

TRANSCRIPT

## Defense Writers Group

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**Patrick Shanahan**  
**Deputy Secretary of Defense**

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**DWG:** Good morning, everyone. Welcome to the Defense Writers Group once again, thanks. We have a very good turnout and I think I know why. We're honored to have the Deputy Secretary of Defense with us today. Patrick Shanah. We don't normally do big introductions. There's a long list of your degrees and accomplishments. Most people can see them on the web or already know about them, so, and what we do is we just launch right in with questions.

I play moderator, and I get to ask the first question. I'm probably the least well-informed person in the room, however, so be forewarned. I think I can count on others to ask about everything from the F-35 to all the other acquisitions and pipelines that you have to oversee, so I'm going to ask about missile defense, if I may.

I'd be interested in knowing, I think we all would be interested in knowing, how's the work going on a new missile defense strategy? When can we expect it? And what will be different about it than what the current stance has been? I understand that's designed to cover some of the potential threats from Russia and China. Can you talk about that, expand on it?

And here's the part where I really will display my ignorance. When the Russians announced, when President Putin announced the hypersonic test, we saw Secretary Mattis downplaying it, saying well, yeah, but it doesn't change the balance of power, and suggesting a little bit, I thought, that the Russian taxpayer may not have been necessarily -- their money may not have been used in the best way. But then we saw

under Secretary Mike Griffin say that, well actually, the U.S. needs to do a push now in hypersonic. And we saw General Hyten say I now need new sensors, new tracking capabilities, because of these weapons.

So I just, I'm sure there's a way to reconcile these things, but saw some contradiction there and would like some elucidation on that.

**DepSedDef Shanahan:** Where did you see the contradiction?

**DWG:** Well, just in the, perhaps I'm just not understanding things, but the Secretary didn't seem very worried about this development, and some of the others do.

**DepSedDef Shanahan:** Maybe I would maybe start with the Missile Defense Review. I would expect to see something out and available probably in the next few weeks. It's in final review right now. And the Missile Defense Review really speaks to a lot of our current capability and capacity and how we're expanding that. And I think as most all of you understand with systems like the ground-based mid-course defense, that much of that is directed towards the launch of an ICBM out of North Korea or evolving Iranian threats.

Maybe to put things into General Mattis terms, I think he speaks to his confidence in our deterrence, our ability to deter aggression, nuclear aggression. When Mike Griffin speaks, he's talking about new capability that he wants to accelerate. And General Hyten, and I'll expand more on this, but General Hyten's really speaking to as we see space becoming a warfighting domain, how do we make our existing systems, our future systems, more resilient and more integrated? So he's talking about what do we need to do to continue to upgrade our nuclear triad, our strategic defenses.

Mike Griffin has been wonderful to work with. One of the reasons that we brought him on board is that he's used to doing things at scale. He's very knowledgeable about how to work within government, and then how to do things quickly. So I think you're hearing what I'd call different stories on different channels, but when they're phased together you would see that we have a near term investment plan to continue to evolve our current missile defense systems. Both in terms of capability to an evolving threat and capacity as the threat expands its capability.

People like Dr. Griffin are looking at what are our offensive capabilities that we need to evolve, and then a person like General Hyten says how do we integrate all of this with an eye towards the future, not just towards the current situation, which if I was to anchor

back to anything, this really falls under the umbrella of the National Defense Strategy. How do we effectively modernize so that we're more lethal? And when we talk about the National Defense Strategy, it really centers on the great power competitions with China and Russia.

**DWG:** Why is the MDR taking so long? I mean it was due out in the fall and we're pushing our way into spring.

**DepSedDef Shanahan:** Quality.

**DWG:** Quality of the review or quality of the system or --

**DepSedDef Shanahan:** I think the longer answer looks like this. It took a long time to get people confirmed. And both John Rood and I have a background in missile defense. I spent the better part of the fall working on the National Defense Strategy, and the Nuclear Posture Review, and we were waiting for John to get on board and he and I were going to tag-team that together. So it's really been a matter of bandwidth and availability.

**DWG:** Any more on missile defense?

**DWG:** I do. The North Koreans have just announced [inaudible]. That is going to be permanent. Do you [inaudible], what does that do for [inaudible]?

**DepSedDef Shanahan:** I'm going to wait and see how the, our course of action, our pressure campaign, working in diplomacy on the side of North Korea, that hasn't changed. So things just, my preference is not to comment, just to let that situation evolve.

**DWG:** You're not planning for success?

**DepSedDef Shanahan:** We always plan for success.

**DWG:** -- successful, the North Koreans [inaudible].

**DepSedDef Shanahan:** When the North Koreans do what?

**DWG:** If the North Koreans were to decide that they're not going to test any more ballistic missiles, [inaudible], why do we not [inaudible] ballistic missile defense?

**DepSedDef Shanahan:** Let's wait and see what gets finalized and we'll make all the right decisions to go along with that.

