

Air Force Association
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Remarks by General David L. Goldfein
U.S. Air Force Chief of Staff
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GENERAL GOLDFEIN: Thank you. Well good morning or to my fellow Dallas Cowboy fans, Howdy. So, I got to tell you, I was watching that video of Frank and Stan Gorenc. When I was at the Air Force Academy, I had two cadet squadron commanders when I was a freshman. Kangaroo and Frank Gorenc. So, I was back in the back with my chin in and listening to Frank my old squadron commander and he walked through.

Let me start by saying thank you to AFA. Seventy-one years advocating on behalf of Airmen and Airpower. And this is the culmination actually of a year's worth of work to get us to the point where we now have standing room only. Because there is no equivalent for the professional development opportunities that we have this week in this convention.

Where Airmen who are in the business of fighting and winning, can sit down with industry leaders who are in the business of providing us the tools that we need and have a conversation about where we're headed together.

And for those of you who were there last night at the birthday gala dinner, I mean it was a pretty special evening. We honored a number of folks, and two that came to mind was Colonel retired Bud Anderson. Triple Ace from World War II, went on to be a test pilot of great renowned. And Ms. Eleanor Auto, one of the original Rosie the Riveters. Who, by the way, we found out last night retired at the age of 95; three years ago. She's actually worked on every C-17 that Boeing has produced. Every single one. And I found out last night that she's never flown on one. Madam Secretary, I think we can fix that. Dewy, don't kill her. She is 98, as she just got her driver's license renewed, and she said last night, she's going to get it renewed at 100.

So, for all the Airmen present, you know, this is an opportunity really for us to re-blue to reconnect, and to recharge. An opportunity to get a sense of where it is that we are as an Air Force and where we're headed. An opportunity to reconnect with friendships that we've develop, because we all know, and I think Frank just said it right, you love the mission, but you love the people. So, it's an opportunity to get together to reconnect with old friends and it's an opportunity to recharge our batteries for the fight ahead. Because we are a nation at war, and we are an Air Force that's fully engaged.

We have a number of Wing Commanders, we have Command Chiefs, we have First Sergeants. I put out some notes early to all of the Wing Commanders, and said hey, I'm looking forward to seeing you at the convention, and if you can, we would love for you to bring your annual award winners. And so, thank you, to all the Wing Commanders who did that.

As leaders, I've come to a belief that we actually have one lasting legacy that we leave. And that's the time that we spend grooming those who replace us. And there's no better way to do that, than to bring them right here to this convention.

So, as I stand here today as your 21st Chief of Staff, I will tell you, I am as excited and optimistic as I have ever been in my career about who we are and where we're headed. We do have our challenges. And Secretary Wilson laid them out for us yesterday just perfectly. We absolutely are too small for what the nation needs and we're facing some tough, tough, budget issues, with that threat of sequestration sort of hanging over our head.

But I've also come to believe that with every challenge that we're handed in life, there's also an opportunity; and the greater the challenge, the greater the opportunity. And part of what we do as leaders is to set the conditions for the creative genius that is in this room to get unleashed. Part of the reason for my optimism is because of the incredible team that I am privileged to work with, here as the executive team.

And I want to start off with our Secretary. She couldn't build a better resume to be our 24th Secretary of the Air Force. Academy graduate, Rhode Scholar, steeped in the business of public policy, part of a National Security Council team, an entrepreneur, a business leader, a private pilot, a congresswoman from a State in New Mexico that has a significant portion of our nuclear enterprise, membership of the House Intelligence Committee, and the House Arms Services Committee, and president of one of our leading STEM universities. But perhaps more important than the resume, is her character; and we saw it on display yesterday, and I've seen it on display. And so, Madam Secretary to you and to Jay, thank you for answering the call to duty, and for rejoining this formation. We are incredibly blessed to have you as our 24th Secretary of the Air Force.

Our new undersecretary of the Air Force, the Honorable, that sounds good, Matt Donovan, known to many of us growing up with him as "Gorilla." Mr. Secretary, you know, our Air Force as well. Thirty-one years on active duty, five of them as an enlisted Airmen. Came into the Air Force during OTS in 1982, F-15 pilot, combat proven, has commanded at every level, and perhaps most recently important, served on the Senate Arms Services Committee as one of the lead staffers. So, he knows us, and he knows this town.

And perhaps most important, he married the love of his life, Kat also a great Airmen, Mr. Secretary, honored to have you onboard.

And of course, General Seve Wilson, perhaps one of the finest Vice Chiefs we've had in our history. Likes of General Spencer and others who have graced that position. And he's spending a lot of time cleaning up from the last guy that was the Vice Chief of Staff of the Air Force. But I'll tell you, when I was told that I would likely be coming to this job, and General Welsh had asked me you know, who would you like to have as a Vice Chief, I only gave one name. And so, Seve, to you and Nancy, thank you for being great Wingman for me and Dawn.

