS: So, in the soldiers' system portfolio of the Futures Command, what are some of the ideas that are coming out of that and what are some of the known needs that you already have on the list?

UNDER SECRETARY MCCARTHY: The -- we're looking at some upgrades in night-vision googles, a new car beam. We're looking at some options there. Started conversations with Congressional staff a couple of weeks ago, but some very leap-a-heads in the capability and they can be fielded very quickly. I think if we were to move out this spring, we could even start by the end of this calendar year. I'd have to get the specific timing for you on that, but Brigadier General Donohue's done a remarkable job there. Deep operational background in both Special Operations Conventional Forces has a very great roadmap with that. He's also looking at a system, mounting system for the helmets. So, it's very encouraging what see is brought forward.

MR. O'HANLON: All right, we'll stay along this row. So, I guess in the fifth row and then the sixth row. Then we'll rotate around a bit.

MS. ROKE: Hi, Secretary. Ashley Roke with ShopRite Media. The question's either for you or for the General.

MR. O'HANLON: Can you speak a louder. We can't quite hear you.

MS. ROKE: Sorry. The question's either for you or for the General. As you're looking, you know, with the CFTs and putting together modernization plans along with looking at current technologies, how are you using organizations, such as DIUX to get industry input of what you can field in the near term?

BG GALLAGHER: You want me to take that?

UNDER SECRETARY MCCARTHY: Thanks, Pete. DIUX go -- we have investments with them. They're supporting us in a variety of the different portfolios. You have some outstanding people in both those organizations and the point that Pete made before, I actually have a financial background. I worked in banking also in my previous life and I'm constantly beating on them about the investments. Where the dollars in the Department and, you know, and not have any pride because there might be a better idea somewhere else and it may be more mature. So, he's the testament here. We're consistently doing that. So, those are greater organizations. They bring a lot of really good stuff forward and we're teaming up those options, because like I said before, we managed these like in portfolios. The Big Five, back in the '70s and '80s, they're really like the Big 64. About 59 other programs have fell in underneath those major systems. That's really what we have today.

We managed those capabilities because we have a variety of threats we have to deal with. So, the more help we can get, the better and they have access to, you know, the brightest minds that our country has to offer.

MR. O'HANLON: I should have mentioned in his background also, an MBA in addition to all the other things. Also, for those of you who don't know that lingo, DIUX is the Defense and Innovation Unit Experimental. It's the outreach to Silicon Valley and Boston Route 128 and the other high tech sectors of the economy trying to accelerate the acquisition process.

Gentleman in the sixth row. Oh, General, please.

BG GALLAGHER: I would -- as I talked earlier about, as we were looking at where we are and for the last 75 days, one of my first stops was with SIUX to kind of see what are they doing? What are they doing on behalf of the Army? What's DIUX working on behalf of other, you know teammates in the joint community and how can we possibly leverage that to our advantage. And we've already conducted our first, as a cross-functional team a series of tech exchange meetings with industry. We had about 576 industry partners up at Aberdeen last week.

Our next one, we were actually working with DIUX to get some non-traditional partners that may provide us some innovative technology going forward, so that was absolutely one of my first stops was the new CFT directors. And thank you.

MR. FIOLA: Bill Fiola, I'm a retired Foreign Service officer. Also, retired Army officer. I wanted to raise the issue of war fighting doctrine. You brushed against this one, I think when you alluded to the formations. But in the new (inaudible) posture statement and also, from the Russian side, there four shadowings of tactical nuclear weapons used on the battle field, low yield. What will that kind of scenario do for your material choices and things that you do? I'm remembering back long time ago the Army had a pentomic structure, which was very decentralized. We're operating in a -- on the nuclear battle field and I'm just wondering if you're thinking at all about that.

UNDER SECRETARY MCCARTHY: On the -- you mean, for like over a

tactical nuke, you mean? I haven't specifically been working on that and I have not had -- we're -- the six priorities we have is where I focus my energy up to this point.

MR. O'HANLON: Okay, let's see. Let's go in the next to last row here. The gentleman in the fatigues -- camouflage.

MR. PAULBASE: Good afternoon, sirs. Canal Paulbase from the British Army. A step behind my French brother here, Danish brother on the far side over there. So, I was going to ask both you gentlemen, you talked about interoperability, but in a sort of joint context. So, now, we sort of segue perhaps into interoperability in a multi-national context. So how do you envisage baking in, even if you do envisage baking in multi-national -- multi-nationality into operability, into the CFT construct or into the modernized (inaudible) Futures Command?

