



---

# REAGAN NATIONAL DEFENSE FORUM

## PEACE THROUGH STRENGTH IN AN ERA OF COMPETITION

---

NOVEMBER 30 - DECEMBER 1, 2018  
THE RONALD REAGAN PRESIDENTIAL LIBRARY  
SIMI VALLEY, CALIFORNIA

**DECEMBER 1, 2018**  
**10:00 AM – 10:45 AM**

### PANEL 4

## A DEFENSE INDUSTRIAL & INNOVATION BASE WORKFORCE FOR THE 21ST CENTURY: WINNING THE COMPETITION FOR HIGHLY SKILLED WORKERS INSIDE & OUTSIDE THE PENTAGON.

#### Panelists:

- Congressman Ken Calvert, U.S. House of Representatives, California
- The Honorable Mark Esper, Secretary of the U.S. Army
- Ms. Marillyn Hewson, Chairman, President and CEO, Lockheed Martin
- Congresswoman Stephanie Murphy, U.S. House of Representatives, Florida

**Moderator:** Mr. Bill Hemmer, *Fox News*

#### Video:

[https://www.youtube.com/watch?v=3PR0cMexeiA&list=PLHNOi2zcxo7sBxM7HfhmB\\_tf6QXeqj48K&index=6&t=0s](https://www.youtube.com/watch?v=3PR0cMexeiA&list=PLHNOi2zcxo7sBxM7HfhmB_tf6QXeqj48K&index=6&t=0s)

Hemmer: Morning everybody. Great to be out here today and thank you for your interest in the topic. I think you're going to find the discussion over the next 45 minutes fascinating. My panel today is Congressman Ken Calvert, a Republican from the 42nd District Southern California, Riverside, California. Welcome sir. To his right is Congresswoman Stephanie Murphy represents Congressional District 7 in Florida which is Orlando, northeastern part up through Seminole County and welcome Congresswoman. From the army, Secretary Mark Esper, a graduate of West Point, Harvard, and on and on. And sir it's great to have you in attendance today as well.

Esper: Beat Navy.

Hemmer: Okay. We'll see how that goes, and we'll see how Alabama does later today because Marillyn Hewson is a ... She's roll tide all day today.

Hewson: That's right.

Hemmer: The CEO of Lockheed Martin and recently recognized by Fortune Magazine as the leading female CEO in America, and it's terrific to have you from the private sector, etc.

So we got a great group of people. Really smart folks. And I would be remiss not to mention what is on our minds all across the country, and that is the great service of George H.W. Bush, number 41. And my friend and colleague Karl Rove is here today and I know how much he meant to you Karl and so many people. His resume is extraordinary. I think you can stack it up against the history of all Americans who ever gave public service, and he is right up there at the top with all of them. So we remember 41 today.

Hemmer: So we had a little conference call the other day and Congressman Calvert said, "Hey Bill, Amazon's going to be a mile from the Pentagon." I said, "Yeah Amazon's going to be your newest neighbor."

Hemmer: And over the next 45 minutes we want to help understand a fundamental yet entirely essential question. How does the Government compete with Amazon? When stock options are not an option, how does the Department of Defense attract the best American talent?

Hemmer: Just a quick opening thought from all of you. Congressman Calvert go ahead quickly.

Calvert: Well speaking of President Bush I'll think of his home town and say, Houston we have a problem. And I was a kid in the Cold War and remember some of us with gray hair we remember Sputnik going up and the hysteria across the country as people realized that maybe the United States was getting behind in technology.

Calvert: And so we started this great space war, actually starting in the Eisenhower administration, and of course President Kennedy saying, "Let's go to the moon in ten years." And then all of these kids were going to college with slide rules. And if you remember, some of us are old enough, these HP calculators that weighed about 10 pounds, and going to our math classes and physics classes and chemistry.

Calvert: It started a lot of people, hundreds of thousands, millions, of people getting into stem type of employment. Today we have a problem.

Calvert: China will graduate 4.5 million people in stem sciences this year. India will graduate about 2.5 million. United States will not even make 600,000 this year. And by 2020 we will have, be one million people behind in demand for those types of positions. So we have a problem. We have to face up to it, we need to deal with it, we need to get young people from other places around the world who come here for their education, and we need to get more young people into those types of endeavors.

Hemmer: A problem and a challenge too. Congresswoman go ahead.

Murphy: To build on what Ken said I would say that in addition to training folks to be able to take on these types of careers, and I think in our district we have the University of Central Florida, we graduate more engineering students than any other school in the country. We're training those folks. But how do you get them to decide to go into working for the Defense or National Security, either in government or in industry, instead of taking the sexy tech job at Google? And I think there are a couple of things you need to do. The first one is, it's about processing people in.

