

**Air Force Update**  
**Remarks by General David Goldfein,**  
**Chief of Staff of the Air Force**  
**At the 2017 Air Warfare Symposium**  
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I want to start by saying thanks to AFA, a convention like this just doesn't come together, it's months and weeks of work.

I'm thrilled to see so many wing commanders here who have actually brought their annual award winners. We had all the wing commanders about a month ago and I mentioned to them and I'll mention to you all and everyone who is listening who is not here. There is no better professional development opportunity for our airmen than coming to an AFA convention. So, thanks to all the wing commanders. Thanks to all the wing commanders who brought them. For every one who didn't make it, we look forward to seeing you in September. Secretary Peters, you and General Spencer, talk about Airmen for life. Thank you for what you do.

I have several wingmen that join me. I want to talk about our newest Chief Master Sergeant of the Air Force. Is he something or what? Great to have him and Tonya onboard. You have been and already are an incredible advocate for our Airmen, so, thank you.

To our commanders, we talked about Hawk Carlisle. When the history was written, there were certain names that will always be remember, Russ, Dotterty, Creech, and ... Carlisle. Hawk, you have changed the way we go to war. It's been such an incredible honor to serve with you. I know that tribute that General Spencer did at the beginning was a small way of saying what this crowd and everybody that we represent thinks of you. So God bless you and thank you for what you've done for the Air Force.

We talked about our MAJCOM Commanders and we introduced them earlier. We didn't talk about our Command Chiefs, and the reality is, if you stand on this stage as a general officer there is one absolute known fact. That is, if you become a general officer in our Air Force you were probably raised by a great Chief. That's the case with this guy on stage.

So I want to point out to our MAJCOM Command Chiefs, thank you for what you do every day.

Secretary Disbrow, the very honorable secretary and I have known each other for what, 25 years? And her call sign to me is Sensei because, I often climb the mountaintop for guidance and wisdom from Lisa Disbrow. And the reality of our system is we actually don't know whether this is your last AFA in our Air Force. I will tell you, we're hoping and praying it's not, but just in case it is, I want to make sure as your Air Force we stand and thank you for being such an incredible leader over all these years. Thank you.

I'm now in my eighth month as your Chief. I will tell you that with every week, I get more excited and optimistic about our Air Force. Where we are, who we are, where we're going, for one primary reason. Our airmen. 660,000 Active, Guard, Reserve, and civilian Airmen who are bringing it home every single day around the globe; they are the greatest treasure in our nation's arsenal.

We have been breaking barriers for 70 years, it's in our blood and the reason we have been able to break barriers. Whether you want to talk about the sound barrier or outer reaches of space or race or gender, our approach has always been as a service, "Bring It." It's because we have these incredible Airmen, the greatest treasure in our nation's arsenal. I'm privileged to work with every day. So I'm optimistic about our future... and I will share with you that I look at the position of Chief of Staff of the Air Force through 3 lenses, three hats if you will.

The first hat, the one we tend to focus on the most, which is along with the Secretary, being responsible for organizing, training, equipping and presenting ready Air Forces; ready forces to combatant commanders who then fight those forces across the globe.

The second hat, which is equally as important, is my role as a member of the Joint Chiefs. As the lead Airmen on the Joint Chiefs. That does my statutory responsibility to offer best military advice to the Secretary of Defense, the congress, and the President. And as we look at the transregional challenges that we face that I'm going to talk about, that role as a Joint Chief has become even more important in the 21st century against the challenges we have been presented from China and Russia and Iran and North Korea, and violent extremism. We'll talk about that global challenge. One of the hats I wear every day is a membership of the Joint Chiefs.

The third hat I wear is an International Air Chief and we have many of our Attachés. I appreciate General Spencer asking the Attachés to -- and our international partners. What you need to know is that I'm very focused on the responsibilities in the global security environment we face as a nation that values allies and partners, as an asymmetric advantage because our adversaries don't. That role of International Air Chief

has never been more important.