UNDER SECRETARY MCCARTHY: We talked about this at lunch. Secretary Mattis particular has made this a critical pillar. One of the pillars of our national defense strategy. He has a retired vice admiral, former DSCA director in his immediate office. Vice Admiral Samuel Joe Rixey, who has helped him look at how do we conduct arm sales faster and more effectively and then, how do we look at our systems to ensure that we can communicate in training work with our partners. We talked about that consistently in our CFT discussions with clear recognition that we will go to war with our allies. We have to train with -- alongside with each other. We've been doing it for the last 17 years. When I was -- it reminds me of when I was in Afghanistan in 2001. Armed Marine Commandos were right there. We were the first couple of hundred people on the ground. So, it will always be that way, particularly, our special relationship. But we will do that in all things. Its part of our national defense strategy and it's really in our DNA. We've been fighting like that for a long time.

MR. O'HANLON: I want to build on the question about nuclear weapons

and I was not surprised to hear your answer that, you know, even though some people are interpreting the new nuclear posture review to imply much greater American readiness to use nuclear weapons in combat. That's, I don't think, what was on Secretary Mattis' mind when he authored that document. I think he saw some of the --

UNDER SECRETARY MCCARTHY: Deterrence was our --

MR. O'HANLON: Deterrence was the goal, but there is the question of vulnerability to other countries using nuclear effects or cyberattacks and also for General Gallagher and for you, Mr. Secretary, how much are you worried about the vulnerability of our systems to these kinds of attacks?

I think, you know, there was a period after the Cold War ended, we didn't worry so much and for the wars of the 21st century, as tough as they've been, they've haven't really been tough in this sense of losing control of our own command and control. How much is that a new concern that's on your mind?

UNDER SECRETARY MCCARTHY: Cyberattacks, I mean, it's every day. We're concerned about the thousands of attempted intrusions. It's a national level effort in the Department of Defense. The investments are vast. We have some outstanding people. General Paul Nakasone is our Army Cyber Command Commander. The Army's made tremendous strides in this over the last six years, in particular, but it -- we look at it as a national issue within the Department of Defense.

MR. O'HANLON: Nuclear threats, are you concerned about them? Are you concerned about high altitude nuclear bursts or something else really disabling a large fracture of your command and control system?

UNDER SECRETARY MCCARTHY: Absolutely. I mean, I'm concerned about anything, you know, when we talk multi-domain battle, obviously, you know, for 16 years or we really haven't been contested in any domain except on the land for the most

part. I mean, we've had some challenges in cyber with, you know, we've been isolate and fight through it as the Secretary mentioned, we're attacked every day in our data networks, you know, with folks that are looking and probing and prodding and there's a whole lot of, you know, covert, clandestine activity going on in cyberspace. And the Secretary mentioned, General Nakasone and the R Cyber Team, we've invested heavily and we're constantly getting better and better. But we have, I don't believe, been contested in a way that, you know, we got to work our way through that. Make sure that we continue to harden our posture. Same with electronic warfare spectrum. We haven't really been contested in space, we're spectrum. Sometimes we're our own worst enemy in spectrum because we put so much on the battlefield and we create our congested environment, but if we were truly contested in that space, we got to have solutions that allow us to have optimum capability to fight through the electronic warfare threat.

And on the nuclear side, I mean, much of, you know, when you buy off the shelf capabilities and get it in the hands of your soldiers, there's a hardening aspect that just isn't there, so there's some trade space. So, we've got to work through what that means, but absolutely, the, you know, the electromagnet pulse impacts on all things. It is significant and concerning, yes, sir.

MR. O'HANLON: Let's go to the back. Next to last row, yes, please.

MS. JOHNSON: Hi, Jen Johnson with Defense News. In your efforts recently, do you see any specific opportunities for speeding up prototyping timelines within your six modernization priorities?

UNDER SECRETARY MCCARTHY: Yeah, it's really -- it's how fast can we get a decision made in money. The ideas are out there, so the six four accounts when particularly, we had to look at how to re-plus them up, those are always ones that get a lot of scrutiny. So, it requires a lot of communication through Congress and others,

but that's really the challenge more so than anything. Teeing up these concepts and making sure General Gallagher and those have the funding to go do it. He's gearing up to do a big one here in the spring or summer time, I think and that's really the biggest challenge. Laying in that concept. Is it sound? Does it make sense? A lot of cases, we have to move money around, so you have to have that justification. But the -- it's amazing how much time we talk about just laying in the concept correctly for the test. So you want to elaborate, Pete?