- Murphy: When I ... After 911, was inspired to go join the ... To work in public service. It was really impossible to figure out how to enter the government workforce. I ended up getting a presidential management fellowship and went in that way. But KPIs, key performance indicators, the way you have to fill out your resume, all of these things that are sort of road blocks for a normal young person to try to enter government service makes it really hard for people to one, navigate USA jobs. You have to know somebody sometimes. It's really cumbersome and it doesn't fit with the ease with which this generation is able to do just about anything else. So we need to change some of the process on entry point.
- Murphy: The other thing is that we need to be working on the coolest, high-speed technologies. So incorporating innovations, trying to solve big problems, inspiring these new applicants and giving them an opportunity to do something really exciting and really interesting, and the chance to solve a big problem.
- Murphy: And the final piece, and I think this is probably the most important piece, because when you're trading money for a lower paying job you have to inspire. And on a day where we just lost probably one of the greatest public servants this country has ever seen, somebody who believed and was a part of a generation who believed in public service, who believed that we all needed to contribute to make this country fulfill its greatest potential.
- Murphy: Are we still, as a government, in a time of hyper-partisanship and extreme bickering, inspiring this next generation to want to partake, or participate, in this, in government and in defense and in industry, when what they see is dysfunction? And that means that how we use our military is important as it is how we talk about what it is that we're trying to achieve as a nation. And I think there's a lot to be done in that space to create that inspirational motivation and desire within this next generation to engage in this.
- Hemmer: Thank you. Secretary.
- Esper: Sure. A Renaissance is underway in the United States Army. It is affecting everything we do. From how we train the force to how we equip it, to how we organize our formations, and to how we lead it. Critical to that is also how we man the force. So in order to be successful on future battlefields we have to have the best and brightest of what America has to offer. Because at the end of the day the most lethal and capable weapon system on the future battlefield is the American soldier.
- Esper: And so we are tackling this problem head-on in terms of how we identify, attract, recruit, retain, educate, and train each and every soldier to make sure that they have a very positive experience. What the Army offers hundreds of career fields, very good pay, very competitive pay, benefits, tuition assistance, a chance to learn skills that you're civilian counterparts won't, the chance to lead people at a young age, to learn about discipline and physical fitness and all those things that make young people fantastic.
- Esper: But to do so we need to overhaul how we overhaul the army personal management system and we're making great efforts to do that as we speak. Because while we won't be able to compete on the pay front with the private sector, what we do offer is this - we can inspire as the representative said. We can offer them the ability to do really meaningful work, to serve their community, to serve a higher good, to serve the Nation's security. And that's what we find attracts many people to the United States

Military and to the United States Army. It's that ability to serve a higher cause, something bigger than themselves, at the same time have a rewarding career that they can either spend their entire lives in the military or transition at some point out and into the private sector.

Esper: So I think that's what we have to offer. I think that's why we ... As this Renaissance is underway in United States Army, we're putting great effort into making sure that we have a world-class personnel system that really makes great use of the great talent we get and retains it, and trains it, and educates it along the way.

Hemmer: Marillyn you're involved in this, private sector. What is your perspective on the previous three comments?

Hewson: Well it is, I am representing aerospace and defense industry here and this is definitely a critical and timely topic for us, because what we do in support of our nation's national security and defense is the innovation, is all of the capabilities that we provide to our men and women in uniform. And there is a critical shortage of people going into stem fields, as you've heard from the distinguished panel that I have the opportunity to join today.

Hewson: What I would say is if you just look at the statistics, the Department of Labor says that this year, this coming year, there will be two and half million jobs that are unfilled in stem. And yet, if we look at the data, only one and a half percent of 18- to 34-year olds are actually pursuing stem careers. So it's a true mismatch. But it's really more disproportionately impacted on the aerospace and defense industry.

Hewson: Because of the nature of the work that we do, we hire predominantly American workers. I mean for Lockheed Martin alone we have 100,000 employees and 90,000 plus of them are US citizens because of the nature of the work that we do. So it's a US problem, it's a problem with a gap in focus going into stem, going into the ability to be not just in engineering and those types of fields, but also into advance manufacturing.

Hewson: I mean you need stem skills in order to do advance manufacturing, like precision tools, or running a computerized machine, or dealing with work instructions that are computerized. And we are facing a gap of actually applicants coming in that don't have those basic skills. So it's an area that academia, that government, that industry all have to work together on.