And Chief Kaleth Wright also my Wingman, chief is an Airmen's Airmen. And I can't tell you how many times when I'm out and about, I hear, boy we got the exact right individual to be our lead Senior NCO, my key advisor, for the secretary and I when it comes to all enlisted matters. He has a heart. I'm not sure how it fits inside of his chest, but this guy is the real deal. And to

Chief and to Tanya, thank you for being such an incredible Airmen and a great role model of all of us.

So, ladies and gentleman, this is your Top Five. Now Madam Secretary, do you remember that conversation you and I had about the Math anxiety problem I've had throughout my career? I just noticed as I was going through, there's a problem with that slide.

Well, I try once a day, and I'm glad I got this out of the way early, I try once a day to do something where a couple of Airmen can have a conversation afterwards and look at each other and go, "I could be a four star." Doesn't take all that much.

Alright, let's talk about the future. Seventy years. We started as a service with bombers, with fighter escorts, with airlift, and we have evolved and grown over the years to a full spectrum force. I mean think about it. We operate from below the surface, in capsules, below the surface of the earth, out to the reaches of space, at the highest elliptical orbits, and everywhere in between. I have yet to be able to find a mission that the joint team performs, where we can't find an Airman that's engaged and actually essential to its success. We are there in all of the missions that the Joint Staff and the joint team performs.

And so, when you think about seventy years, I actually went to the Public Affairs folks and asked them to take a look at you know, how can we tell this story. Secretary Wilson mentioned it yesterday. She said you know -- and the president actually mentioned this when he was with us on Friday at Joint Base Andrews. He said you know, sometimes being an Airmen, is a little bit more like an attitude. Sometimes, because we are innovators at heart, we often ask the question, well why? Why are we doing it this way? Why is it this particular go in this direction? Sometimes we've got to remember that we actually lead the great insurgency of 1947. And the Secretary talked about it yesterday. I joke sometimes with General Neller, Commandant of the Marine Corps. I said, hey Bob, you know, if you put out directive that on Friday, by golly, all Marines need to be in uniform with white gloves, there would be some grumbling, but by God, Friday, everybody would be showing up in white gloves.

Chief Staff of the Air Force puts out a memorandum that says we're all going to have on white gloves on Friday. Why the hell are we doing that? That must be a typo. He meant no gloves on Friday. Hey, I got one white glove. One white glove? I got gray gloves. Are these white enough? Alright, we could push back upon it or we can embrace it. It's sort of who we are.

And so, I went to PA and I asked them I had say, how would we tell the story of 70 years in less than 70 seconds. This is what they came up with. Enjoy this.

[Video plays]

Everybody awake in the back?

The reality is this. We stand on the shoulders of giants, especially the Vietnam generation, who stayed with this Air Force and rebuilt it after Vietnam. Last night, we honored General McPeak for his work on the Lafayette Escadrille Memorial, and we're going to honor General Moseley the

same way. There's something else that General McPeak's been involved in and it rolls out this month. It's a series, a documentary by Ken Burns on the Vietnam War, and it's something we all got to watch, because we enjoy the trust and confidence today of a grateful nation, not completely because of what we do, but because of those who've gone before.

As the 21st Chief of Staff of the Air Force, and I appreciate General Spencer walking through the names of the 20 I'm privileged to follow, individuals who gave their heart and their soul to this organization that we're privileged to serve in today. Four of those chiefs are here, and it's my honor to present them to you: Chief number 12, General Larry Welch; number 14, General Tony McPeak; number 15, General Ron Fogleman; and my former boss and a mentor, number 16, General Mike Ryan. Gentlemen, would you please stand and be recognized?

So it's the collective vision of these leaders that built the Air Force that we employ globally today, but it's important we also understand the missions that we perform for the Nation and for the Joint Force as members of this joint team. And the way I describe it is I say, you know, you actually got to look through two lenses. You got to look at, first, what do we do to defend the homeland in the homeland, and what do we do that when we're based and deployed forward, and it starts with the Nuclear Enterprise.

We, as a service, are responsible for two-thirds of the Nuclear Enterprise and 75 percent of the Nuclear Command and Control, and on our worst day as a nation, our job is to make sure that the Commander in Chief is where he needs to be when he needs to be there, and that he stays connected to forces in the field.

And much of the information that he gets to make the decisions we need to defend the nation come from space, and we as a service are responsible for flying 12 constellations in space, everything from early warning to protected communications to the GPS signal that everyone on the planet relies on, from everything from getting money out of their ATM to being able to get a cell phone signal to be able to communicate. Space is the ultimate high ground, and the Secretary mentioned it yesterday. Space superiority is not an American birthright, it's something that we will fight for and we will continue to win.

After space, you take a look at what do we do in the Intelligence, Surveillance, Reconnaissance enterprise. Thirty-five thousand Airmen that take the ones and zeros that are collect from all the domains, analyze it and actually turn it into some kind of decision quality information in the ISR enterprise. We're all contributing as well to the cyber mission as we build up cyber mission teams and cyber mission force.

