
TRANSCRIPT

Discussion

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A video of the event is available: https://www.hudson.org/events/2119-defense-disruptors-series-general-cq-brown-and-the-future-of-the-us-air-force62022

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Bryan Clark:

Well, welcome to the Hudson Institute. I’m Bryan Clark. I’m a senior fellow here at Hudson and director of the Center for Defense Concepts and Technology at Hudson. I’m here with Dan Patt, who is a senior fellow at Hudson as well.

We’re honored to have a conversation today with the chief of staff of the Air Force General Charles Q. Brown. Thank you very much for coming here today, General.

Gen Charles Brown:

Thank you.

Bryan Clark:

General Brown has been chief of staff for a couple of years now. Previous to that he was Commander of Pacific Air Forces and also deputy commander of Central Command. He has commanded at all levels of the Air Force in his long career. Recently completed a series of hearings on The Hill for their most recent budget. We’ll address that as we go along, I’m sure.

We thank you all for being here today and for all of you that are watching virtually. We’ll get to some questions from the audience here after we have a little bit of a discussion first. To open it up, General this series of events we’re trying to do are talking about how leaders are trying to change the way that we fight in the military, the way that we structure the military.

The way we actually buy and develop capabilities. I think you’re clearly at the cutting edge of that with your initiatives to accelerate change or lose. In terms of the big behind change, it seems a lot of that has revolved around China and the threat that China poses. With its capacity, its proximity to places like Taiwan, that might be a target, it’s clearly a difficult problem.

It’s not the kind of adversary we can fight the way that we would’ve fought in the past with just slugging it out in a salvo competition. How is the way that we’re going to fight changing the kind of Air Force we need? What are some of the major initiatives that you see as being necessary to support the new operational approach?

Gen Charles Brown:

First off, it is a real honor to be here and appreciate it spending time with you a little bit this morning, in previous engagements as well for both of you. I appreciate the invite to spend time here today. What I really think about is how the character of war has changed.

If you really think about where many talk about what’s happened over the PACAF class, the 20 years for the United States Air Force really I’d say for the past 30 years, what our focus in the Middle East is. I really thought about some of this as I was the air component commander for the United States Central Command.

Knowing that the fight we were in was not the fight we’re going to be in in the future. How we’re going to have to target, and that to me is one of the key examples of the examples of how we would do high value targets in a counter violent extremist fight versus a fight that would have a greater threat where we didn’t necessarily have air superiority. You had to actually earn air superiority.
You just don’t walk in and have it. From that perspective, that was going to be important. How do we move the Intel community? How we move data, how we do our carting packages? Then the other aspect of logistics and having spent time in PACAF and getting on airplanes to go around a region, how long it takes you to get into place and how much water there is.

It’s a different dynamic. That’s something that we also have to think about, our logistics and how we might preposition versus the way we do a more traditional model that we’d be able to do in the Middle East. It’s forcing us to really think hard about how we make those changes, but it’s also changed the culture. The last thing I’d say on this is for airmen, we’ve been able to go to the Middle East.

As I say, you deploy some place, the gym’s already there, the Wi-Fi is there. We’re going to go places in the future fight where you’re going to have to start in some cases from scratch. You may not stay in that one location because of how dynamic the threat is. From that perspective, we’re going to really have to think differently about how we approach things.

Not just think differently, but we have to act differently and then get the resources, and the capabilities to actually be able to fight differently as well.

Dan Patt:

If I may.

Bryan Clark:

Yes, please.

Dan Patt:

Just to pile on briefly, in the tagline that you've introduced General, accelerate change or lose. Accelerate change implies it might not just be a one-time modernization, maybe that it's adaptation itself that is an important characteristic. Is that the right read?

If so, what are the institutional changes or cultural changes that you think incentivize adaption itself?