So let's talk about the national security environment that we face. So a few years ago as the Director of the Joint staff I actually would track the number and types of meetings that we prepared the Chairman to go to in the National Security Council or at the Oval Office. And for the two years I was there, it was almost an 80/20 split. Eighty percent of the time he was going over there was a discussion about violent extremism in the Middle East. Which left about 20% of the time focused on the remainder of the globe. So I would argue that as a nation, we were almost singularly focused for a number of years on violent extremism in the Middle East. Each service had demand signals placed on it during that period of time.

For the Air Force, the continuous demand signal was in four key areas: space, cyber, ISR, nuclear enterprise. I can walk you through examples where we brought incredible innovation and capability in those key areas.

But as the budget comes down, and the demand signal for the Air Force is to grow in those areas you have to make strategic trades. And so our strategic trades that we made over time, which made sense at the time in the global security environment we faced, was primarily in people, infrastructure, and conventional air power.

We made strategic trades to trade capacity and near term readiness, increasing capability and modernization which made sense before 2014 because before 2014, we were out of Iraq. We were coming out of Afghanistan, Russia was not active. China was not as active. The world changed in 2014. Russia invaded a neighboring country of Crimea, got active in Ukraine and challenged NATO's eastern flank. China started building and militarizing islands in the South China Sea, we went back into Iraq after ISIS re-emerged, we had that little thing called Ebola in 2014, we can say it wasn't as big a deal, those going through it at the time, we didn't know whether we were facing the largest plague of the 21st century.

And so the world changed in 2014. And so the framework through which we look at the globe and we acknowledge the challenges we face also changed into a far more balanced discussion focused on near peer state on state potential military activity. And so this map of the globe is an indicator of the challenges we face. And the reality is that every one of the challenges that I have described for you in the four plus one framework -- China, Russia, North Korea, violent extremism -- every one of those challenges is transregional.

Doggone-it, our enemies and our adversaries are not paying attention to our

Combatant Commander maps. Think about it, Russia is no longer only a EUCOM challenge. Russia is a EUCOM, NORTHCOM, SOUTHCOM, AFRICOM, PACOM STRATCOM challenge, it's a global challenge that requires a global response, and the service that brings Global Reach, Global Vigilance, and Global Power, this is center mass for the United States Air Force.

So each of those three hats, I'd like to describe for you in this global security environment what I believe as your chief are the five key attributes of future conflict because in each of those hats, there are obligations but I would offer to you there is only one moral obligation that you have as a service team. And that's to ensure that every Airmen that goes into harm's way is properly organized, trained, equipped, and led to accomplish the mission that we give him or her and we take care of their families while they're gone. Everything else, we do the best we can, but that one is a moral obligation, that one is a mirror check.

So the question for us as a service that thinks and provides global capabilities is, are we thinking about this as checkers, or chess? Here would be the difference. If I was thinking about this as a checkers match, Russia challenged me from the east, my counter would be linear. I would just build a force and capability to respond from the west. But that's not the way global super powers think or ought to think. We ought to think in the game of chess, global chess masters, if we get pressure from the east we simultaneously bring capability from the north and the south and the east and the west. And we produce so many dilemmas, and so much capability, at a speed that the adversary can never match. That equates to deterrence in the 21st century.

So here are the five attributes, I believe a future conflict will have that we have got to prepare for. I don't know that much with absolute clarity as a chief, but this is one I know with a 100% accuracy; we have from this moment until then to get ready, and every week counts, and this is a team sport, and we're all in it together. So here is the attributes of future conflict.

First of all trans-regional. We talked about that. We have to think about how we simultaneously bring capability together to pressure an enemy. In a resilient manner so if there is some reason that certain capabilities may be denied to us or taken away from us, our response is, "bring it." I've got all kinds of other options in the tool bag that I can throw at you. So it will be transregional in nature, it will be multi-domain.

The way to think about multi-domain, because we use that in so many ways, this is from the outer reaches of space (inaudible), to just below the surface of the ocean, and everywhere in between. Because that's how we as a military force sense the globe, that is

how we create common operating pictures and intelligence pictures for decision maker to be able to achieve the decision speed required. Then we maneuver forces in those same domains.