And if you heard jet noise this morning, it may have been two F-16s from the Andrews Air National Guard who took off and are part of Operation Noble Eagle, working for General Lori Robinson, protecting the critical infrastructure. Such is the nature of what we do when we defend the homeland from the homeland.

And then you need you to think about what we do when we deploy and are based forward, and it starts with Air Superiority, freedom to maneuver, freedom from attack, ensuring that any Soldier, Sailor, Airman, and the Marines that hears jet noise never looks up, because they know it's us.

And sometimes, we have to operate in under-governed and unsecure spaces, and if so, it's our Special Forces, our Air Commandos that every often go forward, and they secure those locations so that we can do that business of Global Reach, every two-and-a-half to three minutes an aircraft taking off or landing somewhere on the planet.

And if you want to talk about holding targets at risk, think about the two B-2s that left Whiteman Air Force Base, traveled 32 hours none-stop, 16 air refuelings, to hit two training camps in northern Africa, 10 seconds from their planned time over target, 10 seconds.

And then think about what we're doing in the fight against violent extremism, an incredible choreography that General Harrigan and his team put together. Twenty nations, all coming together. And it's more than what happens when we're dropping bombs on target, and, by the way, we're delivering an average of 100 a day. It's the orchestration of the command and control, the personnel recovery, the tankers, all the things that come together in this massive choreography.

Hap Arnold had an incredible quote. In the middle of the daylight bombing campaign, he said, "You know, the problem with air power is we make it look too easy." What would Hap Arnold think today, and this incredible force, these Airmen who are out there making it happen, innovative Airmen that are making it happen every day? I could spend the rest of our time here just telling their stories, and General Welsh reminded us that every Airman has a story, and I want to tell you just four representative of just the kind of Airmen that we are privileged to serve with today.

I'm going to start with Dr. Jacob Anderson. He's a Special Operations surgeon, doing OIR. He's performed 110 surgical procedures in just his last deployment. Three of those were craniotomies. He's inserted 18 chest tubes, opened three airways surgically. He's trained 18 partner nation medics, and he's driven over 1,500 miles of convoy operations and had a troops-in-contact situation twice. He's received the Combat Action Medal and the Army Medic Badge.

Let's talk about Staff Sergeant Yulia Korobova, a cultural advisor. She has two master's degrees, Staff Sergeant Korobova, two master's degrees. She speaks four languages, Russian, Ukrainian, English, and Polish, and, oh, by the way, she learned Polish in two months, and went into Poland as an interpreter. You may know that we're having a fairly robust discussion between the CAOC and our Russian counterparts to ensure that we deconflict operations in Syria, and she's been one of the interpreters on the phone with her Russian counterparts, helping us with that mission. She was promoted to Senior Airman below the zone, she passed her CDCs with 100 percent, and her goal is to become an officer. I think we might be able to help with that.

Miss Emerald Ralston shows us the power of the human spirit. She was a Public Affairs NCO from Air Combat Command, and she was deployed to Afghanistan when her Army medic brother was hit by an IED and paralyzed from the neck down, and she left active duty and she went to be his primary caregiver, and she stayed with him until he was healthy enough to manage himself on his own. She went back to school, to Harvard, on the GI Bill, and then she came back and rejoined the Air Force as a civilian. There's no better example of an Airman for life than Emerald Ralston.

And finally, Lieutenant Brandon Sexton. Brandon works for an Air Force Space Command, and he's a Reservist, and he's a contractor, and he's personally authored 3,000 lines of code for our GSSAP, our Geosynchronous Space Situational Awareness Program. Think about it as our neighborhood watch in space, making sure that we sort of know who's out there, what's out there, and what's going on. Three thousand lines of code. He personally improved targeting accuracy by 400 percent, and he increased target collection by 200 percent over the original design.

Ladies and gentlemen, this is just an example, one small snippet of the quality of the Airmen that we have in our Air Force today, and so I would like these four to stand and be recognized. Thank you. We're proud of you, and proud to serve with you.

So here's a question to ponder. So we fight today with the force that was actually designed and built by the leaders that came before us. In 2030, as Chief 21, on our normal timeline, normal progression, Chief 24 will go to war in 2030, and he or she will go to war with the force that we build today. Chief 24 is likely on the Brigadier General list this year, and is very likely in this room. So we're going to spend the rest of our time talking about the business of warfare and how you fight and win in the kind of environment that we believe we're going to face.

Now, I rolled out a year ago five attributes of future conflict that I believe are going to define the operating environment that we have got to fly, fight, and win in. And what I want to share with you is, in the year of discussing this, in the year of working with the Joint Chiefs to build the first classified National Military Strategy, in a year of working through the Joint Net Assessment of what, not only our adversaries are doing, but also where our capabilities and capability gaps are, I've refined my thinking over time. So I've added a sixth -- I probably ought to check the math on this slide -- so I've added a sixth attribute, and so let me share with you where I've going in my thinking.