Gen Charles Brown:

Yeah, it's interesting because as our airmen look at this, they go, "What have you done first lately? You haven't changed anything." There are lower-level changes you can do very quickly, but there's a longer level aspect of change of the adaptation to change the culture, and there's aspects of this.

We rewrote our doctrine in April a year ago and one aspect of that was mission command. With that, it is a change in culture where it's about trust and empowerment for airmen providing intent. When you have a character war where the pace is going to be different from a counter Browning extremist fight, we as leaders need to provide intent, that's a little more longer range.

Then allow airman to go execute, but to continue to update that intent in the communication flow. I think the other part of the adaptation piece is, I had four action orders, airmen, bureaucracy, competition, design foundation. Bureaucracy that's this town in some aspects, it's the building I work in.
We got to break out of some of those bureaucratic processes to be able to adapt ourselves, to be able to move fast. Then, to be also to work with industry and our industry partners, both the traditional defense, but also some of the other non-traditional companies that have technology or building things that could have a military application.

There is a bit of adaptation that has to occur. That's what I'm trying to encourage across Air Force and really flatten some of our communication to help us adapt.

**Bryan Clark:**

Adaptation it seems to be a theme of what you're talking about when you say we need to accelerate change. Not just adaptation of the bureaucracy, but also adaptation in the force. It's ability to fight in different ways or implement different effects change, be able to expand the range of options available to it.

I assume there's initiatives you have going on to try to create the ability for the force to be able to deploy to a wider number of locations in places like the Western Pacific. Be able to connect up forces and new combinations that the Chinese, for example, may not have planned for. How prominently does that figure into the series of priorities that you've established?

**Gen Charles Brown:**

Actually, pretty heavily because there's one aspect that we talk about Agile Combat Employment. Agile Combat Employment was started by one of my predecessors at PACAF Hawk Carlisle. When he was the commander at PACAF. It was based on a concept called Rapid Raptor. The intent was to take a four ship of F-22 S with C-130 or C-17.

Just have enough ability and capacity to bounce around different regions of the world. Particularly, in the Pacific and then be able to operate with the very light, lean logistics. We expanded that concept with Agile Combat Employment now to actually figure out how best to have the right mix of capabilities with the right mix of airmen that doesn't require you to bring everything.

How do you then be able to bounce around very quickly? The other aspect of this is we coin a term multi-capable airman. What I mean by that is you can't have with airmen with a union card. Yeah. Say, I can only do these things, but it's the aspect of when we go into conflict, we often find that airmen can actually do much more than we've asked them to do.

We're going to need them to do much more than we've asked him to do, and to be able to take the initiative. By being multi-capable, we kind of introduce them a little bit. Those airmen to the left and right that actually help contribute to what they're getting done. The better they appreciate that the better they can work together as a team. It's those concepts together.

It's the aspect of also impact a bit of a hub and spoke where you have a hub, which may be your major location of operations. You have these spokes you can operate from. Instead of dispersing on an airfield, you disperse across airfields. That helps to complicate for adversary.

**Dan Patt:**

Briefly on that, I expect that most of our audience has Air Force Doctrine Publication 1 on their bedstand tables. I do.
Gen Charles Brown:

It’s only 16 pages. It was a couple hundred pages, it’s an easy read.

Dan Patt:

One of the changes in there is of course moving this idea of centralized control, but decentralized execution to centralized command, distributed control, decentralized execution. That seems clearly related to this idea of Agile Combat Employment. A question for you, how does that idea of a more expeditionary footing leaning into mission command?

Is there a tension between that and this founding tenant of this Air Force about the value of centralized air power? Does that tension exist? How is that resolved?

Gen Charles Brown:

A little bit. I think technology has actually allowed us to be able to do this to control much better. We see it today and I'll give you an example. I was a deputy, our promoting commander for United States Central Command. We used to have our air control squadrons in Afghanistan supporting air control.