As a CFACC, as the Air Component Commander in CENTCOM, I thought when I went to my job at the beginning, that my job would be to focus on merely taking the right aircraft and assets, in the right attributes, place it over the ground force and understand the scheme of maneuver. To ensure we always have the force on the ground, and the mature ground fight covered and, we did that, but actually, what we did was multi-domain operations.

In this magical headquarters called the Air Operations Center that produced a product that in some ways is misnamed. We're way beyond an Air Tasking Order. It's clearly an Integrated Tasking Order and it pulls together capabilities from all those domains. So, back to that, being a global chess master, not only are you able to pressure from the north and south and east and west, but you're able to provide capability and pressure and dilemmas from vertically as well. We stitch together all the domains in a joint force.

It will be multi-component. When it comes to multi-component operations, the reality of this magical headquarters that we have today, that General Harrigian commands, that General O'Shaughnessy commands in the Pacific, that General Walters commands in Europe, is that the one operational level headquarters that actually brings all the components together in a way you can integrate fires and effect on behalf of the Combatant Commander or multiple commanders.

In the Air Operations Center there is not just a liaison element from the Army. There are 60 soldiers working 24/7 as a battlefield coordination detachment, a BCD, that's ensuring that we coordinate all the capabilities from all the domains across all the components. You don't just have a Marine Liaison Element, you have an entire group of Marines making sure that you've got amphibious operations covered. You don't just have a Maritime Support Element, you have an entire maritime, the one place at the operational level of war where all of the components come together.

So, understanding the business of joint warfare, it's absolutely essential for the future. It turns out that I'm not actually the first chief, of course, as number 21, that's thought about the business of joint warfare. Reality is many before me have thought about this and I have a short video to make that point.

If you'd roll that video.

## VIDEO PLAYS

I can tell you one thing for sure, the -- of all the things I'm proud of, occupying the office of the 20 that have gone before me, there is nothing sort of magical. I will share which that from chief 20 to chief 21, the average GPA went down by 1.0. But, two of my predecessors who have given their heart and soul to this organization are here tonight. I want to make sure that we recognize the father of CONOPs and Commander Control, John Jumper. Sir, thank you [applause] and of all the great gifts that General Mark Welch passed on to chief 21, and us, it's the fact that we are truly one Air Force. And General Welch is here, sir. Would you stand and be recognized? [applause]

We talk about the attributes of future conflict. We have to acknowledge and think about the fact that it will be coalition, multi-national. This is a great strategic advantage that we have, that we value allies and partners. We have to think about the future of conflict and where we're headed. Ensure that we can truly build our system so that they are coalition friendly. We can't allow technology to drive us farther from our allies and partners if in fact we're going to fight with our allies and partners.

This picture is a picture of what we built over in the Middle East, and continues to exist, called the Gulf CAOC. What we did was we actually built an Air Operations Center inside the AOC and we brought our partners in because it was very clear there was no way to actually defend the Arabian Gulf individually, that we had to tie together. We had to share information and what we found as we went through this, and this is still exist today, is that sharing of information and operating as a coalition is actually as challenging culturally as it is technologically. Because most of us have grown up asking the wrong questions about information sharing. How many times have we asked the question what can I share? ...and the answer very quickly comes back, nothing, or very little. The right question is actually what can't I share and why?

Think about this. The youngest member of any organization that we represent in this room, with a single mouse click, can make a decision on the security classification of any document that comes across that computer and it takes the oldest member of the organization to reverse that. Often, through a very challenging mechanism.

So the future of conflict is going to be coalition and going to be multi-national, we as an enterprise are responsible for command and control even think about how we operate. If you asked me what is one of the great attributes that the F-35 brings to the future of conflict, I will tell you that the difficulty that we're working our way through to be able to share information in a single weapons system might very well be the strategic

aspect that comes from the F-35. It will be coalition in the future, it will be at a speed we have not seen before. We're operating in all these domains. Gaining information and clarity on issues that are sensing in ways we have not sensed before. We're achieving decisions at a speed that we've not seen before. So we're going to have to ensure that we're ready for the speed of future conflict.