So trans-regional. Doggone it -- our adversaries are not paying attention to our Combatant Commander maps. So, it's not just General Scaperotta that's thinking about the Russian challenge. It's actually EUCOM, AFRICOM, TRANSCOM, SOUTHCOM, NORTHCOM, PACOM, CENTCOM, every Combatant Commander comes to work thinking about their role in the Russian challenge set. And so, if conflict in the future is going to be transregional, that's going to extend beyond the current Combatant Commander boundaries of maps that we've lived with over time, then the question for us is as a service that provides Global Reach and Global Vision and Global Power, are we thinking globally? Are we thinking about the game of checkers or are we providing the Commander in Chief options as chess masters? Because if you were thinking about this in the game of checkers, you'd think about linear activity. If you pressure me from the east then I will counter you from the west. But if you're thinking as a chess master, as a Global Power and as a service that operates globally, then perhaps you're thinking about simultaneously, you know, providing pressure from the north and the south and the east and the west. And from below the surface to the highest of the outer reaches of space. And perhaps that defines deterrence in the 21st century because we can create more dilemmas at a faster pace than any of our adversaries can match.

Multi-domain is not about one domain supporting another domain. It is about simultaneous warfare. It wasn't that long ago that when we talk about combined arms, it was either about sequential or deconfliction. As an F-117 pilot I was never going in with anybody else. I was always going out ahead and kicking down the door and preparing the environment for follow-on forces.

You can even go back Kosovo and look at the way we orchestrated that campaign and I would argue that combined arms was deconfliction. Navy go east, Air Force go west, never the two shall meet. But in today's warfare and where we're going in the future, combined arms is about simultaneous activity from all domains that operate together.

We sense the globe in six domains: air, land, sea, space, cyber and undersea. And while not a separate domain, you've almost got to start adding social media to that set. And the question for us is, how do we take all of that information from where we sense from a sensing grid and actually create the two products that we are required for future warfare, which is the Common Operational Picture that's updated real-time, that actually transitions to decisions speed for leaders. So, then we can create military effects from those same domains in order to stay ahead of our adversaries.

Multi-component -- we are far more integrated today than we've ever been. On occasion, we hear discussions, you know, especially in the resource business of a bigger this or a bigger that and grow this and grow that. The reality is, you know what, you can't pull us apart. You're going to grow one service bigger, you better grow the other one bigger because we're all connected. And simultaneous warfare has become the definition of combined arms.

Here's the new one, Urban. This comes from a lot of talks in the Tank we're having and a lot of talks with my fellow Joints Chiefs and especially General Neller and General Milley. We're looking at the future of war on the surface and looking at the demographics and this is interesting. Right now, on our current trajectory, by 2050, upwards of 80 percent of the population of the globe are going to live in cities. And they will grow from a dozen megacities which we have today which are over 10 million; a dozen to over 50. And so, the high potential for a future of conflict and combined arms to be more urban than open spaces is something we need to think about as Airmen. How do we design an air force for that kind of conflict? And I would submit to you that right now, we're probably more designed for operating in open spaces.

We are coalition at the core. And I know we have a number of our coalition partners that are here and if you think about our strategy right, by, with, and through our allies and partners. And yet, information sharing has been a real struggle for us. Very often because we've got to protect sources and methods. And we've grown up -- we've grown up asking a question that may not be the right question for the future of warfare. The question we've been grown up with is, what can I share? How long in that conversation is the answer is, nothing, right? I mean, think about this, the youngest Airmen -- the youngest Airmen, Solider, Sailor or Marine, -- but the youngest Airmen in any of our organizations represented here through the click of a mouse can make a decision on the classification of any document that comes across their desk.

Secret, no foreign, click, decision. And it takes the oldest member of the organization to reverse that. Often through a laborious process that we just give up on. So, how do we think about designing and Air Force of the future that's actually coalition at the core, given the fact that our strategy is by, with, and through allies and partners. And given the fact that our asymmetric advantage against the four plus one framework, China, Russia, Iran, North Korea, violent extremism, our asymmetric advantage is the fact that we have allies and they don't. How do we leverage that for the future of warfare?

And then we have got to think about speed. We have had a luxury for the last 16 years of controlling the rheostat of time that has actually unparalleled in the history of warfare. Think about this statement. It's actually fascinating. We are going to retake Mosul in October, announced six months prior. And there's nothing the adversary can do to stop us. We're going to announce ahead of time to the enemy where we're going to go, when we're going to go, that would indicate that we have got total control of the rheostat of time. I do not believe that's going to be true in future warfare and so we, as a service, are going to have to adapt to be more agile; more adaptive; more response as we look at the future of the warfare.

Some may say that this is back to state-on-state warfare. We've on there before. This is sort of back to the Cold War. I would argue, actually, it's different. The nature of warfare actually doesn't change. It's still a very human activity, but the characteristics of war do change because the ways of war change. So, let me just give you an example of how some of this is changing right now.