**DWG:** Good morning, thank you very much.

There's about half a dozen hypersonic projects underway in DoD right now. Two with the Air Force, two with DARPA, one with the Army, one with the Navy, there's probably more with SCO and a couple of other places. Why wouldn't it be a good idea to kind of consolidate those around the most promising avenues, maybe eliminate some duplication, get to a solution faster, given that people at your level have been telling us the Chinese are ahead, we've got to have something to deter them?

**DepSedDef Shanahan:** [Inaudible]. That is the plan. So, you know, that kind of echoes back to this if people confirm [inaudible] system, that's Mike Griffin's role, is in a number of these technical domains, get real synergy. And synergy is cost synergy, schedule synergy. It's mostly around risk reduction. The overlap of the technical challenges is pretty high. If you drew a Venn diagram, those things would lay on top of each other. There are obviously differences in something that's launched from the sea versus the land versus air. Basic physics, propulsion number, kind of the real technical building blocks are common. So the visual is how do we get synergy across the department.

It's like many of the projects we're going to talk about today, there is inherently a high degree of synergy in the department, and when we can leverage that we'll get to when we probably talk about the cloud, you know.

In industry you see a lot more of this. Everyone can't afford to develop things on their own, so the trick, in the Pentagon is collaboration at the DoD level, and have confidence in the execution. And then there's mutual benefit. But that's the real trust and balance that we have to achieve.

**DWG:** So Mr. Griffin is certainly going to be the belly button for this thing. Are there one or two efforts that you think are leading in this area? In terms of who's doing it or the approach they're taking?

**DepSedDef Shanahan:** I would say, I'd answer your question this way. Dr. Griffin gave to me last week an 80 percent plan. The 80 percent plan is across ten technical domains. What the tests are in between now and 2023 that we must conduct in order to

achieve capability within the next decade. He expects to have that finalized in July, and the reason that's so important is that it informs our POM '20 funding process which gets at your first question which is how do we get synergy, and it's in that POM '20 funding process that we started consolidating activities through prioritization.

**DWG:** So that's going to be the hypersonic road map?

**DepSedDef Shanahan:** Hypersonic road map, hypersonic prototype plan. I think road map's a fair characterization.

**DWG:** Sir, can you speak up please?

**DepSedDef Shanahan:** Sure.

**DWG:** His, Laura [inaudible] with Aviation Week. Thanks for being here.

I wanted to ask, there's been a lot of discussion about Space Force, as you know, and not just Space Force, but I understand the Congress mandated that you look at some kind of, creating some kind of Space Force, Space Department outside of the Air Force. So I'm hoping you can give an update on what your thoughts are on that. I know you've been studying it for a while now, so what are your thoughts [inaudible] with that?

**DepSedDef Shanahan:** Is it easier if I stand up?

**DWG:** Actually, you need to be near the tape recorder.

**DepSedDef Shanahan:** How's that?

So the Space Corps has been an interesting assignment for me in the sense that my background hasn't been, I'm not a long-time space person. So the question that Representatives Rogers and Cooper were bringing up, this came out of the NDAA language, we need a Space Corps. And the real question that they were getting after is not whether we need a Space Corps, it's we need significant results in terms of Department of Defense's performance when it comes to space. And the assignment I received was go investigate this and bring us back a recommendation. So for the better part of I'll say six months, I've been focusing, in conjunction with the Air Force. I've gotten to spend quite a bit of time with General Hyten, General Raymond, JT Thompson out at the Space and Missile Command there in Los Angeles.

My focus has been to get at what are the fundamental changes we need to make in order to be more effective. The output of that is a recommendation on how we should be structured.

From a management standpoint, the easiest thing to do is redraw the lines and boxes on an org chart, but it's actually the hardest thing to implement. And if Chairman Rogers were here or Representative Cooper, because we've had plenty of meetings, I'd say the same thing.

We'll finish the analysis of what changes we have to make in organization in our acquisition process, in our architectures, in how we integrate across the services, what offensive capability we need, what defensive capability. And based on the changes that are required, then we'll say what's the right construct. To me, the right construct is a function of do we have the right leadership? Do we have the right changes? I talk about changes as, can we change the types of systems we put on orbit quickly enough for the right cost to get the right technical advantage. This is where I've been working with General Thompson.

If they can't do it, then it suggests maybe we need to go a different way. And this is where we've been putting the Air Force and others through their paces. What changes are you willing to commit to, and then really exploring the feasibility of those changes.

Then the last question we have to answer before you can really make an organizational recommendation is, all right, at what cost? These things aren't free.

So we're on track to have our interim kind of, our assessment June 1<sup>st</sup>. We will provide our report to Congress in August. And the Air Force has been very very responsive. This isn't something that they've been pushing back on. Dr. Wilson has been leading the charge as well as General Goldfein. So it's been a good exercise.

I think, quite frankly, I like the challenge that the Chairman has given to us. I think we'll come up with a good answer.

**DWG:** Do you think that eventually space will be taken outside of the Air Force? Can you give us your experience right now on whether that needs to happen at this point?

**DepSedDef Shanahan:** I don't think it needs to happen at this point, but I think we need to finish the study and stare hard into the facts.