So back to that moral obligation of ensuring we prepare the force for what's coming. Treating every week we have as the last week that we have to get ready. Therein lies why I picked, and rolled out for you in September, the 3 focus areas, because the reality is when you stitch them together and there is an organizational element, there is a leadership development element, there is a CONOPs element and technical baseline and when you stitch them together, they equal joint war fighting excellence against the conflict that we have to prepare for.

The organizational element starts with squadrons.

So you saw them in the video but I had a chance early in my career to work for a guy named General Mike Ryan. He gave me one of the most important organizational constructs that I have used over my career, if you want to achieve change in an organization, lasting change, you have to have three elements.

First, you have to have a single person in charge. Can't be a committee, can't be a command. It has to be someone who drives the work in the morning, accountable, responsible for success. So you have to have a single person in charge to move the organization forward.

That single person has to develop a second thing, which is a plan and it has to be more than power point deep. It has to be a CONOP written in English. And the organization needs to be able to understand where it is that you're headed.

And the final element, you have to have for success, that plan has to be placed on a calendar with milestones, objectives and things that you measure. Because the reality is, life gets in the way of every plan and how many of us in leadership positions have given commanders intent and let the staff run off with a group and two months later called them in, how is it going? And there is a code, and the code goes like this. "Sir, we're working on it." So for you young leaders in the crowd let me tell you what that code means. Normally what you will find, you have no one in charge. We didn't understand the plan. And life got in the way. Other things became a priority. You didn't follow up.

So in each of three areas that covers an organizational level, revitalizing squadrons,

leader development, strengthening how we develop joint leaders, and the ONOPs and technical base line for how we operate in the future, which is multi-domain command and control, you have 3 leaders in charge. Three Brigadier Generals and Chief Master Sergeants who are in charge of those. They're all here this week. As we get around, I want to introduce them.

First one, Brigadier General Davis, and his Wingman Chief Rob Stanford.

So, why squadrons? Because that's who we are as an Air Force. It is the organizational element within our Air Force that Airmen first join and we inculcate the culture of being an airmen at the squadron level. It's where Airmen and families thrive. Where the mission of the Air Force succeeds or fails, where innovation occurs, where we generate readiness. It's the organizational level and the command level where you have the most impact on the individuals in that organization.

And so, if in fact you buy that and you agree with me, that the squadron is the heart beat of who we are as an Air Force, then General Davis and his team is looking at this, asking the important questions, when do we actually identify who has the potential for command? And then next, what do we do with them, after we made that decision? And how do we prepare them for this, the most important level of command in our Air Force? And then while they're in command, had this discussion with the wing commanders, what are we doing while they're in command. Do we step back and see if they can swim? Because this is merely a test for future command? Are we personally invested in their success? Because the mission of the Air Force rides -- think about this; there is a squadron commander right now in this room that's responsible for the most disruptive weaponry on the planet in the nuclear enterprise. We got to get that organization right. And then how do we manage the talent of our squadron command team when they succeed wildly. How do we ensure we have the right number of formations across our Air Force?

I will tell you, across the Active, Guard, and Reserve, we have upwards of over 3,400 squadrons of various types. Thirty-four hundred, and they range from 40 to 1,400. And so what General Davis and his team is looking at, what is the size of a squadron in the 21st century and how'd we get the right size and resourced to accomplish this mission? How do we remove the barriers that squadron commanders face today? To getting their mission done?

Because the way I see the organizational chart, the Secretary and I are at the bottom, squadron commanders are at the top. Everybody else is there to make sure they get their mission done.

What barriers are out there? Right now commands are faced with 1,100 Air Force instructions of various types and sizes. I'm not sure when you hit the "I believe" button but I think it's on the way to 1,148. So we're doing a review to look at all the AFIs and all the directives.