This next chart -- can you pull up. So, I'm left -- you see, Plant 4 in Fort Worth. This is the B-24 line. At our peak, we put out one B-24 an hour from this line. Oh, by the way, this is the exact same facility today that produces the F-35. So, our question for industry in wars of attrition, well, what can it do and how many can you build? It was about things. But we're transitioning from wars of attrition to wars of cognition and it forces us to ask different questions of industry. Now, we're starting to dialogue with, does it connect? Good. Can it share? Even better. So last CORONA had all the senior leadership team assembled and I asked them two fundamental questions. Who do we need to be in 2030? For Chief 24, who's on the Brigadier General list is going to be the Chief in 2030 and is going to fight with the force that Secretary Wilson and Chief Goldfin are building. Who do we need to be and perhaps, more importantly, what's standing in our way?

Secretary Wilson laid out yesterday our five priorities and they purposely set the foundation and the framework for how we go forward. A year ago, I came on this stage and laid out for you three focus areas, big rocks, we called them because they're big and they're heavy and it's going to take all of us lifting together to get them moving. And by design, it should not be surprising to you that they fit perfectly and are nested under our five priorities. We have had a Brigadier General and a Chief Master Sergeant from the Command Chief list that have been leading a team in each of these three efforts over the course really of the last nine months in earnest. And so, what I want to do for the remainder of our time is report to you on what we've learned. What we've taken action on to date and then set the table for the important work ahead because these are four-year efforts and it's to require all of us shoulder against the wheel to get them done.

So, the Secretary mentioned our first priority is Restore Readiness and Drive Innovation and for us, that begins in the heartbeat of our Air Force in our squadrons. And for those that are civilian led organizations, especially in Air Force Material Command, for our civilian led organizations, this applies equally to our squadron-like organizations.

So, here's what we've learned. General Davis and Chief Rob Stamper, they have visited 25 bases. They have either personally connected with or crowdsources 18,000 Airmen and here's the three overwhelming truths that can come out of this review in nine months. First, when we hear from the forest and by the way, we're out there squinting with our ears on this. Remove barriers to success, provide us the tools and the resources that we need to succeed to fight and win and become more lethal. And perhaps we need to look at better preparing the squadron leadership team, which I define as the squadron commander, a senior NCO and a spouse.

And what are doing to help prepare them for this most essential level of command? We're going to have most impact on Airmen where Airmen and families thrive; where readiness is generated; where innovation really occurs. How do we better prepare them? So, there's some things that we've been doing and Secretary Wilson talked about several of them yesterday. Some of these -- these are swings of the axe on the trunk of this tree and the Secretary and I are committed to keep swinging at this. But the reality is some of the most meaningful work is going to happen with the wing commanders in this room because these are your squadrons. But here's some of the things we're thinking about.

How do we remove barriers to success? We have swung at additional duties and we've done one tranche and there's more coming. How do we ensure that we're not doing additional duties that are taking up essential time and actually not adding to the readiness and lethality of a squadron, but actually removing or degrading it? We're going after computer-based training. Secretary talked about it yesterday. We're not where we need to be yet, but we're adding Commander Support Staffs back in the squadron and bringing civilians back in the squadron to take on some of that role. We're doing a complete review of all the Air Force Instructions and as the Secretary said, we're looking at getting out of the business of legislating common sense and giving commanders room to maneuver and decision space. And room to fail.

So, you get your feedback as a Chief from all different, a variety of sources. One of my greatest sources, Dawn and I are privileged to have two daughters. My oldest daughter is actually an Airman so she keeps me grounded on what's going on. I give her full credit for this but she tells me she says, dad listen. I don't really know what hell looks like but I know when I get there because two things are going to happen. First is, I'm going to have to file a travel voucher in DTS to get out and then do 60 hours of computer based training. Actually, pretty good feedback to have as Chief of Staff of the Air Force. So, the Secretary and I are committed. We're swinging away at this.

Provide tools and resources that are needed for success. Perhaps some of the most important work we're doing is to push decision authority back down where it belongs at the lowest practical level in our Air Force. We're doing this through a series of activities. You're about to see another one that we're going to roll out, I shared it with the MAJCOM Commanders, we're all good with it and it is going out probably this week or next. I'll announce it now but we're actually putting

out a memo that says, crew rest and ready is now delegated to wing commanders and wing commanders, we highly encourage you to delegate it to your squadron commanders. Here's the deal. We have squadron commanders that work for General Rand that are entrusted with the most lethal weaponry on the planet. We can sure trust them to determine whether those people in their squadrons are rested and ready to be able to accomplish the mission. What has happened over time is we got smaller as an Air Force, 250,000 Airmen since Desert Storm walked out and left the Air Force but we actually kept most of the flags intact. We actually didn't reduce the number of squadrons while we reduced the number of Airmen. So, we took a cut. Squadrons just got smaller. So, what happened is we have squadrons that are everywhere from 40 to 1400 in size. While the people left, the duties remained.

So, we're taking a healthy look at flushing it out. What is a healthy squadron and how many squadrons can we sustain? This business of decision authority is nothing short of a warfighting imperative. Because in the kind of fight I described for you, what's going to be essential to our success is that we have squadron commanders who feel empowered to make decisions and take appropriate risks, especially if they're cut off from the higher echelons of command. How do we get back into the business of providing commanders intent and mission type orders and then giving squadron commanders room to run. This is a war fighting imperative.