**DWG:** A question about reforms [inaudible]. Do you support Chairman Thornberry's proposal to eliminate seven [inaudible] agencies, migrate all [inaudible] to CYBERCOM?

**DepSedDef Shanahan:** I haven't read through the detail of Chairman Thornberry's recommendation on the 4<sup>th</sup> Estate, but the 4<sup>th</sup> Estate is an area I've been spending quite a bit of time in. There's a tremendous opportunity for -- the term reform's a useful term and it has a lot more meaning in the government than in other places. I would say there's huge opportunities for productivity and modernization.

So as we, one of the changes in the NDA last year was the formation of the Chief Management officer, so Jay Gibson has been leading an effort there which really gets after the 4<sup>th</sup> Estate. But when I think about the 4<sup>th</sup> Estate I think about it in three different segments.

So you have intel, so that's one stream of operations. Then you have acquisition, which is under Ellen Lord and you also have a segment which falls under Dr. Griffin's responsibility. I'll come back to each one of those. Then you have a number of other kind of business operations. So for example, the defense health agencies. We have real property management, IT. So when we think about reform, the way I tend to think about it is, how do we restructure ourselves so that we can be much more productive and much more responsive.

The intel side of this is really about how do we leverage artificial intelligence to make better use, be able to make better decisions with the volumes of information that we have. That's a different management challenge then. We have hundreds of clinics in the health agency that we can combine in a way to take cost out because we can have a common procurement system.

So when Chairman Thornberry talks about the 4<sup>th</sup> Estate, there are multiple changes that have to occur. So the Chief Management Officer is going after I think there are probably six major areas that just need to be reengineered, consolidated. The biggest leverage there is, and this is not something that's new, because there's real synergy at the DoD level. And it's just, today we're parsed by service and we're just leaving a lot of, I call it productivity. It's just, we have ten different ways to do the same thing. These are the issues that every large organization runs into

Ellen's task is much different. Her task in the 4<sup>th</sup> Estate is how do we make it easier to do business with the government at its core? And when we talk about acquisition

reform it really comes down to, it's really complicated to do business with the government. How do we make it simpler? Then her other side of it is, how do we pick the right industrial partners as we move forward with modernization?

On the intel side, that's where a lot of the IT modernization is so important. I think that's where Chairman Thornberry's coming from when he talks about [DISA]. As you think about modernization, what does that imply about all the data centers that you have? What does it do for all the networks you've created? How do you take advantage of, instead of having every service and every intel agency having its own, you know, applications, how do we really leverage synergy there?

I feel like he's providing us a lot of support to make change. Details that you were speaking to. Those are the things that we've been studying.

**DWG:** When it comes to what we hear often, we often hear that there's so much overhead in the 4<sup>th</sup> Estate, and they want to move money from there to the, quote, tip of the spear. They want to cut civilians in the 4<sup>th</sup> Estate, basically, so you can have more weapon systems. Do you think that is the right approach going forward as you build the FY20 POM? As you look at these new modernization strategies?

**DepSedDef Shanahan:** I think I'd answer the question this way. The people part always seems to like lead. You know, it's the assumption that there are all these people standing around with their hands in their pockets and they're not working hard.

I think what we find is, we have processes and management systems and IT systems that have evolved over years and years that were never designed to scale to the size that we are, and so people are stuck in processes that aren't very productive. Or aren't as productive as they could be.

So we know, for example, if we consolidate these data centers, that we're going to, we'll reduce the number of people that we need, number of facilities. The art form here is then what do you do with the benefits?

The reason I hesitate to talk about it as a people issue, it's not a people issue. People are the solution, not the problem. So how we leverage attrition. There's lots of jobs in DoD. So how do we put as much end strength as needed, and then take out back office inefficiency? But it's our process, it's not our people.

**DWG:** Thank you for doing this.

I was hoping you could speak a little about the relationship with Russia going forward. How do you see that from your perch at the DoD? Are you at this stage simply going back to deterrence and things like that? Or you're also hoping to get back to a more constructive relationship?

And there is a dialogue, whether you want to call it or not, between senior military leaders of the two countries. I mean General Dunford is speaking to General Gerasimov on a pretty regular basis. Do you plan to do the same between Secretary Mattis and Minister Shoygu? Do you think it's necessary?

**DepSedDef Shanahan:** I think the, I won't speak for Secretary Mattis here. Russia continues to be a strategic competitor, and its efforts undermine the West. Relationships are important. We all understand their value. We're in a strategic competition. I think I'll just leave it at that.

**DWG:** Ellen, then Aaron.

**DWG:** Ellen [inaudible], Washington Post. Thank you for being here.

I have a question about the tension and energy that in February the SDF in Syria captured the last two remaining field ISIS [inaudible]. You know, [inaudible]. The question of their disposition is [inaudible] options. One is to have another third country [inaudible]. Another is to have [inaudible] and perhaps [inaudible]. And the third is the prosecution of Article 3 [inaudible].

Where do you stand? What's your preference? And can you explain that?