GENERAL GALLAGHER: Well, six four is that type of a RDT and A finding or S&T finding, is absolutely critical for us to do the thing that we need to do to experiment, to demonstrate. To be able to assess and determine whether or not the capability that we're trying to get in the hands of our soldiers is going to be able to get ported in to scale. And so, we really rely heavily on that. We haven't had a lot of that in the network space, unfortunately. And so, one of the things the Secretary has our report back to Congress on the network went forward is about moving money around to give us that freedom of action to really define what's really in the art of the possible. So, it's critical for to be able to have those resources and be able to experiment, demonstrate and kind of move out. So, I was just was a long way away from me saying, "That's on me to get them the money and the authority to move out." So, they have the really sound ideas how we flesh them out and how it fits.

MR. O'HANLON: And you gave the earlier helper, the general concept that if a process for writing and determining so called requirements has often taken five years or more in the past, you'd like to get down to a couple of years, if you could in any case.

GENERAL GALLAGHER: Or less.

MS. JOHNSON: You mean, maybe this is admissions to --

GENERAL GALLAGHER: If you over complicate it, it's just going to take too long.

MS. JOHNSON: I just wanted to follow-up on that. Maybe it's ambitious to suggest, but is it possible to maybe not spend an entire year flying, you know, future vertical lift prototypes. Maybe you could shrink that timeline. Maybe there are ways that, you know, you're spinning your wheels a little better, or maybe tinkering too long. Where is the cut-off point for some of these prototyping efforts? Can you shrink that?

GENERAL GALLAGHER: A lot of discipline in the -- one of the kind of business rules for your test regime, because a lot of the problems with that is you start getting into the test side of the house. ATAC and DOT&E and then you start stacking points and it takes a long time. The relationships that have to be worked, it's all necessary to have these agencies involved, but you just can't take too much time. Because the -- they become irrelevant over time. So, General McConville, in particular, taking ATAC under his arm because that's something that's direct reporting to the Chief and how we're going to work with the CFTs. You have representatives from ATAC and each one of the CFTs, how they package these experiments, but start that communication earlier with DOT&E and others. Make them a part of the process. Not going to (inaudible) stance when it's time to go down the hall though as dealing. We've done historically. You know, we just get them in early. I need your help. I got to get this thing to the field. It's a cultural dynamic. You got to be open to the scrutiny.

MR. O'HANLON: Building on that though, let me ask and I realize this is the least of your concerns at the moment, perhaps, but you know as I do, it's a concern, hypothetically. How do you avoid overdoing it so that we wind up with a system that rushes to failure? Building on the point the General made earlier that there will be failures, but you don't want -- if you have a new technology that just isn't quite ready, but

we're all trying to prove that we can be fast and we wind up certifying it or choosing it or starting to produce it before its ready. We have concurrency issues and production all that whole set of challenges. How do you ensure against all that set of problems even though it may not be the most common set that you see in the Army acquisition process to do?

GENERAL GALLAGHER: You know, for all these conversations is really an art form. You make mistakes. The key is then it is an experiment that it's sound enough of the way you're going to test it and you can learn something and build upon it. If you hurry to do the experiment and it doesn't fit the key variables that you need to win in combat, then it's a waste of money. I mean, this is your life. You add there?

UNDER SECRETARY MCCARTHY: Well, the Secretary, I think used to be a junk master as well, but sometimes you hear this saying, "slow is smooth and smooth is fast," and sometimes we want to be careful not to rush to failure. We also want to -- one of the things we learned in the network as we've taken a good, hard look at ourselves over the last 10 months or so is the way you write the requirements can be overly prescriptive and it reduces -- it can create a test burden --

GENERAL GALLAGHER: Mm-hmm.

UNDER SECRETARY MCCARTHY: -- that you may put some metrics in the requirement that really just don't matter, okay. And the bottom line is the capability going to help us fight and win; is it going to be safe; is it going to make us move faster, you know, be more lethal; be better connected and better protected and give capabilities to our soldiers that's better than what they had yesterday and it may not be what we can get tomorrow if we're willing to wait, but if it's good enough to improve and give us an edge, that's what we want to get in their hands.