A1 is looking at how do we get the pendulum centered between the business of art and science relative to personnel and talent management. We as a large organization need the machine of personnel management and we have no one better than, by the way, the Brigadier General B.K. Kelly to run our Air Force personnel center who understands the business of the machine. You've got to have something that is predictable, you've got to be able to have faith in the organization, so you need to have some science associated. Here's what I call talent, commander involvement. How do we ensure that those that are entrusted with the care of their Airmen who know who the talented Airmen are, have more say in how we develop those Airmen over time? Have more say in who we send to various development opportunities. And so, my direction to the A1 working with the Secretary, we said, we want to get the pendulum from 5 degrees left of center towards science to about 5 degrees right of center towards art. And we know we've got to establish trust up and down the chain of command.

Right now, I don't expect that win, group, squadron commanders have total trust and confidence that we're serious about what we're talking about. There is a number that are in a stand back and hold off, wait and see mode. Let me tell you, the Secretary and I are committed to this. We are going to keep swinging away at it. One of the things that we've directed, the IG, and I know General Rock is in here somewhere. We told the IG, if you go out and inspect an organization and that commander has made a prudent, reasonable decision to change course and that decision has actually increased the lethality and the readiness of that unit to accomplish their mission, we're not going to ding them, we're going to celebrate it. So, establishing that trust and confidence is going to be so critically important.

There was a commander named General Russ, he used to be the commander of Tactical Air Command. There is a great story about how General Russ would take his entire team to the out briefing of an IG inspection at a wing. He'd bring them with him. And when the IG was out briefing, he would take a look at an associated staff leader and if the wing commander was

getting a ding on a particular, he'd look at the staff leader and say, okay, why did that wing commander not get what they needed to succeed? There was a message there. The message is the org chart of the United States Air Force that is committed in conflict. It has the Secretary and I at the bottom, squadron commanders at the top and everybody else is in between to make sure those squadron commanders have what they need to succeed.

Today, every standard staff package that comes to me and the Secretary has a signature on it that says, what is the impact to squadrons in this decision? To make sure that we have got the org chart right when it comes to accomplishing the mission of the United States Air Force. We've got to look at the preparation of the squadron command teams. Right now, primarily it is one week at a MAJCOM Commanders course and by the way, the MAJCOM Commanders are absolutely spectacular at the courses that they put on. The question is, is that enough? And where the Secretary and I are, we think what we ought to do is develop a squadron commander course that brings together the various supporting elements of what actually contributes to a successful squadron and a squadron command experience. Bring them together at Air University and then let the MAJCOM Commanders actually give a top off as we go forward.

We're talking a look at all the supporting elements, the Key Spouse program, the Air Force Family Readiness program. Looking at our curriculum across Air Command and Staff College, Air War College. And when I get out and travel for the wing commanders here, I'm really looking forward to seeing your flight commander courses. Because that's where we identify the officers that actually have the potential to then grow to be commanders.

We as an Air Force, are part of every mission the Joint Team executes. As the CFACC in Central Command, I would go to every Component Commanders conference and my intent was just to contribute where I needed to and then sort of sit quiet after that. I failed every time. Because the reality is, five minutes into the conversation, they would look to the Air Component Commander and say, all right, your part of this mission is the following. And so, as we strengthen how we build joint leaders and develop exceptional leaders for the future, it is important that we acknowledge the inherently joint nature of air and space power.

So, General Killough and Chief Ron Thompson have been out and we've learned as we study the war plans that are in the National Military Strategy, China, Russia, Iran, North Korea, violent extremism. As we look at these plans, you can actually look and find the component that will be central in each one of these campaigns. They will be combined arms, they will be simultaneous. Every component has a roll to play but it doesn't take long looking at the war plan to determine in a China campaign, it's going to be primarily maritime and air. Certainly, a ground component to that but it is going to be primarily a maritime and air campaign. If you look at a Russia campaign, the support and commander in many of the operations, it can be General Todd Wolters and it is going to be very much a ground and an air campaign, just by virtue of the nature of the physical location that we would be operating in. If you look at the North Korea campaign, it is very much a land and air campaign. If you take a look at the Iran campaign, it is very much maritime and air, and if you look at violent extremism, I would submit to you that it is very much conventional air, unconventional ground. And if there is one common theme across all of the campaigns, it is air and space.

When we walk into a room as Airmen, and we're sitting with our Joint Teammates, the reality is they actually don't know what our badges mean. These are important to us but they are not actually that important to our Joint Teammates. What they expect is that you and I understand the business of air and space power gaining and maintaining air and space superiority and owning the ultimate high ground. So, it was absolutely natural for me to walk in as General Mattis's CFACC and have him look to me and say good to meet you. You are now my Space Coordinating Authority. General Harrigian is also now the Cyber Coordinating Authority.