**DepSedDef Shanahan:** I personally don't have a preference.

**DWG:** Okay. What's the view of the [Senate]? I know [inaudible] now, so --

**DepSedDef Shanahan:** I was just kind of whispering here to Jeff. I'm going to have Jeff follow up with you on kind of just the inner workings. It's very active right now. [Inaudible].

**DWG:** Okay, then perhaps a question about cyber and how are you thinking about authority for Cyber Command? Are you looking at ensuring [inaudible] more offensive cyber capability to command levels [inaudible]? They don't need to get sign-off from

the SecDef or the President before taking action against adversaries [inaudible]. Actions that [inaudible] force?

**DepSedDef Shanahan:** That's a great question, and I don't say that as a cliché. I think the whole realm of cyber is such an evolving, important area for warfighting.

Maybe I'd kind of preface the comment with, it is evolving continuously. If we were just to kind of take a snapshot, just say let's develop policy based on where we are today, that policy would be outdated next week.

One of the jobs I have in dealing with cyber is on two sides of this equation. How do we deal with defending ourselves and all the vulnerabilities? And as you can imagine, in a place the size of Department of Defense with three million plus people, that's a considerable undertaking, and that's partially one of the reasons this 4<sup>th</sup> Estate is so important. How are we going to continue to consolidate to reduce the exposure and vulnerabilities?

On the offensive side, and I think this also speaks to CYBERCOM, how do we stand them up with the right capabilities and the right authorities? And that anchors back to real clear policy that is derived from an interagency effort.

**DWG:** Right. That goes to something that's been going on for a long time, going back to the Obama [inaudible]. Is there something we can expect to see in the next you know, say five months or so? [Inaudible]?

**DepSedDef Shanahan:** I would say if you look at where I'm spending my time, and then, you know, the change of command this week is with Admiral Rogers.

**DWG:** Is it still being [inaudible]?

**DepSedDef Shanahan:** Last I looked, it's Friday.

**DWG:** Okay, because [inaudible]. There's a hold on it.

**DepSedDef Shanahan:** It's on my calendar for Friday.

**DWG:** -- standing up the command.

**DWG:** I see.

**DepSedDef Shanahan:** Yeah. I think you will see, I can't put a time table on the next five months, but our push is to stand up Cyber Command.

**DWG:** As a full [inaudible] command?

**DepSedDef Shanahan:** Yes. And going through the, standing it up without having those kinds of policies in place and a clear direction, I think isn't really standing up a Cyber Command. I think the transition with General Nakasone, you know, part of this has to be really what he's going to drive on behalf of the Secretary. So I think you'll see probably a clear sense of the priorities and how that will evolve.

**DWG:** Thank you.

**DWG:** Last week in testimony Mike Griffin talked about standing up some sort of AI Center. Didn't give a lot of details or time line on what that might look like, how it might be structured. I was wondering if you can maybe fill in some holes on that, and kind of attach the question, we've talked about AI, hypersonics, directed energy as the main technology focuses with the Pentagon. Should there be centers stood up for hypersonics and for directed energy?

**DepSedDef Shanahan:** Can I steer your question a little bit differently?

**DWG:** Steer away.

**DepSedDef Shanahan:** But I'll answer that question. This whole notion -- do you guys want to talk about the cloud for a minute?

**DWG:** Sure.

**DepSedDef Shanahan:** The reason I bring that up, I get up, I get to work early in the morning and I read all these articles about the cloud, and it's like I feel like I'm in a different company or a different department because the snippet that we provide to all of you when they get reported makes it look like we're doing something different, and part of it is sometimes when you ask a person who's a technical specialist, they'll give you a technical answer; and then when you ask an acquisition person they'll give you an acquisition answer. So I thought maybe what I'd do is get to the real important part which is how do we really deploy artificial intelligence and evolve its capability.

The first step is you have to have an environment where the data is hosted. So let me just try and talk about the cloud and where that is going, but why that's just a building block. I mean if we had everybody on the cloud it doesn't really change the world, so using artificial intelligence and machine learning, we can change the world there. But if you can't get to an environment where you can harness and develop that capability, then we will go slow.

So I would characterize the cloud as we're ushering in a new age of technology. So it's, it's a small step of many steps that are going to occur over the next many years.

I don't think any of us has a crystal ball that would even be able to say what it's going to be like two years from now, so a lot of the speculation is just that. But I know for a fact it will change quite dramatically. And as I described how we're going about contracting, it's really how do we create options and off ramps. Just the same way Mike Griffin is going about doing hypersonic technology development. You pursue your road map, you make sure you have the right off ramps when things either work so you can scale faster or you can make other choices.

So, and I'll throw this in there. We announced I think maybe, I don't know, ten days ago, two weeks ago, that a gentleman by the name of Dana [Dici] is going to come work in the Department of Defense in the first part of May. And why I like Dana is he just retired from JP Morgan Chase as their Global CIO. So at JP Morgan Chase, he was responsible for 43,000 IT professionals. And the thing about banks is people like to rob them. And so he's one of these guys who really knows a lot about cyber. So whether it's AI, or whether it's cyber, it is a very, very sophisticated, technical domain. So we convinced Dana to come work for us so we could get our IQ up, and he is an experienced person who's been on the front lines.