Over time, by the time I came back to be the air component commander, everything out of Afghanistan and they were doing it out of Al Dhafra in the UE. Now, we're growing air control for the middle east back at Shire Force Base and eventually down at Robins. You still have the Air Operations Center, the combined air project center that's in Al Udeid.

The commander said it's Shaw and that's an aspect of this distributed control. They don't have to be sitting in the same place but having the connectivity so you can actually move information back and forth to make decisions. Doesn't matter what time zone you're in. You just got to be awake, but it doesn't matter you can actually do that distributed control.

I think we've gotten more and more comfortable with it as we've gone along, because of the technology, you can do a video teleconference and virtually meeting, which you do miss out on some things. You do miss out on some of that collaboration you might get when you're side by side, or as you're walking down the hallway after the meeting to make those connections.

There's some pluses and minus to it, but I think we're on a positive track there is the way I would describe it.

Bryan Clark:

I'm going to pull in that a little bit. ABMS, the Advanced Battle Management System and joint all domain command and controller intended to be initiatives to connect more of the force and enable this more distributed approach, where we decentralize some of the control and delegate some of those authorities out.

To what degree do we need to empower those decentralized commanders with more decision support tools versus trying to build the network, to keep them connected to the rest of the people in the chain? It seems like what you're describing is we need a really strong comms network so that we can have this decentralized command work.

Are we trying to push out to the edge some of the support systems that these guys would need?
Gen Charles Brown:

It’s a bit of both. One of the things I would highlight is Secretary Kendall came in. I did accelerate change or lose and he came in with his operational person really. Very nicely on top of the things I’m trying to get done. When you think about Advanced Battle Management System, it is having that connectivity. The other part of that, having that connectivity is being able to have the processing power at the edge. You don’t have to send it all the way back to headquarters to have it processed, or you can process it on board if it’s on a satellite on that particular satellite, you’re pushing the information to the Ford edge. This is why when I look at our doctor with mission command, if you provide the intent and they have the data, they can make the decisions. You don’t want to be all the way back at the headquarters directing traffic or having the puppet strings. You need to allow the airmen to go out and execute. That’s the key part, but you got to push the information forward.

The other part, as we look at ABMS is the communication systems that we need to make sure they have at the forward edge so they can bring things down. The other thing I think about is how much bandwidth or pipe bandwidth do they have, which means what type of information is important versus a big PowerPoint brief that’s X number of megabytes that’s going to clog the system?

How do we look at some of those things differently? Again, it’s a bit of a cultural shift, but I also believe there’s some technology that goes with it as well. Last thing I’d say on ABMS, one of the things we found too is ABMS is not just one system. What we find is we have a number of communication systems. We’ve actually with the operational imperatives really taken a point to step back and look at what everybody’s doing, get them all in the same room.

Then, we can see ourselves much better to now see the areas that we need to focus on, we’re making good progress on. Now, how better to invest our resources to get us down our path. Realize a lot of this is software base, it’s never done. You’re just getting better and better over time.

Dan Patt:

To a lay audience, some of this idea of connectivity just doesn’t sound that hard. How hard could it be to get some information from a satellite to an airplane? Maybe they don’t understand the issues with really old systems. Systems that are hard to change and classification, which complicate this.

Understanding the scope of the problems of the Air Force or the department at writ large have. What do you think the Air Force has learned over the past few years going after the ABMS problem set or with ABMS initiative? Are there things you’ve learned that are better positioning to pursue your vision or the operational imperatives?

It does seem a cornerstone of a lot of the ideas in the operational imperatives.

Gen Charles Brown:

Well, as those that have followed the ABMS journey, they’ve probably seen that it’s evolved over time as we learn more. I think in some cases we’re very visionary about what want to be able to do starting out. One of the areas I think that’s been helpful as we’ve gone through with the Secretary Kendall is to bring together the operational lead with a technical acquisition lead.
I'm an operator, as an operator you're going to go, "Here's what I want to have." You need someone who's switching here from a technology and acquisition standpoint to go technology's not quite there yet to be able to do what you want to do. The other aspect of this is because when you look at some of our weapon systems, they were all developed at different times.