Hewson: We also have an added problem of the fact that we had a big build-up during the Reagan era in our industry and we have a lot of baby boomers that are now retiring out. And so it's a challenge for us in that we've got to get that next generation of workers and the middle-skill workers to up-skill, to re-skill to be ready to take on those tasks as we see an increase in retirements in our industry as well.

Hewson: We are a very important element of the economy. Aerospace and defense today contributes 865 billion dollars every year to the economy. So it's important that we get more folks coming into these high-paid jobs and continuing to contribute to our economy but more importantly, it's the innovation that we bring. It's the capabilities that we bring to our men and women in uniform so that they can support the national security of the nation.

Hemmer: Thank you for all those opening comments. Just on the innovation topic, I'd like to keep on that Marilyn for you and Mr. Secretary you can follow on this. If you look at the executive summary that came for the National Defense Strategy Commission from the Reagan Library, it says on page 8, in quoting, "Innovative concepts are once again needed because Russia and China are challenging the United States, its allies and partners on a far greater scale than has any adversary since the Cold War's end. Unfortunately the innovative operational concepts we need do not currently appear to exist."

Hemmer: There's a big open blank slate at the end of that sentence. And as we pose the question about how you compete against high tech, be it Google or Amazon or Tesla, which might be sexy technology job for someone who is talented and 25 years old and looking for a future of their own, could these companies actually teach government new waves of productivity and efficiency?

Hewson: Well as I look at those areas that you talk about, where we need to increase our competitive advantage with those power competitions like Russia and China, we've got to continue to invest in high-tech areas like autonomy and artificial intelligence and hyper sonics and robotics and a whole range of things as we witness this digital transformation.

Hewson: What we've seen is that our economy has had a shift. Here we are at the lowest levels of unemployment that we've seen in years and a lot of our students are going into those fields that are non-defense because that, as you said, looks like a more attractive area. What really connects with millennials, what really connects with generation-Z is important work, is work that can change the world. So it's up to all of us to communicate the interesting and important work that you can do in the defense industry, in the government, in the services, that helps not only them to grow and develop and achieve their personal and professional aspirations in a job, but that it is important work for the world.

Hewson: And we're not just about the defense products, whether it's weapon systems or things of that nature, we're working in a very important area which is space. And in the space arena where the US needs to maintain our leadership in space those are areas for our economy that are critically important that helps every one of our lives every day, and how we go about our businesses in the economy, but moreover, helps our men and women in uniform that are dealing with either deterring conflict or are in the midst of conflict.

Hemmer: It just strikes me that there is massive opportunity here in everything you just said.

Hewson: Yes.

Hemmer: Massive.

Hewson: Yes.

Hemmer: For so many Americans. Mr. Secretary just draft off what Marilyn said there. If you go to page 12 executive summary it says quote, "We strongly agree that the Pentagon's culture and a way of doing business must be brought into the 21st century."

Hemmer: How daunting is that challenge do you think?

Esper: It is daunting but we believe that we are tackling that right now. So we know that for many years innovation has been coming more out of the private sector than the government sector. So the army undertook last year to reform our entire modernization enterprise. It's culminated in the establishment of Army Futures Command in Austin, Texas. A new command, the first major change to the army in 35 years.

Esper: And that Futures Command sits in Austin not behind walls and not behind barbed wire, not with MPs at the gates, but very open to the society in which it's integrated. We also have cross-functional teams across the United States to include in the Florida district, Florida area.

Esper: And so our purpose is to really reach out to those young entrepreneurs, the innovators. We have a presence at what's called the Capital Factory in Austin. We're reaching out to academia, trying to bring all these people in to help the army not just innovate for the future, but to think about the future. That is the role of Futures Command and we have a very capable commander right now that is out there doing that. We're seeing a lot of good success early on, a lot of progress being made, but we recognize where the innovation's coming from.

Esper: I'll say one other thing with regard to how the army is tackling this and it gets back to the personnel side. One of the things I was most pleased about when I took this position over a year ago was to learn how far the army had moved with regard to cyber expertise. We have a army cyber core, we have a cyber military occupational specialty, we have a Army Cyber Center of Excellence. And when I visited down there for Gordon this past summer I sat next ...

PART 1 OF 3 ENDS [00:16:04]

Esper: ... the Downer for Gordon this past summer. I sat next to a group of a young 18 year olds, 19 year olds who were going through the course and this one young man explained to me what he was doing.

Esper: He was training to be an offensive cyber warrior for the United States army and very capable, very bright, and I said, "Why didn't you want to go the college route?" And he simply said he could not afford it.