But when I took on this job and I spent a lot of these, we were talking earlier, I'd come in on Saturdays so we can get quality time, spending two, three, four hours on a subject. I had Bob [Dagel], Jay Gibson, a number of the folks from DUIX, DDX. We were saying what is it that we really want to achieve with migration to the cloud? It was we want scale. We always hear about, you know, the DoD is, you know, is slow. And we want to be able to go quickly. Affordability has to be balanced with innovation, so we want to be innovative, but we can't just throw money at everything. And then the cloud was a real opportunity to do IT modernization. So what you see with the contract that we're going to put in place is a, when you look at the amount of I'll call it cloud-like capacity that we have to fill the Department of Defense, this contract represents less than 20 percent.

So when people say oh, it's a winner take all, it's a winner take all of something that's less than 20 percent. She said, well why would you pick something less than 20 percent? Well, if I do two percent, there's no real scale. If you do between 10 and 20 percent you start to get some scale. So you say well, what's important about the scale? It's not that some company can't put a lot of data on their equipment. It's can the department transition to the cloud in a cost-effective way and retire all of the legacy systems?

So the cloud is our pathfinder. The pathfinder isn't to demonstrate do clouds work. We all know the clouds work. It's can we get, it goes back to Chairman Thornberry, how we think about IT modernization. So you know what will happen is everybody will say well I want on the cloud. And you'll say, well why do you want on the cloud? And they'll say well, because the cloud's really cool.

Well, it's not that it's really cool, it creates you the opportunity to have more security, have better access to data, to get it lower cost.

So what you'll see is that we're not going to allow people to move to the cloud unless they can demonstrate that they're going to retire the environments that they've been in. And our intent is to be able to understand how we can distribute, access and then take cost out.

When I read the winner take all, what we're not going to have is sole source cloud providers. What I learned over time in industry is you always have to have multiple suppliers of everything that you do. So two is better than one; three is better than two.

What I do know today is when people say well there's not interoperability between different clouds. That is today.

So most of you have cell phones, right? Remember early on when data was really expensive and now it's just free. The business model for the cloud operators is going to evolve. The interoperability of the systems is going to evolve. All those things that people say aren't going to happen, we're so early on I can tell you it will happen.

I was involved in this industry called aerospace, and in 1990, this was heresy, but they had this idea that an airplane could be designed on a computer. Most people said no, that is impossible. It can't be done. And then as they went to design airplanes on computers, none of the pieces connected. But eventually all the pieces connected, all the information could be shared, industry migrated to standards. The sharing of technology

changed so that people weren't all about being proprietary. It was all about designing and building the right applications. That's how this will evolve.

So for us in the Department of Defense, it's get up on a plane, so get some scale; start migrating to the cloud. Because this is what we want to do, is the first, the real instantiation of this is why is it that each service has its own financial management system? So we talk about, there's all these kinds of synergies in the department. Well, if you're going to do an audit you might want to use the information to start making better cost decisions. As we start to make better cost decisions, we know we need to modernize our financial management tools. Well, if we're going to do it in the Navy, the Army ought to do it the same way. If the Army does it that way, the Air Force ought to do it that way. Kind of back to these things. If, oh by the way, we're doing it in the same environment, and this is something that everybody else in the world's already done, there are going to be some productivity benefits.

So the real upside to that is, now training is easier, so you don't have all these siloes. We can start to move people around the department.

The flip side of this is, all the things that we're going to learn in the transition, in terms of security and vulnerability, right behind this kind of business side of things is this guy named Joe [Kernan] and he's drafting. He's like, okay, you guys find out how to do this economically, fail fast, and then when they make a mistake it will be that somebody got access to our procurement data. That is not a national secret. Right?

So we're using this cloud effort to get real 4<sup>th</sup> Estate synergies, but create the environment so that on the restructuring of the intelligence, the combat support agencies, now we're in a secure environment; now we're in an environment where creating applications that leverage machine learning and artificial intelligence can be done very rapidly.

So the noise you hear around the cloud is us taking the 15<sup>th</sup> largest economy in the world, where everyone was doing something on the cloud. You can imagine how many people were like moving through the cloud. Now with the [Jedi], okay, we're going to pull people together and we'll have a structured way to scale.

When I get to the artificial intelligence piece of this, it's not about does machine learning work. In a huge environment like the Department of Defense, how do you really integrate? How do I connect all these different pieces so that the center of excellence is really about stopping pet projects? It doesn't mean we don't want to innovate, but it's

how do we, again, get to scale on artificial intelligence? If we've gotten to scale now that we can put information together, how do you get the scale so you have enough people that can start to develop algorithms? That can start to connect the pieces?

So what you'll see as we stand up our center of excellence is we're not going to go solve the most vexing problems. We'll do things that are basic in nature so we can start to develop the basic skills.