Some of them were developed before the internet was a thing. How do you then make something backward compatible? That lies part of our challenge and then how much do you invest? And if you've got to buy, if it's a radio, a piece of hardware, if you got to buy one for every single airplane that gets pretty expensive. That's where some of the attention and challenge might it is.

Really what we're trying to do in some cases is snap the line here and say here on forward, but these weapons systems you're going to down the forward path for these other weapon systems. Then how do you modify them, adapt them to be to get the information. In some cases, you just need a translator to get the data to their weapon system without building a brand-new radio.

Those are the things we're working on. I think that's been the real beauty of these operation in Paris we can actually really identify where the sticking points are, the friction points are, and then put a more focus on them.

Bryan Clark:

Just to pull that one more time. When you look at which capability or which systems need to be able to talk to each other is that being driven by some of the concept development and tactics development that's happening out at places like weapon school and other places that are practicing in the field and saying, "Here's the things I need to talk to each other." As opposed to making everything talk to everything.

Gen Charles Brown:

It is. It's very important we look at operational concepts as we do this. When you think about the joint war refining concept, how that plays out it's the operational concepts we have internal to the Air Force. That's the war games we do that help inform this. As we do this, not everything is at the same level of importance.

Then the other part is the level of classification is required for some of these. Also, think about how we work this with our allies and partners. We want to make sure that the data can get to all levels that needed to be able to operate. That part is coming together. I think the other beauty of this is our close relationship with the space force, as you might imagine.

A lot of how that data is going to move is using space-based capability. When we looked at some of the networking aspects for advanced panel management system, now there's a keen space play into this that is hugely important. We looked at the weapon systems the command-and-control nodes, data transport layer in the sensors that have to drive all this as well.

Dan Patt:

It's a lot like the same problem commercial interests have when they're trying to integrate all of their various systems together and run gauntlets and sprints to make that happen. Another question for you relates to, I think it's a topic of special interest for you.
You wrote an op-ed in the Washington post with John Berger. You've testified about the topic of readiness. In a particular, you've talked about opportunities to look at readiness and in a new light and maybe a need for new parts of readiness. You brought up this question ready for what?

Introducing relevance into the conversation. Can you tell us a little bit about what's behind these initiatives, this priority for you?

Gen Charles Brown:

Well, part of it's because I have a long history particularly as a general officer working global force management issues and determining how the services or the joint combatant commands actually use those capabilities. As I've watched over time and now come into this role as a service chief. Also, watching it as an air component commander a couple times you do see that there is a bit of tension here. As I look at this, I felt that we can't see ourselves very well to understand we have snapshots of readiness versus readiness trend. Quick story when I was a one-star at the United States Central Command and Secretary Mattis then was General Mattis.

He was a commander at the United States Joint Command. We were looking at the aircraft carrier presence in the Arabian Gulf and it got laid out and we were pretty demanding. The Navy said, "If you continue to do this, there's going to be appeal to pay several years later." That played itself out and that was a lesson to me.

If we don't pay attention to things over time, you can't see the readiness trends. You may drive yourself into a bit of a valley unbeknownst, and you wonder how you got there. Part of this focus was how do we take a look at ourselves? Then also ensures we're looking at the way we measure readiness. It's usually based on availability of different platforms.

Availability of trained airmen versus what's it going to look like today versus if you continue use it at this particular rate, what's it going to look like tomorrow? That part, I think we can do a better job on that was really the driver for this. As you look at it with all the combatant commands, they each have their operational plans, how do you then say the PRC is a pacing challenge.

We have other operational plans we have to pay attention to. How do you bounce across those? Depending where you sit, you will have an opinion about what you need to be ready for. As a service chief, I've got to try to be ready for all, but also going to be able to articulate the risk of the areas where I'm not going to be ready, or where the challenges are going to be.