Esper: That's one of the challenges we face today, is the great cost of higher education. But for him, he saw the army as a route, and he had to convince his parents that this was the right thing to do. But he had found his place. He had found his spot and here he was going through training to be the cyber warrior. Very excited about what he was doing.

Esper: He would be serving that higher cause, he would be doing real world missions that would make a difference, and he will be serving his country at the same time. Now, I don't know whether he'll spend a career. I imagine after a few years it would probably be worth a lot of money and Lockheed Martin or somebody will pick him up, but it just goes to show what we're trying to do, and the type of talent that is out there that is thriving for something more engaging, that they want to be on the cutting edge. They want to do something bigger, and I think the military offers them a path.

Hemmer: You know, when you say that, I think speaks directly to the congresswoman next to you. If you say that you got into public service after 9/11, I think there were thousands and thousands of Americans from your generation who were deeply affected by that moment and 17 years down the road, I ask this question a bit later, where are we now in trying to recruit that same level of ... I call it patriotism because that was the call they're responding to.

Hemmer: Just back on the technology thing one more time here. There are countless stories out there. You know all about the Facebook issues, whether or not the public can trust it.

Hemmer: I don't know how Congress views this at the moment. There was a story out again this past week that Tesla cars have a chip in them that send the data for the car back to Beijing and that's the cost of doing business for Tesla, if they're going to make Teslas in China.

Hemmer: You've got this contract with Google called Project Maven that's been canceled. Next year, 2019, there was a mini revolt among workers at Google. I'll say revolts with a small 'r', that Google should not be in the business of war, at a time when the Department of Defense needs the capacity of a company like Google to sift through so many images, so they can correlate them to figure out what they're looking at and Google's going to end that contract next year.

Hemmer: I think about Amazon competing for this cloud contract and Washing ...that's \$9 billion. As the technology aspect and the service sector intersect even more throughout our lives, what is the level of trust that Congress has in working with these companies? How do they prove themselves to you?

Calvert: Well, I can attest to dealing with some of these larger companies. It's unfortunate Google, obviously you mentioned project Maldef who found it more comfortable to deal with communist China than to deal with the United States of Pentagon.

Calvert: Obviously, we have a perception problem, especially with the millennial and generation Z generation. We have to change that. We're a force for freedom and democracy in the world. China is not. Russia is not.

Calvert: When we talk about kid's getting stem degrees here in the United States, that's their choice. Maybe that's why we have such a dismal participation rate in college. In Russia and China isn't a choice.

Calvert: If you have a pretty much noticed ability, you are told to major in that subject and you will get a degree in that subject and you will go to work for this company or for this government. We don't have that.

Calvert: We have to get kids involved in something more important than that, and that's our country, and a sense of patriotism, which I think is not as a ... unfortunately as robust as it used to be. I think it's there. I think we need to change the perception of the Department of Defense and the contractors that work with the Department of Defense to get young people to work there.

Calvert: And we need also, by the way, small business. We don't engage small business. Amazon used to be a small business, hard to believe. And Google and the rest of them. But there

are other companies out there that need to deal with the Department of Defense, that have innovative technologies, that needs to be rewarded and to respect their intellectual property.

Hemmer: Yeah, on that note, can congress make it more attractive or is it what it is?

Murphy: To just talk a little bit about tech activism, which is what you're seeing happen when Google says that they don't want to participate. You have to ask why the workers are activating the way they are.

Murphy: I think what's sad is that the US military and national security and defense used to be a place that was not partisan, but of late, some of the political conversations have begun to use the military in the imagery of the military as a political cudgel.

Murphy: When we seek to divide this country by having conversations about kneeling and is that respecting or disrespecting the military. When we start using our ... we attempt to put somebody who has a political lens on the National Security Council in charge of sending our men and women in uniform to war, shouldn't ever have a political lens.

Murphy: When we send our US forces to the border to do what another federal agency is trained for; border security, those types of activities and action seek to undermine the nonpartisan nature of our military. How we use our military force and how the civilian leaders of our military, that make national security decisions use this force, has an impact on how people perceive it.

Murphy: So it's not just about changing the perception. You have to back that up with action and our military for so long ... and that's what's so heartbreaking to me about this. As somebody who deeply believes in this democracy, believes in the civil military balance and civilian controlled military and the nonpartisan nature that the military used to have. That's what's so heartbreaking about what's happening today.

Murphy: So when you see tech activism come out as a result of it, you can't just criticize the activism. You have to look a little bit deeper and see where that's coming from.