So, we got to be careful that we don't rush to failure. I think the

experimentation demonstration, the ability to define future requirements is going to help us significantly and I guess I would say, you can do a whole lot of that rapidly, but you want to be careful that you don't make the big leap when you're not quite ready for prime time. Does that answer your question?

MR. O'HANLON: There was another question in the back on this side of the room and then, I'll move up for the final round. Or maybe not anymore, okay, there had been, yes, thank you.

MS. BEAMS: Hi, Kelly Beams from Avasend. Thank you for your time, sir.

MR. O'HANLON: I can't see you. Where are you? There you are, okay.

MS. BEAMS: I'll stand up. I'm curious --

MR. O'HANLON: Right behind my Brutus brothers there, okay.

MS. BEAMS: They're very tall. I'm curious about how you're thinking about balancing competition and speed to fielding and if they trade off with each other at all. So, for mobile protective fire power, we're going to have EMD and down slack, eventually, ELREP. There'll be a shoot off or LRPF, but do you think you can move faster and maintain competition and if not, are there cases in which you're willing to sacrifice competition?

UNDER SECRETARY MCCARTHY: Sacrificing competition's brutal because then all the leverage goes away and negotiation. If there's an off-the-shelf technology that really is worth the squeeze, then you go for it, but we consistently try to bring more players in (inaudible) because you're going to get better ideas, but the -- if we're experiments, then we'll do what we have to do.

MR. O'HANLON: Okay, we'll go over here, please to this side of the room, then I'll come upfront. I'm going to answer your question, I promise.

SPEAKER: Sorry, saving you for the grand finale, perhaps.

MR. O'HANLON: Maybe not answer it, address it.

MR. PARSONS: Sir, Dave Parsons, Defense Daily. If the new futures command is supposed to reach initial operating capability this summer, and I think General Murray testified yesterday that FOC will follow about a year later. What does an IOC, Futures Command need to look like and then what does it do? And then, what does an FOC Futures Command, you know, then accomplish a year later?

UNDER SECRETARY MCCARTHY: I can tell you in March. We have courses of action that are being teed up now. You cannot -- you can almost can say your IOC now, because we got cross-functional teams in place, but to make it sustainable over time, there are other capabilities that they need. You know, the Army has a lot of different voices about the future. And of a perfect record of predicting incorrectly. So how do you get more of us together to get the best ideas possible? You now, make investments against requirements; get the max utility of every dollar. To have those kind of horizontal relationships against other references. That's what we're looking for, the characteristics. The type of command we're looking for, it doesn't have flags out front or old tanks in front of it. It's probably going to be a big city.

I'll tell you a quick story about this. You'll appreciate this, Dr. O'Hanlon. I went to the University of Chicago in November. We restructured the Army Research Labs. It's the Persky Center at the University of Chicago. It has entrepreneurials that are working the University of Chicago Business School. We also have a tie to the engineering school and I sat out there with the deans of about a dozen universities in the Midwest, Purdue, University of Chicago, Northwestern, Wisconsin. And when we walked into the place, we're all in dress blues. I'm in French cuffs and everybody in there is in hoodies and wrinkled khaki pants. We saw the cultures and (inaudible), you know, but

there was a recognition. We want to work with these folks. We need their help. So, we need an environment where they're going to want to work with us and help us, you know, it's got to be more than me just coming in with a check. Hey, we need that cultural -- embrace the cultural dynamics. So, you know, it'll probably be in a city where we're going to put this Futures Command. Access to academia in business, you know, I don't know if these guys are going to wear hoodies and khaki pants, but, you know, it's coming to find that culture because I keep hitting on this consistently, it's culture and people. You know, the Army's putting the best people we have against us. Well, we need the rest of the country to help us.

MR. PARSONS: So, IOC is usually a fund, but the platform is X number of helicopters in a unit --

UNDER SECRETARY MCCARTHY: Mm-hmm.

MR. O'HANLON: Use the mic, please, because you're being immortalized on C Span right now.

MR. PARSONS: Yeah, sorry. So, usually for a platform, it would be X numbers of tanks or helicopters in a unit fielded that's IOC. Are there boxes that you need to check, like, without filling in any of the boxes, is it a leadership in the personnel structure?