How do I push decision authority down to the right level, if we trust that commander with the most destructive weaponry on the planet we can trust them with decision authority as well? This is a holistic look at squadrons, laser focused over the course of this year to get them as healthy and revitalizing them as the heartbeat of our Air Force.

The second focus area. You heard them called big rocks. They are big rocks. They're big, heavy, and by the way, these are four-year efforts. These are four-year efforts and it will take all of us working together.

The second is how to develop joint leaders and teams. Because the days that we can raise an Airmen within a functional stovepipe and that Airmen walks into a room and sits at the table side by side with our fellow Marines and Soldiers and Sailors and Coast Guardsmen, and is responsible for building a campaign plan and bringing the Airmen's voice to the dialogue, the days that they say they "don't know space" are gone. Those days are gone.

We own space. An Airmen needs to sit at the table and be able to understand how we employ space. We need to understand as Airmen, contributing when we sit at the table, contributing to campaign design that we bring cyber capability and cyber effects.

Most of us grew up in the kinetic world placing triangles on a map. A triangle would represent a target that we would go after, normally with kinetic and lethal capability. And somewhere along the line we started placing circles on a map. And for our cyber warriors and space warriors, they know what a circle means. We've actually studied the enemy, command and control capabilities, and we now have capabilities to go in and degrade or destroy their ability to command and control their forces, that represents a circle on a map.

Yesterday's Airmen would look at a circle and triangle and determine how I could use that circle and a complementary fire to support the lethal fire over here. Today's Airmen understand that its together that creates the effect the nation requires.

Air, space, and cyber pulled together so that one plus one always equals three. So how we proactively build and strengthen how we build leaders for the future that understand the application of air and space and cyber and how it mixes together, and how it connects to the other capabilities across the joint force, and how those military capabilities actually knit together in a whole of government approach that's actually connected to AID, and Department Of State and other elements of national power. That's the joint leaders of the future that we have to continue to look at strengthening how we develop them.

Unless anyone thinks we're not doing that, let me give you a visual. Lori Robinson, Paul Selva, Darren McDew, John Hyten. Don't walk away from this speech thinking we don't produce incredible joint leaders. But this is about how we enhance the way we develop leaders in the future.

The third focus area brings the CONOPs and technical baseline, Multi-Domain Command and Control. It's why it's so perfect to have an AFA convention focused on fusion. Because it's the Multi-Domain Command and Control piece that will allow us to be able to achieve all the attributes that I've talked about and bring them together so that we can be global chess masters in this security environment against the challenges that we face. And of the three, two of them actually, we're handling internal to the Air Force. The third one is going to be solved by industry. Squadrons, we've got that. Joint leaders and teams, we got that. Multi-Domain Command and Control, team sport.

I put this up because this is an incredible story. So it was my honor and privilege to be the last guy to check out in the F-117. What's most important about the F-117, is how it came to be, the lesson it provides to all of us. Because if you know the story of the F-117, there was a scientist, and he would read journals when he worked for the Skunk Works. He would read journals that had been translated into English. He was reading a 20-year old paper, a Russian paper. Inside the paper he saw the math equation that actually produced stealth. He walked into his CEO and he said "look, look at this, I figured it out." He walked in with a hope diamond shape. He said I can make this, I can make this object have the radar return of the eye of an eagle. So Ben said, "well, can you get it airborne?" "We can try." So while the team was moving forward to build what became HAV-Blue, Rich came to the Pentagon, he sat down, in what is now my conference room with the Chief Of Staff of the Air Force and Secretary of Defense, Bill Perry. And I always keep one of these for me. [Took out a marble.] He rolled it across the table. Secretary Perry said "what's that?" He said "that's the radar cross section I'm about to build you." And the rest, as they say, is history.

So what's the moral of the story? We didn't think of stealth in the United States

military. It wasn't on our radar, so to speak. Industry came up with that idea. And they rolled it across the table at us. Which brings up question number two. Are we the institution, ready to accept the great ideas that industry is about to roll our way? Or are we an organization that the marble dies 15 bureaucratic deaths along the way, never gets to someone who can take action on it?

We're the barrier breakers, 70 years, in our blood.