Hemmer: Marilyn, when you recruit talents, what are they looking for? Mr. Secretarial, when you recruit talent, what's your selling point? Is it the career? Is it the service? Is it the money? Is all of that to be considered?

Hewson: Well, it's all to be considered, but I'll just give you a few data points. First of all, over close to 25% of our employees are veterans. We attract a lot of people who want to continue to support men and women in uniform, who want to continue because they come with their patriotism to be a part of what we do every day, because certainly, the bulk of what we do is defense of the US or Intel or space or other allied nations.

Hewson: We also attract people who want to work on some of the most important and interesting work in the world. We have innovation and really challenging and exciting things to work on, whether it's on systems for defense or whether it's on spacecraft that we just ... were built and designed and built those spacecraft that NASA just landed on Mars.



Hewson: I mean, that excites people to come to work for our company. But I think it is that patriotism, that service. It's the interesting and challenging work that brings them to our company. And it's a sense of wanting to continue the mission.

Hewson: That's why I think our workforce is so strong. I think within the aerospace and defense industry, we support about 2.4 million jobs in this country, high paying jobs that are high tech jobs, whether it's in advanced manufacturing or it's in engineering and design or all of the things that support that around that.

Hewson: It's really an exciting place to be and we don't have to [inaudible 00:24:36] We hire about 10,000 or 11,000 people a year in our company. We don't have trouble attracting talent.

Hemmer: I don't think you can go a day in America today without reading some story in the media that isn't trying to figure out the tastes of a millennial in America is today or what will be in the future and Mr. Secretary, you recruit all the time and you're always trying to adjust your strategy. What do you think the millennial priority is today?

Esper: Statistically, what we're told is most young people serve because they are seeking meaningful work. They want to serve a cause bigger than themselves. The challenge is that in many cases, that that pool that we're drawing from has shrunk and is shrinking.

Esper: So a couple statistics, only 29% of American youth age 17 to 24 are qualified to serve. That means mentally, physically, medically that they are qualified to serve. If you take a look at same cohort and ask yourself those who are qualified to serve and have a propensity to serve, it's less than 4%.

Esper: That's what the services are competing for right now. Our challenge is to really get out to the American people, to the country and tell the story about military service, about what it means, about what we can offer, because otherwise that will continue to shrink over time.

Esper: So the army has reinvigorated it's marketing and recruiting program. We are not putting more recruiters out on the streets across America. We're focusing on 22 of the largest cities in the nation to make sure we go to where the youth are.

Hemmer: 22?

Esper: 22 of the largest cities in America. I just spent the other day ... yesterday in LA, visiting with our LA recruiting battalion, meeting with recruiters there and talking about the challenges they face.

Esper: Much have much greater presence on social media. So I think if we can reach to a broader cohort of the population, talk about the service, the type of service we offer, what it means to both their community and the nation at large and to show them the simple facts that two 18 year olds who graduated from high school and one goes to military path and one goes into civilian sector, you'll generally find that the 18 year old going into the military will be paid better.

Esper: Will have better benefits, will have better healthcare, will have greater access to tuition. Will have better training in terms of learning of discipline and commitment and

following through resiliency and tenacity and grip and all those capabilities that we build. I think that's what trying to draw the talent we need, the talent that we grow. I think that is the selling point for the United States army.

Hemmer: What does the army look like in 10 years? You're working on this vision project 2028?

Esper: 2028. The vision that we wrote in 2028 [inaudible 00:27:07], I carried around right here in my pocket all the time. What it looks like is in terms of the manning side, is a force and, it's above 500000 with associated growth and a garden reserve, but each of those soldiers is physically fit, morally straight, mentally tough and capable of dealing with a tight technology.

Esper: Items we need on the modern battlefield, that is capable of withdrawing the rigors, are resilient and are gritty and that's the type of American youth were looking for. In the 12 months I've been on the job, we've done a couple things to the work in that direction. We've raised the standards on recruiting, raised them, not lowered them.

Esper: Secondly, we've extended basic training by two months. Army infantry basic training is now the longest and toughest in the world and we changed our physical fitness test to make sure that our soldiers are tougher, are physically stronger and more capable of on the modern battlefield.

Esper: So we're implementing that vision now to make sure by 2028, and most likely very much sooner, we're ready to compete on the modern battlefield.

Hemmer: That's an energetic and enthusiastic answer. Thank you for that. I'm sorry for interrupting.

Murphy: I just might add that in order to retain them, the military might think about different pathways, especially for folks who are coming in to do innovative or tech work.