So again, this goes back to the 4<sup>th</sup> Estate.

It probably won't surprise you that we don't always order the right things. Think about the Defense Logistics Agency, think about all the different things we have to manage, whether it's doing readiness or supporting all the bases. That is a fantastic place to fly artificial intelligence. Right?

So the real value of that is crawl, walk, run. On the crawl part, on the first day that we have our first algorithm, the cash flow is positive. Day one, we start giving money back to the partner.

Now as people's skills increase and we figure out how to put that data on the cloud, we're going to take on bigger and harder problems, and we go to the walk and the run piece of this.

**DWG:** Just to follow up, we're talking about physical center of excellent for AI a swell as the cloud.

**DepSedDef Shanahan:** Yes.

**DWG:** Is there a date when it's going to be set up? And again, is that something that makes sense for hypersonics and directed energy as well?

**DepSedDef Shanahan:** So my goal is I've got Mike Griffin shepherding it for now, until Dana gets on board. Then I'd like to have this done within the next six months, the AI side of things.

Whether we call it center of excellence for directed energy, it's kind of back to the earlier conversation we had on hypersonics. We're going to start to figure out how to consolidate the efforts because like the directed energy, it may not be that there's a center. What we may do is parse things out. Somebody's doing power supply,

somebody's doing beam control. There's different aspects of the technology that we'll probably parse out either to a service or one of the research labs.

**DWG:** [Inaudible] sole source. I mean [inaudible] 20 percent?

**DepSedDef Shanahan:** This is where you can help me. When you state sole source, so let's say this was for 10 percent. When you say sole source I think, the inference of sole source is they're for 100 percent of the business we let one contract.

**DWG:** Right.

**DepSedDef Shanahan:** And so for ten percent we'd say we're going to ask, we're going to award it to some one. But then there's going to be the 20 percent, the 30 percent, the 40 percent. So you still end up with multiple providers. I think that's where some of the confusion is.

And when you think of 10 to 20 percent, relative to total spent in IT in the department, it ends up being less than five percent. It's not a sole source that implies you have a huge cost advantage, which I think is what everyone's always nervous about. Somebody will get enough market share, if you will, that gives them a long-term, advantage.

**DWG:** Sir, [inaudible] the ratings [inaudible] I've heard acquisition professionals talk about, you know, we could move contracts faster if this law that Congress got, in the way [inaudible]. But over the last year I'm seeing [inaudible] contracts move [inaudible]. [Inaudible] prototypes [inaudible]. And yet I don't think you guys have asked for any kind of a [inaudible] legislation.

What do you find as you're going through all of this? And how [inaudible]?

**DepSedDef Shanahan:** I've been looking for the silver bullet on acquisition, and that's not to say that we don't have unnecessary red tape, but there are a lot of things we can do without changes. But Ellen's job is to figure out ways to go streamline that process, but I'm not going to hang my hat on the acquisition process being the thing that keeps us from being able to modernize. The overhang and the administrative burden is something we have to streamline still. But a number of those controls are in place for a good reason, so we can ensure transparency and fair and open competitions. But I have not found, to date, that it is keeping us from achieving higher levels of performance.

**DWG:** If I can just ask one other aspect of this. Folks always talk about the research

and engineering and then transition [inaudible] that position is that now [inaudible]. [Inaudible] the acquisition [inaudible]. And when the NDAA [inaudible] separate out AT&L, how do you make sure that that [inaudible] becoming [deeper]?

**DepSedDef Shanahan:** So the separation of AT&L into ANS and R&E is just, to me, management bandwidth. How do you get, I mean you think about over 50 percent of what we do is buy things, so I think, what I love about Mike Griffin is he wants to build things and test them, and he's not -- Mike's not afraid of risk. The valley of death is that we create these big gaps instead of taking known risk and then transitioning that into an acquisition program. I think Mike and others have an eye towards how do we push the envelope on testing and prototyping so we can learn as quickly as possible. A bad outcome doesn't necessarily mean a failure to the learning.

His experience is he understands what a good failure is. That's really important. Most people, this is the thing about innovation. I hear this all the time. Oh, we want innovation, innovation. But unless you've done innovation, innovation is extremely messy and when people see some of the mess that comes along with innovation they turn back, most of the time. That's the valley of death. I don't have confidence to go forward. So it's the real understanding of technology. I think you're going to see that with these prototypes that we're going to do. And it's not just that we're going to do the prototypes in isolation from the warfighter. It's about how do we give the warfighter these tools and watch them fail. But it's how you learn. It's not about whether they are highly successful. It's what you're learning. Because that's the secret in this business.

**DWG:** Go back to [inaudible]. [Inaudible] trade press [inaudible]. Can you [inaudible] ten-year sole source contract to Amazon. [Inaudible] how did this perception get out there? Is it communication on the [inaudible]? Because it's out there, whether you like it or not.

**DepSedDef Shanahan:** Yeah. I haven't heard the Amazon. I really, I've read the piece where it's inferred that Amazon is going to win the contract.