We've got to be the organization that accepts the marble, and acts on it. And for industry, the marble I'm asking you to roll our way is getting at Multi-Domain Command and Control.

Let's talk. It can mean all things to all people. So I start with a problem. Victory and future conflict, as I've described it for you, will go to that leader who can command and control his or her forces to create multiple dilemmas from multiple domains and achieve a decision speed that is able to maneuver forces both kinetic and non- at a pace an adversary -- that would overwhelm any enemy on the planet -- while denying that enemy the ability to do the same. I believe that's deterrence in the 21st Century. Our ability to be able to harness all that together is going to be based on three elements of what I call Multi-Domain Command and Control.

If we start thinking about this as a place, we're already too limited. If we start thinking about this as a bunch of computer screens in a place someplace, we're already too narrow in our focus. This is a CONOPs. This is a way of thinking. And there is three key elements.

The first is, how do we achieve situational awareness and present that information to a leader in a way that that leader can then make decisions at the speed required for the future of conflict? And then maneuver forces and create effects?

Let's unpack each of those.

Let's take about situational awareness. So we sense the globe: air, land, sea, space, cyber, under sea. We collect far more data, the volume of data that we already collect data is far greater than anyone could actually analyze. So now through some of the technologies that are already here, industry is already working with, artificial intelligence, human machine pairing, machine t o m a c h i n e capabilities. How do we actually create that common operating picture and present it in a way that leaders can act and make decisions? That's the first challenge here.

So we're already there in some ways. So back to the F-117. When I flew the F-117, we went into combat, there were three attributes of how to fly first generation stealth. It was single domain. It was a closed system. It was sequential. Air only. There was never a plan to do this as a multi-component plan. The F-117 would fly on its own. A closed system. I actually had a switch in the cockpit, a "stealth switch." Flip the switch, guess what, all the antennas stowed. Last defensive maneuver I would do was lower my seat. Single domain. There was never a plan for me to work with others.

So think about the F-35 today. It starts doing machine to machine language, talking back and forth on the net before the pilot climbs the ladder. At a recent RED FLAG, this is the way the operation actually went down. So two in the morning, F-35, 100 aircraft are taxiing out at night for a mission over the Nellis Range. The cyber war was raging before they ever got airborne. Deployed cyber mission team, protection team, on the cyber range using actual capabilities and oh, by the way, the mission commander laid out the entire lay down of the enemy command and control system and it all put that integrated into the overall Operational Plan -- triangles and zeros.

As they got airborne and put the gear up, the space war was raging. We're using actual space techniques. And that F-35 driver, a young captain, now has that information displayed in a way that has not been displayed in the past. He's getting real time feeds on how the space and the cyber war is going. Calling audible before they drop off the boom. And then 100 aircraft go in against the highest levels of integrated air defense that we could ever throw them up against on big dollar night.

Right in the middle fight he's told there is a convoy coming down the middle of the formation and he's got to call an audible. He has to re-manuever forces during the middle of the fight, 100 aircraft, against a robust IADS, has to reposition Forces to be able to find, fix, and finish a high value target in the middle of the range. While that was going on an F1-6 was shot down. He had to orchestrate an entire combat search and rescue, simulated, as part of the organization. While that CSAR was going on, he had a SOF insertion going on and the F-35, using human machine teaming, displays on his visor and displays that were replicated in other command and control agencies helped that F-35 pilot perform as the quarterback of the joint team, as they went into accomplish, all of these simultaneous missions.

So when I talk to you about situational awareness, this was an example at the tactical level to produce operational effects. But what we need to think about is that same mind set of information display of a common operating picture, common intelligence picture, to produce the situational awareness we need for the next fight -- decision speed.

I can't think of a mission that would be more important in terms of decision speed than combat search and rescue because there is somebody on the ground that requires a pickup and every moment counts. We often think about a combat search and rescue in terms of what happens at the very end. We really need to think about the network that went into play. And the decisions that were able to come to play to perform that. Here is what really happens when you're doing a combat search and rescue, especially if it's someone that's injured.