Murphy: Right now, you spend two years at this rank and then you do two years at that rank. Then you go, you do your joint billets and then you go do this and that might not be the model that somebody who's coming in to purely focus on technology or innovation type of work really wants to follow. And especially when it's compared to a private sector job where if you're good at your job, you get promoted at the pace that your performance merits.

Murphy: So I think that there's probably room for us as we think about bringing in this next generation who is impatient and wants to be rewarded for their work. Thinking differently about how we move people through their career.

Hemmer: So it's a frustrating thing, isn't it? Talk to the HR department at News Corporation and in New York and they'll tell you that, if you're between the age of 23 and 28, you want to stack your resume.

Hemmer: So you want to touch this, and you want to touch that. So it's three months, three months, three months, and ... In my business if you want to build a career, you got to get into the nitty gritty, and you gotta learn the detail, and you have to keep diving into the detail of the story in order to understand it and frame it for your audience no matter what that story is.

Hemmer: I don't, I don't find that that same industrious approach is prevalent in the next generation. I think what it comes down to its ... I'm not speaking from a negative standpoint, it's more an experience standpoint.

Hemmer: They want to check this box and check that box and that presents a challenge to you, Mr. Secretary?

Murphy: Well two things. Yes, expectation management of this generation is one thing, but I think the congresswoman's right, I mean, we in the military cannot have a cookie cutter approach to managing our talent.

Murphy: I spoke in the beginning about how we're trying to overhaul the army personnel system to look really at each individual's knowledge, skills, behaviors and preferences and make sure we manage a lot more carefully.

Murphy: Congress gave us in the past to NDAs, particularly the last one, a lot more authority to allow opt outs, to allow on the spot promotions, order of merit promotions, a lot more flexibility to do what we'd like to do to manage our force, much like the private sector does. And to really accommodate different paths because not everybody's going to go infantry or engineers or armor.

Murphy: But because we also need cyber warriors, we need kids who are very good electronic warfare, signals intelligence. All those very heavy technical skills that might push you in a different path and allow you to really build upon them over time and become experts in that field.

Murphy: At the end of the day, if they don't make it a career, at least they start, they have a great start, a great foundation, and they may fund themselves in the private sector and the commercial sector, maybe being their own entrepreneurs, starting their own business.

Hemmer: Do you give them a path that will be years above their ... ahead of their colleagues? I just want to-

Murphy: We'll give you a path to bill if you need one.

Hemmer: I appreciate it. I might need it.

Hemmer: I'll check back. A congressman somewhat quiet over here. I mean to include you as well. I'm going to show you a graphic from the first survey that has ever been done for the regular defense fund. It's out this year.

Hemmer: Here is the graphic. How is the US military viewed in the world in terms of emerging technologies? Space technology, Best in the world, 27%. One of the best 57%, Artificial Technology AI, 18%, Best in the world, 56%.

Hemmer: One of the best, Cybersecurity, 15%. One of the best, 51%. Now, I might look at that slide and think, "How come it's not all 100% across the board?"

Calvert: It would have been 10 years ago. I don't think there's a person here who looked at that graph and say, "Where would have been 10 years ago?" We have slid in the last -

PART 2 OF 3 ENDS [00:32:04]

Calvert: Would we have been where we had been 10 years ago. We have slid in the last 10 years. In innovation, in our capability in space, or technology, or cyber, or AI. Our competitors have caught up in many instances. We like to think we're the best. I spent many years on the Intelligence Committee, and I like to think we're the best also. But let's not fool ourselves with false information. Our adversaries, especially China and Russia, have in some instances caught up, or are catching up very rapidly.

Calvert: And so whether it's our offensive capability in cyber, or whether it's our defense capability in cyber, or artificial intelligence, or all the rest of these very difficult technologies that we have before us. That graph does not surprise me today, unfortunately.

Hemmer: Marillyn?

Hewson: Well, I think that's why the topic of this panel is so important. I mean, if we are not getting that critical workforce into those fields that we need, and we're not funding it stably, which is part of the issue. I mean, if we look back to why have we lost ground, it's because we have had unstable funding for defense needs, for space, for AI, for cyber security, and when you don't fund at a stable level, that's consistent, that our armed forces can plan for, that industry can support and plan for, then you're going to have these episodic areas and we're not going to invest like we should.

Hewson: It's also going to effect the talent that we bring into our industry. If they look at our industry and think that it's not stable, that there are not stable jobs where they can grow and achieve their aspirations in our industry, it's going to be more difficult to attract the talent.