If you ask me to connect the dots, I think people extrapolate. CIA has done business with Amazon, and so it must mean that the DoD will do business with Amazon. But I haven't seen a dot that really connects the sole source contract [inaudible].

**DWG:** How do you [inaudible] that perception?

**DepSedDef Shanahan:** I appreciate that. I think that's why I probably spent too

much time on the discussion.

The approach here has been really around a fair and open competition. That's what we've tried to make clear. And if that part hasn't been clear, that it's Jeff's fault. [Laughter].

What I'll make clear is that in the department we want to create long-term, strong industrial partnerships, but we want multiple partnerships. So this is not about as we evolve our artificial intelligence capability, we want a broad, strong technical base that can compete, because that is the basis of innovation is the competition of more business. So it's not in our interest to just award something to someone because they've already done business with the government.

**DWG:** [Inaudible] out there. That's not the current [inaudible].

**DepSedDef Shanahan:** We haven't assigned a value or a ceiling to the contract. We said it would be for two years, and that there would be two more contracts that would be [inaudible]. Five years and three years. And the whole idea behind having two other contracts tied to that is that we don't have to go through the acquisition process again. So if it's working, extend it. If it's not working, here are the keys, thank you.

So I mean it's, when you say winner take all, it's also winner take it all back after two years. So it's like leasing a car, right? You decide to get married and have a family, now you need a minivan and you've got, you know, an Alpha. So this is about for us preserving options, creating competition and scale, but also moving quickly.

**DWG:** I'd like to take another run at Chairman Thornberry's proposed [inaudible]. It sounds like you and him may be kind of far apart on this. What he's proposed, I believe, is a 25 percent across the board mandatory cuts [inaudible]. Using their numbers, that could be about \$25 billion. I'm wondering if you think that you can get anywhere close to that with proficiencies or restructuring or AI?

**DepSedDef Shanahan:** Tell me about the part where we're apart.

**DWG:** I'm wondering if you can get close to what he's saying, \$25 billion through efficiencies.

**DepSedDef Shanahan:** And I didn't read the timing on that. Did he specify when --

**DWG:** 2021 for the cut [inaudible].

**DepSedDef Shanahan:** First cut is a phased cut? Is it all, a step --

You know, what I would say in terms of Chairman Thornberry, and I've met with him a number of times on this subject, is we are aligned in our thinking about the opportunity and potential to streamline [inaudible] state. The degree and the thing I'm not familiar with what's been outlined by him, but in terms of the areas, so I think you know, you start with Defense, [health] agency and the synergies that we can get by [inaudible] all the clinics, real property management. When you think about all the facilities that are within DoD. IT modernization and things, when you talk about AI it's really having to do with AI modernization. Having to do with financial management. I don't know what the final number will be, but he's been at this a lot longer, so I would trust his judgment about the potential.

**DWG:** [Inaudible] ask you about Syria. It seems as though there's a growing sense of dissatisfaction among members of Congress and among leaders in Europe now, what the U.S. is [inaudible] for operations in Syria, [especially] after the communist [inaudible] down anymore.

[Inaudible] suggestion was senior leaders in Europe [inaudible]. Can you talk about any ongoing [inaudible] about what [inaudible] in Syria will look like? Perhaps what kinds of things the President [inaudible]?

**DepSedDef Shanahan:** We remain focused on defeat of ISIS. That is our mission. And we'll continue to do that by, with and through our allies and partners. It's been a significant part of our strategy. And I think as you've seen recently, deterring the use of chemical weapons is extremely important. I'm not privy to all the conversations that are going on at the White House currently, but the focus is that we're finding a way forward.

**DWG:** Can you [inaudible] strike, and that now [inaudible]? Can you talk about [inaudible]? About what the U.S. is going to do? [Inaudible].

**DepSedDef Shanahan:** The question of review, we're constantly in review, so it's not as though we choose a path and then it's static. And I think you probably recognize that. It's always given a situation, how should we respond to the dynamics of the environment? Syria, Iran, it's a very complex space. There is a constant set of reviews.

Now I think your question is, is there a change in policy or a change in the scope of what we're doing? I don't really have anything to comment about that at this time.

**DWG:** Thank you again. [Inaudible]. Is this idea of [inaudible] the overall [inaudible]?

**DepSedDef Shanahan:** I'm going to leave that one to the diplomats.

**DWG:** [Inaudible]. I mean what are some of the things that come up [inaudible]?

**DepSedDef Shanahan:** Well, the Deputy committees, I have not attended the one on Iran. Obviously we have a new leadership in the NSC with Ambassador Bolton and now [inaudible] [Cardell]. So I think that will be, you know, evolving as they step into their new roles.

**DWG:** Do you think that especially could be a different [inaudible]?

**DepSedDef Shanahan:** I'm going to leave it to them to decide the way forward.

**DWG:** Happily, Jeff tells me that the Deputy Secretary can stay for a few more minutes, so while you think if you have any other questions I'll ask a quick, one, if I may.