So, the question for us is, does our development plan today ensure that throughout the continuum of learning, we are properly exposed to the operational art of how we bring air, space and cyber capabilities together and then knit them together with land and maritime capabilities and then pull them together with other elements of power -- diplomatic, economic information -- to be able to provide campaign design to the President so the President has options.

And lest anybody think that we don't do a good job today of developing joint leaders, let me just give you a little visual. John Hyten, Lori Robinson, Darren McDew, Paul Selva. We do just fine. The question is not whether we develop great joint leaders today, the question is, is our development appropriate for the kind of fight and the attributes of what I've described.

So, here's what we're doing and I'm going to walk you from big to small. First, we're taking a look at, how do we present forces to a Combatant Commander. Because my responsibility as a service chief with the Secretary is to first organize, train and equip and present ready forces to a Combatant Commander so that Combatant Commander can then fight those forces and win. How do we present forces? General Ryan, under his leadership in the late 90s, looked at the same problem and tasked his then XO, now we would call the A3, General Chuck Wald, to look at this through the lens of a AEF, an Air Expeditionary Force. And we built the force presentation models of 10 AEF's that had contributing forces that then we would then contribute. And so, through that lens, the intent was okay how do we use that model to not only present forces but also measure our readiness and report on the readiness of our force and be able to describe the risk to mission and risk to force when we were getting requests for additional forces. This model was built in the middle of Operation Northern and Southern Watch. It is time for us to upgrade it so it works against the National Military Strategy. So, I've asked this team to present and we're going to have this conversation at CORONA. If not AEF, then what. And how do we present forces, ready forces to combatant commanders to be able to fight and win in the environment that I just described for you.

We're getting back in the business of Joint Task Forces. If you look around the globe today you can see upwards of 20 JTF's. That tends to be how we come together after a crisis. If you look historically, it is about six weeks from crises to stand up of a JTF, there are about 20 today across the globe, and more if you want to count the Combined Joint Task Forces. And so we are doing a demo at Shaw Air Force Base, Major General Zobrist is building in his Headquarters, a core JTF staff that operates, trains and looks at how do we as a service contribute in the business of JTF operations, so that when a crisis occurs, and the Chairman and the Secretary of Defense are looking at options, and looking service components that can then contribute to the response to crisis, every service is playing its role.

And so we are working ourselves back into that, and eventually we are planning to have that as an offering to global response force. The Secretary mentioned yesterday, that we are looking at deploying in teams of three, starting 1 October, and we are scrubbing Joint Leader Development.

General Darryl Roberson is now the Lead as Commander of Air Education and Training Command for Force development across our Air Force. And he is presenting, and he's doing that during this day as well, the continuum of learning that looks at the entire continuum of Joint Leader Development to ensure that we are having the right experiences, that we are building the right networks, and we are having the right development opportunities to ensure that we have the leaders that lead, that can contribute to joint campaign design in the kind of conflict I described in the future.

And there are two elements that are going to be absolutely essential to this continuum of learning going forward. If you are an Airman, we own space, and we own space based on the obligation we have to be able to ensure space superiority for the future, the ultimate high ground. And here is what winning looks like. When the Wing Commander at Tinker, and the Wing Commander at Shaw, and the Wing Commander from Syracuse come to Washington, D.C., and they are talking about space, because we believe we own it, and it's part of who we are, we've gotten the right spot. We also have those who are discussing, actively, use of nuclear weapons, and as the Service that has two-thirds of the nuclear enterprise, it's important that we remain and become, and are thought leaders in the business of this kind of warfare, should it go to that, on our worse day as a nation.

And so looking at the business of war fighting in space, and looking at the business of the nuclear enterprise, and how we do war fighting has to be central to our development in the curriculum learning going forward. So, once we fix fighting formations and improve how we develop exceptional joint leaders, we've got to tie it all together, through agile and resilient networks.

So, here is what we learn, I talk about sensing grid, effects grid, common operating picture, decision speed, if you go to the CAOC the Headquarters that General Harrigan commands today, what you'll find that it's absolutely state-of-the-art, no parallel on the planet, and far too slow for the future.

The future of warfare in the age of cognition is going to be about network and data -- does it connect? Good. Can it share? Even better; so let me give you two quick examples to illustrate my point. I love the story of John Hyten driving into a parking lot at Joint Base Lewis-McChord, and in next to him drivers a Tesla S, and out of the Tesla S jumps a Senior Airman.

And General Hyten called him over, he said, hey Airman, is this your dad's car? He said, no sir, it's mine. He says, as a Senior Airman on the Board of Tesla S. He said, well, sir, I'm a Reservist, I'm doing my weekend duty, because I'm actually the Director of Security for Google. Now, why would the Director of Security for Google, be doing weekend duty? We don't pay that guy tip money. He wants to serve. He wants to serve.