That's partly what drove some of this because I just felt we could do it better. I think there's ways we can measure this or use with all the data. We have tools and simple models. We can see ourselves and do a little bit better job of forecast, which may inform some decisions that you may or may not make if you could predict the future. You can see what the future may look like.

Bryan Clark:

That also allows you maybe to identify some investments where what's the highest leverage investments you could make in new capability it allows me to open up a whole user or.

Gen Charles Brown:
You can think of it as I look at when you have to invest in some of these capabilities when's the best time to do it? I talk about balancing risk over time. I don't think the commands should take all the risk. I don't think that the services should take all the risk, but how we balance that risk.

If you had a real step where you could move things back and forth or leverage, you could pull, you could see here's probably the best opportunity to do this. Then at the same time, we don't want all the services being in a bit of a valley at the same time any particular capability. This is why it's important for the joint force to be able to see ourselves.

Bryan Clark:

Which gets to some of the issues that you ran, that you have going on with The Hill right now. The Congress is finishing up appropriations and authorization bills. There were a series of hearings that talked about the budget. Some of it looked like, a lot of the trades that you had proposed making were resonating with folks on The Hill.

Do you see, for example, the four-plus-one plan for TacAir is that going to seem like it's going to work out? How does that play into your discussion about relevance?

Gen Charles Brown:

I think it will. One of the areas that we were focused on and I became focused on is our engagement with the members on The Hill and their staffs. I just felt that as I've watched from the outside as a joint officer, I could look at my own service in some places and do a little critiquing. I don't know that we've engaged as much as we probably could have.

I made that a priority to go over and engage and talk about what it is we're trying to get done, but we need to do it via the lens of the threat. Realizing we've had a threat over the course of the past 20, 30 years, but it's not the threat that we have today. We got to shake ourselves up a bit to think about the PRC is not the threats were seeing with ISIS or Al-Qaeda, which would drive different sets of capability.

That's where that dialogue has to happen. I think we've been fairly successful over the course of the past two years in our going over to communicate. What I've also focused on internal Air Force is we got to be on the same message. As I talk to our leadership, we are somewhat functionally organized. They will look at things from their functional area.

I told them we got to look at it from across the enterprise. Just like I'm a service chief and a joint chief. You're a major grant commander, but you're a senior leader in the United States Air Force. When we got to look at things, we got to look across the board of what's best for the United States Air Force to ride us that capability.

Then when we do that, we get on the same page and we go communicate. That's what's been, I think, helpful for us to be able to get some of the progress that I think you've seen on the last NDA and author appropriations building, and what you're saying as we go into this round this year.

Bryan Clark:

Related to that question, when you start making trades regarding what's going to be important against China, it seems like short range, TacAir, strike fighters maybe less important than you longer range strike
capabilities. I know that's been a priority in the department when we look at the budget, when you look at the defense strategy.

Are those some of the trades you're looking at going forward? Are we looking to try to expand the portfolio when it comes to longer range strike capabilities? Maybe obviously downplay, but not increase as much the investment in the shorter range TacAir?

**Gen Charles Brown:**

One of the things I'm really looking is the aspect of the mix of capability and capacity. It's not only for yes, we got to be ready for a major, highly contested fight, but we've also got to be able to campaign every day. There's a balance there, and for our combat commands and what the nation needs some days there is a long-range strike capability.

They got to be able to demonstrate, but also be ready to fight. It's also our fighter capability to actually provides us other opportunities to do things where it's for Homeland Defense, whether it's working with allies and partners or contributing to a highly contested fight as well. It's not only the platforms itself, and it's also the weapons they go with.

It's how we look at one of our hitting moving targets at scale, which is one of our operational imperatives, which is why EBMS is so important because you got to be able to not only get that information for all of those targets to those long-range strike platforms are a shorter-range fighter.