UNDER SECRETARY MCCARTHY: You know, I guess, you know, the IOC, FOC was me. I probably shouldn't have done that, but the reason why I said that was, you'll have this capability in place, but you need to get the kinks out to make sure we've got it right. And that's why I said that because there may be alterations, changing configuration over time. But no, it's not like a mechanical checklist with kneeboards and stuff. Don't tell General McConville that, but that's how we are progressing through this process to leave us the flexibility to make an adjustment.

MR. O'HANLON: And finally, we'll go here, please. And if we have time, we'll come back for one more.

MR. SALISBURY: Thank you. I can't wait to hear what I have to say after all that.

(Laughter)

MR. SALISBURY: Edwin Salisbury, currently with CODUS Support Foundation, taking care of Veterans, but in a previous life, I had a lot of experience as a program -- project manager, program manager and joint program manager. And you learn very quickly that the development cycle is four or five times as long as the technology cycle. So, the battle is the network fielding obsolete, let along obsolescent equipment. The one way that I think is critically important, especially when you talk to interoperability, which is not only important on the joint level, but inter-army interrupt interoperability can be a problem sometimes too. It's the importance of architecture and standards which can transcend many things over time for a long time as well. And simulation and modeling can build on that to do a lot of your, what if exercises without having to go out into the field. You really -- I guess my point is you really need kind of a system architecture and engineer and I'm wondering if you're thinking about that in your new organization. How do you manage architecture and standards so that you can have plug-and-play over time?

UNDER SECRETARY MCCARTHY: Okay, so you're on to me. I've actually met with some world class scientists and if I were to mention their names, you'd know right away where they work and we are looking for a chief scientist for the Futures Command and how that would tie with Dr. Bruce Giddy, our acquisition executive who has oversight responsibility as the chief scientist for the Department of the Army. Where we want to put a chief scientist in the Futures Command itself for the day-to-day

operational field, but I'm absolutely doing that. I'm personally involved with trying to recruit this individual -- individuals. I've got a couple that we're talking to.

Big part of this, I got to tell them what the Command looks like; who they're going to work for; and, where it's going to be. But beyond those minor details, we have some folks that are very keenly interested in this opportunity. But you hit the nail on the head. The systems architecture have to have -- you have deep experience in systems engineering to help us marry up these operational concepts with the technical. This person would have immediate access, direct report to the Commander. So, I'm close. I just got to tell them where they're going to live.

MR. O'HANLON: Last question, here, sir, please.

MR. SKAGGS: I'm Reed Skaggs from Louisiana Tech Research Institute. Sir, I want to build off of your previous question where you talked when you went to the University of Chicago and maybe you, sir, with the cluster for your cross-functional teams. How are you opening up the aperture to allow others who might not have done business with the Army in the past, such as academic institutions, small businesses, to be a part of your thinking process as you're going forward? Are you open to others coming in to hear what you're working on, allow them to nurture some of these and come back to you for ideas?

SECRETRY MCCARTHY: We've tried to set the conditions by moving the dollars there and getting S&T folks assigned to the team and it would be best for General Gallagher to respond to how they're, you know, how they're interacting, but we, you know, that's specifically why I wanted to go to Chicago. Dr. Esper's engagement, this is well, we're trying to set the conditions to have stronger relationships with academia in particular, but also on industry.

GENERAL GALLAGHER: So in the network and in cyber business,

we've been doing this for quite a while with a lot of the federally funded research and development centers, with Lawrence Livermore labs, MIT, folks like Carnegie Mellon. They're actually going to attend our science and technology. Some of them are going to attend our science and technology workshop next week where we're really -- take a look at what are we investing in; what do we need to make adjustments to, so we can make those recommendations. So, we're trying to onboard some folks that have been in this business for a while in the academic side to kind of help us check ourselves and make sure, again, we have -- in the network especially, industry, the government and academia. I mean, there's partnerships through organizations like FCIA that have been kind of institutionalizing these relationships over the years. We're trying to exploit that to our advantage, if that makes sense. That we're doing it like, right now, we're bringing in a few trust advisors that have been doing this for a while.

MR. O'HANLON: I think we'll wrap it up --

UNDER SECRETARY MCCARTHY: This is (inaudible) after this, Pete.

MR. O'HANLON: I think we'll wrap it up there. I want to thank all of you for coming and please join me in both thanking General Gallagher and the Under Secretary of the Army, Mr. McCarthy.

SECETARY MCCARTHY: Thank you.

(Applause)

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