The F-35. Is the production running like a sewing machine, as you were quoted as saying you wanted to see yet? And let me just be a total devil's advocate. POGO advocates shutting this down and says it's the wrong aircraft, it's too much of a mish-mash --

**DepSedDef Shanahan:** POGO is --

**DWG:** [Inaudible].

**DepSedDef Shanahan:** Okay.

**DWG:** And they're not the only people who have said that, in fact the President said that maybe we should look at the F-18 and upgrading it in some simple, quick ways and save some money and get out of this mess.

Why is that, what is your view on it? How do you feel about the F-35 these days?

**DepSedDef Shanahan:** I sat down and made some comments this morning, just to put my thoughts together on the F-35. The, it's interesting to be around that program. I think I've delivered more airplanes, just, you know, we didn't get a chance to talk about background, but I've done the airborne laser, ground-based mid-course [defense] program, advanced tactical laser, Siege 47, B-22, AH-64, 737, 47. 57, 67, 777, 87 and others. I've procured things out of almost every country in the world. I've delivered more airplanes than anybody in the United States. So I really feel like I understand, and I did it for like 30 years. So I feel like I have a good feel for programs. So it's really important, back to the cloud, some of these comments are nuanced.

When I on the 787 there were lots of questions about it not being a good program. It's a great airplane. The F-35 is a great airplane. The comments that I make about the F-35 are about program execution, and there's a real difference.

The airplane itself is a high performing advanced 5<sup>th</sup> generation fighter. My whole life has been how do you make programs execute flawlessly? So there are three really important aspects to the Joint Strike Fighter in terms of program execution.

There's the development of Block 4; there's the rate increases for production; and introducing new customers, whether it's the Air Force, the Navy or the Marines or international partners. They all get a different variant. There's training that goes along with that. And then there's this thing called sustainment.

What, if you fit in the industry, everything that leads up to sustainment is what we consider spring training. Regular season is when the aircraft goes into use, and it has to work all of the time.

So the thing I've always done in my jobs is like how do you make it a lot better? So when I think about Block 4, that's a really important decision that we're making in funding in POM20. And the conversations that we're having are for the changes we want to make to the airplane, how do those changes earn their way onto the airplane? And by earning their way onto the airplane, I mean that they're not nice to have's, that they really add performance value. Either in capability, reliability, or taking cost out.

A big decision, and here's why, when you make those decisions it means you're going to be making changes to the production system. There will be engineers working on these changes. At some point it cuts over. And if our, in these production facilities that I want to make look like a sewing machine, if we're just dropping in all sorts of changes it un-does everything that we've put in place. So how we think about integrating that is

very, very important.

Lockheed, you know, it's not that we'll turn the screws to them, but we're going to drive affordability on the program because when you're producing at the volumes that we're producing now, right, this is the opportunity that you take cost out. Everybody knows that. When you get up on rate, then the job goes to take cost out, take cost out, take cost out. That's the law. Okay? It's like physics. You know,  $F=MA$ . You're on point. Go back, start taking the cost out.

The trick now is, as we start to deliver all these airplanes, they have to work. And so now every time, every airplane I've ever been on, and I've been on a lot of them. When you go into operation, you find things. Absolutely find things. The whole idea is find them, fix them. Find them, fix them. And you do that for years. Find them, fix them; find them, fix them; find them, fix them. All those fixes are now competing with getting production, parts to the production system, Block 4 being introduced. The same engineers that are improving reliability are now working on Block 4.

So when I think about the F-35 and POGO, whatever that organization is, they should come visit. I'd like to meet whoever they are. But this is about risk management for program execution. It's not about is it a high performing aircraft. It's a high performing aircraft. It will always get better, it will always get better technically because we'll continue to invest in it. It will always get better from an affordability standpoint because that's the diet that we're on. And then from a liability standpoint, we'll always keep fixing the airplane so that it can be, you know, so it can run like a 737.

**DWG:** A question on the budget. So right now it seems like the wind is at your back. FY19, you got settled the top line. Congress appears poised to agree to [inaudible] the top line, maybe, again. But FY20, you talked about the FY20 POM. It seems like you've got a lot of big things planned for the FY20 build, and yet sequestration is supposed to come right back in FY20. There's an \$80 billion mismatch between where you're at now and where you'll be.

There's thinking that Congress will do another deal, but there's no guarantee on that. What are you planning for at DoD? Are you planning for a worst-case scenario? Are you planning to have the three percent to five percent growth that Secretary Mattis says is necessary? What's the picture there?

**DepSedDef Shanahan:** Well, the picture is not three to five percent real growth year over year. It's a flat line. Right? If Chairman Thornberry has the right thinking, we've

got to create head room. There's no guarantee so that's why we're generating all these options. And they don't, you don't capture the benefit in year one. So that's why we've got to get after these other things like the cloud, these reforms.

In POM 20, what's important to us is that the investments and divestments align with the National Defense Strategy and our modernization plans.

**DWG:** Thank you very much.

**DepSedDef Shanahan:** You're welcome, thank you. I appreciate the time.

**DWG:** We have our headline. We wrote it down. "It's Jeff's fault." [Laughter.]

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