Hewson: So I think we have lost ground, and we've got to ... we have to full boar on that, and it start with investing in it as a nation. Just as our potential adversaries are investing in it today.

Hemmer: That's a great answer, very important too. We're going to get an audience question or two in here in a moment, but in the next couple of minutes I have here I just want to touch on something that's rather apparent in Washington, and that's the ability to get someone a security clearance. And if you believe the reports, there's 700,000 workers that are waiting right now for that clearance. And just in some of the discussions I've had on background with some of the folks that work with you, Wikileaks was mentioned as a problem, Ed Snowden slowed it down as well. If all that is true, we still have a ways to go.

Hemmer: The effects I think, though, are numerous. You can't move as fast as you'd like. And if you're out there recruiting the best talent, and you have an ambitious young man or young woman who wants to move on in their career, how much patience will they give your company or that opportunity to get a clearance as opposed to moving onto the next job that is there for them?

Hewson: Please, go ahead.

Esper: I think you're underselling the problem a little bit. I mean, there are two big obstacles, one is-

Hemmer: Underselling?

Esper: Underselling it. I mean, look, I talk about this all the time, because it effects the United States Army, and it effects the spouses of our great military. The first hurdle you leap is getting hired. And that on average takes well over 100 days. I mean, the hiring process for the United States government is way too long, way too complicated, and very unrewarding. So first of all, it's hard to get the talent in. And then you have to confront the issue of the security clearance. And you're right, the timeline is easily over 365 days for a secret, and maybe even longer for a top secret.

Esper: So we're putting obstacles in front of very capable people who want to serve. And if we want them to serve, and deliver the best that the military can, either as military or civilian, we have very, very, very capable DA civilians department, the Army civilians, and we've got to make it easy for them to come and serve their country. And we're not doing that right now.

Hemmer: Anyone else want to comment on that, or-

Calvert: Well, I would just say that it is a huge problem. And by the way, that's across the entire enterprise. You've got Department of Defense, obviously, is the largest business in the world. And has the largest bureaucracy to go along with it. And that's one of the problems of getting young people involved, whether it's in the Department of Defense or some of our larger defense contractors, you just ... the time and effort it takes to get a job, and to be able to get on with your career. And it's not getting any better, and we need to work on it rapidly.

Hemmer: Couple questions-

Hewson: I would just add, it's definitely an impact in the industry.

Hemmer: How so Marillyn?

Hewson: I mean, from large to small, medium sized businesses, this waiting for security clearance is because it's ... you know, we have a lot of things that require it. Classified work, security clearances, things for our industry, and it's a long process. Now, we're working closely with the US government on ways that we can streamline it. But you have to take ... hire somebody, and then they have to do work that they really weren't hired for, for some period of time before they can be cleared, and then go into the more interesting, important work that they were actually hired for.

Hemmer: I don't think most people are quite aware of that. I mean, you clearly are because this your line of work. But perhaps it's a story that needs more attention.

Hewson: Yes.

Hemmer: And perhaps more urgency out of Washington out of that as well.

Hemmer: To the members of Congress, we have a question, to Secretary Esper we have a question, and to Marilyn we have a question as well. To the Congresswoman and Congressman from Florida and California respectively. STEM interest starts in the early years. I think you referred to that. What are we doing to improve our K through 12 public education system to build interest in STEM? We have junior Rothstein and some high schools that can promote citizenship and patriotism, how could we leverage existing programs?

Murphy: Well, I think with education, and our community is really fortunate and an example of how we have a really robust higher ed education system, but that also has some reflections in our K to 12, and it starts with making sure that you have preschool education and onwards and the integration of STEM.

Murphy: Unfortunately, the problem, that when I talk to the K to 12 schools, and the administrators, and teachers is that they feel that they are hamstrung in being able to teach STEM, and some people call it STEAM including the arts piece, by the strict, burdensome requirements for testing. And so it makes it hard. And then all of the regulatory and oversight makes it hard for them to make curriculum changes. And so what you have is that we still have an education system that very much is teaching for a previous century, without having made the evolution into teaching for the 21st century.

Murphy: And unfortunately I'm not sure that more regulation is the path to getting these school systems moving in the right direction, preparing K to 12. And we should think about K to 12 more as not just college prep, which I think a big piece of that, it's become that way over the last decade, where that's the only path. Many of these jobs that either Lockheed has, or in the military, they don't require a four year college education. A lot of the tech jobs don't require a four year college education. So how do we think about the education spectrum starting with the pre-K level all the way through post secondary. And think about it in a new way that enables people to get trained for the jobs that are going to be in the future.