The first thing that happens, we apply immediate care at the point of injury. Those in the medical profession, you know that when we talk about the golden hour, it's that immediate combat care that's as important as anything else we do. And then what happens? Somebody keys a mic on a radio, a handheld radio. Valley of the Hindu Kush, 10,000-foot mountains on both sides. A handheld radio, battery that big. Somebody answers you from a thousand miles away. How does that happen? Magic. Actually it's not magic. That signal was bounced off an airborne layer that we put over the top, it was amplified, bounced across the constellation that our Airmen at Schriever are flying and simulcast into every command and control agency connected to the net.

Then what happens? Somebody jumped on cyber. And they started typing in and talking about exactly what was required. Who was the patient, what was the blood type, the injury? And while that was going on, an HH-60 was sent up, the PJs are cracking their kits, running to the helicopter, while that was going on, the network is going, continuing right.

Now we moved ISR overhead. And now we're cataloging where the enemy is, the egress, ingress route is, where the friendlies are. How hot the landing zone is. And we're connecting that to overhead space capabilities. They're contributing through command control agencies distributed across the globe. And while that's going on we put an airborne mission commander over the top coordinating all the assets.

This is all happening simultaneously. While that was happening, a critical care team was jumping into first scrambling to launch the first piece of concrete. And what I just described for you is a network, air, land, space, cyber all coming together. All coming together in a network to save a life.

So I would argue that we get this. But against the attributes of conflict, in the global security environment I've described, we do have to think about new ways of doing it in the future.

Some of you may recognize this picture. This is what the Uber picture looked like

when I got off the airplane in Tampa. Common operational picture. So think about the way this technology already works. So you can pick up and get a common operational picture of what assets are in the local area. You can choose an asset that you prefer, based on a set of criteria. Then you get information displayed for you; driver, background, kind of car, license plate. Then once you select that, you can actually watch and many have done this, the vehicle approach your position. And talk to the individual if you need to.

Are we looking at the future of CSAR? Why couldn't, if I'm in bad guy land, I get a common operational picture? And know what assets are out there? Manned, unmanned, flying, rolling, submerging? Why couldn't I take that to a point where a decision maker could see that operational picture, why couldn't I know on a display like that where the enemy was, where the friendly was, and communicate through secure means to do a combat search and rescue in the future?

So when I talk about industry working together on this, there are technologies that you're already perfecting that are going to help us in the future.

So when we talk about the third element, creating effect. The effects that we're talking about creating are our ability to be able to bring forces to bear, to be able to impact the operational picture that we're looking at. And General Carlisle showed a video earlier of what that picture looks like when it comes to bringing all the forces to bear, to be able to achieve situational awareness, decision speed, and actual effect. So we put together a short video that brings it all together, brings it all home. Very similar to one you saw this morning in terms of what this could look like in the future.

If you'd roll the video.

[VIDEO PLAYS]

So look at this and you think man, this is hard. It is hard.

Here is what we need to think about. Historically, the way we've approached the business of procuring weapons systems has been to focus first on the trucks and the cargo, then think about the highway they drive on. And I would offer to you that the way we need to think in the future is to first start the discussion with the highway. Because what rides on that highway is merely an app or an aperture. And some of those fly, some of them float, some of them orbit. Some of them run, some of them are old, some of them are new, some of them are manned, some unmanned.

The question for us is, how do we connect them together in the most meaningful way to create the effects we need so we can overwhelm our adversaries? It's hard but it's absolutely doable. It's going to be our industry partnership with the Air Force that's going to bring this to bear.

I know we can do this, because it's in our blood. It's who we are. This is an interesting quote. In 1903, this was what was written in the New York Times. [Slide read: "The flying machine might be evolved by the efforts of mathematicians and mechanics from one million to ten million years"] On that day, on that day in 1903, this was the journal entry for the Wright Brothers. [Slide reads: "we began assembly today."] We can do this.

Ben Rich is watching from above right now. And he's wondering, we ready to accept the marble? And I will offer to you let the marbles roll.

Thank you very much.