But here is what's fascinating about that Tesla, Tesla has loaded 75 sensors or more on every Tesla car, every Tesla is actually connected to every other Tesla car; 1.35 million miles of road

are actually loaded, not in every car, but sharable data you can go get. If a Tesla is driving down the road and hits a pothole, if there's another Tesla behind it is actually self-driving, it will actually automatically avoid the pothole, immediately. If you are driving the car, it automatically adjusts your shocks in case you hit it too.

Recently during the hurricane Tesla put out two software, automatically, upgraded the battery life of all the cars so people would have more time to be able to get out of the flood zone. What would the world look like, if we actually connected what we have in that way? If we looked at the world through the lens of a network as opposed to individual platforms, electronic jamming, shared immediately, avoided automatically.

Every three minutes a mobility aircraft takes off somewhere on the planet, platforms or nodes in the network. The Secretary mentioned lower launch cost and militarization of satellite technology, what does that mean to us as an Airman, in terms of the building of networks for the future? Does it connect? Good. Does it share? Even better.

The Android Tactical Assault Kit, ATAK. Data, management of data, designed by Air Force Research Laboratories for SOF, and what we determined was, was there were so many devices on the battlefield that actually had information that we weren't pulling. So, rather than going and building a system to pull that in, we actually went to a commercial company and they built an algorithm, and it's user defined, and it pulls in whatever data you need, and places that are on the Google Map.

So, if you've got a radio, and then you are transmitting on that radio we know where you are, we have now a Common Operational Picture. This shows how we use it recently in the hurricane relief. In the top left you see ground, air, multi-domain, multi-component, real time, you want to talk to them, go to the right, you can actually have a chat. Elderly folks in an attic, putting something out on Facebook, the search engine found it, got it to the right rescue crews, we rescued folks using ATAK. This is real and available today, networks and data. Does it connect? Good. Does it share? Even better.

So, what are we doing? We've established a Chief Data Officer, with General Kim Crider, and incredible Officer with a steep background in the business of how we understand and manage data. We are setting up a Shadow Operation Center at Nellis to flesh out, through experimentation, the new concepts of what happens when we actually connect into this resilient and agile network. You may note that we started the Light Attack Experiment; the Light Attack Experiment is as much about hardware as it is networks.

Not only what can I buy, and how many can I buy, and what can they do, but more importantly: can they connect, and can they actually share? And can we tie to a new network that's actually based on sharable information that gets me beyond the challenges I have right now with security?

I went to Bloomberg, and I was looking at their search engine, and a young man said, sir, ask me anything. I said all right. How about giving me the last 72 hours of violent activity around the globe? He goes, gee, give me a hard one. So he types it in, hits send, and right there you have an automatic translation algorithm that goes globally right, they go to Twitter feeds, based on how

many Twitter feeds actually talk to other Twitter feeds and have the same confidence values, kind of like ways.

So, if you have higher confidence, right, and they were able populate a map with violent extremist activity in the last 72 hours, immediately right in front of me. Is that the network that we need to think about for the future?

We launched Defense Innovation Unit Experimental group to the CAOC and coders sat down right next to our operators, and started actually working design of new software immediately. I'm actually thinking about whether we ought to upgrade the uniform to include hoodies, because the reality is, we are going to have to manipulate code real time in the future. In the wars of attrition we would go out to industry and we would do a request for proposal, we would get competition, and then two years later we would maybe, maybe start looking at an IT solution, but in today and tomorrow's warfare, we've got to be able to own and manipulate the code real time. And we are putting together a war game that's focused on these concepts.

So, my first AFA Speech I wrote of big rocks, and it sort of became the Rock Speech. The second speech I talked about rolling marbles and it gave us the F-117 idea. So, this, my third speech, may be known as the Cube Speech. So the Rubik's Cube was actually designed by a guy named Erno Rubik, in 1974. It became popular in 1982, it actually was never intended to be a toy, it was intended to be a visual aid for architectural design.

It has 43 quintillion options in a Rubik's Cube -- that's 18 zeros. And for the colors represent military capabilities, domains, operating concepts, and what's central to the middle of this, is this resilient and agile network. What does it mean when we actually add a B52, a Global Hawk, and F-35; a new constellation, what does that actually mean? And the answer is: whatever we want it to mean, and the brilliance required to pull this together in new ways, is in this room. And for the Secretary and I it's our job to unleash that brilliance.

Our job is actually not to think outside the box, it's to throw away the box. And so, the last AFA I offered a challenge to let the marbles roll, and that challenge still applies, but now I add: did the marbles connect? Good. Did they share? Even better.

Let me finish with this final quote, another one from Hap Arnold. So, at the end of World War II, Hap Arnold said, "We just won a decisive victory with daring heroes flying manned aircraft. The next war maybe fought by airplanes with no men in them at all." This is the late '40s. The next war may be fought with airplanes with no men in them at all. Take everything you've learned about aviation and war, throw it out of the window, and let's go to work on tomorrow's aviation. It will be different from anything the world has ever seen."

Shortly after that we became a separate service, perhaps, perhaps it's time to return to our youth, as we build the Air Force for 2030, that's going to be required to fly, to fight, and to win.

Fight's on. Thank you.