Murphy: And they say that in 60% of the jobs in 20 ... I think it's 2025, 2030, aren't ... people don't even know exist today. So our system isn't allowing, our education system isn't allowing us to adjust fast enough.

Hemmer: You said at the beginning 600,000 STEM graduates this year, is that right? [inaudible 00:40:19] 2.3 million?

Calvert: 4.5 million.

Hemmer: 4.5.

Calvert: India's about 2.5. Yeah, first I want to say between California and Florida, we have better oranges here in California, so ... enjoy your orange juice [inaudible 00:40:34]. One thing I want to point is getting kids excited in science, and space, and technology needs to start early. I created a foundation a number of years ago called STEP, and we have a number of industries that help us. We had 50,000 kids go through it, we try to fund science clubs throughout high schools, which aren't funded anymore. Try to get calculus back in high school again. You know, many schools when I was a kid in high school, we used to have calculus. And that's not going on anymore. So we have to get community colleges to accept high school kids to go to learn calculus.

- Calvert: We need to make it fun. Math is something we need to make fun again, engaging, and get kids involved. That's something we're not doing in the country. So we can all get involved in this, by the way, ladies and gentlemen, with our local school districts, to encourage them to do the things that are hard. To bring back chemistry, and physics, and calculus back to high school, which many of these school districts no longer, unfortunately, have.
- Hemmer: Two more questions, and then we'll wrap up this panel. To Secretary Esper, the question is this, under your leadership Army has built recognition for complex air and missile threats that are a big part of the multi domain battlefield. Cruise missiles, drones, lots of other threats come from all directions, so why is that Army eliminating 360D?
- Esper: Well, the Army is not eliminating 360 degree coverage. The Army has moved it to being an objective requirement. What the Army is up to right now is making sure that we can put technologies on the battlefield today that will ensure we're ready for the year 2028. The previous approach actually did not promise to get there in that timeframe, but technologies were a little bit more looser than where we were. So our goal is to make sure we can put battlefield, and mobile short range air defenses, extended air defense on the battlefield now that we need for our formations today, and not wait for long, drawn out programs that show some type of outcome down the road.
- Esper: So that's the path we're on with regard to everything we do. Whether that's next generation combat vehicle, long range precision fires, soldier lethality, you name it, if it's one of the six modernization priorities, I want to start building capabilities now, certainly before the year 2028, because we are in an era of great power competition, and I've got to be prepared to possibly confront countries like Russia and China.
- Hemmer: Thank you for that. Last question, it goes to Marillyn Hewson, I think it's a somewhat repetitive from a question from earlier this hour, but here is how it's phrased from the audience. How important is competition of the free market to generating new technologies? How can we improve competition with the defense industry? And you have used a phrase, not the war on talent, but the war for talent. How does that fit into this?
- Hewson: Well, I think competition is what our whole system is based on, and we should continue to encourage it. As the Congressman spoke earlier, we rely heavily on our small and medium sized businesses for their innovation, for what they can bring both to a prime contractor like Lockheed Martin, or Boeing, or Raytheon or others, but also what they can bring directly to our services. And we should work on encouraging not only talent to come in to the government, or to come into aerospace and defense at a top level, but all throughout the system. The competition is important for our nation, we want competition, that's what we're built on, our free enterprise system. And want our talent to see that there are opportunities for them in the commercial world as well as in defense.
- Hewson: What we're talking about today though is a very critical gap for what we need in defense workers. We need advanced manufacturing workers, we need people that have focused on STEM, on engineering, on technology, on computer science. And it is a problem that is going to take government, industry, and academia working together. We've talked some about the K through 12, we've got to inspire our young students to pursue this early on. It means getting in the classroom, it means investing in those kind of

philanthropic efforts that are focused on STEM. We do it as a company, many of our companies in our industry do, much like the STEP program that you talked about, Project Lead the Way, a whole range of them, that we know are effective, that get kids' attention, and inspire and encourage them, and they do follow through to pursue a career in STEM.

Hewson: So competition, what we do for STEM is going to help this nation over all. It's going to help the innovation, it's going to help the economic progress. What we're talking about today at this defense forum is how important it is for our national security, and for our economic prosperity, and how we win this great power competition.

Hemmer: You guys are a great panel, thank you and good luck against Georgia today.

Hewson: Thank you, Roll Tide.

Hemmer: Kick off's in three hours, so Marillyn Hewson. Secretary Esper. Congresswoman Murphy and Congressman Calvert, thank you.

PART 3 OF 3 ENDS [00:45:53]