It's all those things that come together. I don't know that we prioritize one over the other, but it's the balance of capabilities and capacity. This is why we do war games. This is why we do analysis, so we can actually as I talked about earlier, moving levers back and forth to go. What is a sweet spot to get us to the best place with the capability?

Then we use that to help advocate and then knowing that no perfect plan first contact. You got to have the data to back it up and go here are our options. Be able to articulate the risk if it doesn't play out the way you are hoping for, as you do these engagements. We know that we may not get everything we're going to get that we ask for, but it's not due to lack of trying and the analysis and the communication and collaboration.

I think that's an important aspect of being able to engage with the members, staffers, internal into the building, internal to the Air Force to have that dialogue and to hear the voices and then how we work best together to move things forward.

**Bryan Clark:**

This idea of campaigning is something that I think is really interesting. Dan and I have written a little bit on that, but the defense strategy talks about the idea of campaigning being our day-to-day activities that are intended to undermine the enemies planning increase the uncertainty they have about being successful start to affect their own confidence basically.

The kinds of forces you would want to have for that seem to be ones that would be ones that are less expensive, more sustainable, easier to maintain on station. Is that something that has gone into your calculus when you think about the difference between the day to day, what do I want to be doing to drive enemy thinking versus what do I need to have ready to go as a war option for you know.
Charles Brown:

It does. Again, it's that mix of capability because you want to have some of your high-end capability, but you may not use it every day as often. You also want to have capacity of some of the less expensive to operate to plan. Then the other thing I'd also say is airmen. When I go and talk to allies and partners sometimes it's cheaper for me to send a handful of airmen, some place to build a relationship than a bunch of airplanes.

That can also send the message and how we plan the information space doesn't cost as much as bring a tank full of JP-8. It's a balance there of how do we bring all these things together when you think about campaigning, which means we collectively have to think more deeply about some of the approaches we take.

How do we assess the things that we're doing to say is the campaigning actually achieving the results that we want to see? Realizing that those results are never really at an end state, it's a continuous aspect. Simon Sinek wrote book about The Infinite Game. Well, it is an infinite game and we're just bit players in this infinite game.

Bryan Clark:

The custodian of it.

Gen Charles Brown:

Exactly.

Dan Patt:

Go ahead.

Bryan Clark:

We’re going to have audience questions in a minute, or if you have questions regarding on this.

Dan Patt:

Maybe just one last question for me before the audience questions. When the set of initiatives that we've talked about, Advanced Battle Management System, future long-range kill chains, maybe future unmanned systems, things like that, one feature that really shows up is how much software is key to this.

Not just to one weapon system, but multiple weapons working together. Not just multiple weapons working together, but our operational concepts in how we fight. It seems exciting on one hand that software and its ability to adapt and evolve, it's not just a matter for acquisition changes operations.

It can open up new operational possibilities. As exciting as that is, and of course the Air Force is in a lot of software factories, et cetera, there's a lot of challenges that come with it. Institutional challenges about how we budget. Challenges about how we think about requirements.

Are they static or do they evolve? How do you see the Air Force in this evolution of thinking with the capabilities of software and thinking around adaptation how that changes operations?
Gen Charles Brown:

Well, the way changes operations is the thing I think about is... Now you just give me an example. If you get a waveform, that's a threat and it's not what you expected, you have a software defined radio. How quickly can you get that information back and change a program on your radio, or your jammer to be effective against that particular threat?

That to me is an adaptation because much strong days, I was an electronic combat pilot. Our job was how do you reprogram our jammers and our radar warning receivers. That was several days, several weeks or a month process, we got to do that much faster. Having algorithms that help us with this. We often talk about AI, but AI is all based on data.

How do we have the data to do this and then work the machine learning. Software drives us down a different path. Then if you go back to one of your original questions, then is the adaptation piece of this of how do we adapt our processes? We're not chasing and building hardware. Now, we're doing software and hardware, you can park on our ramp some piece you can see the finished product.

You don't have a ribbon cutting for software or a ceremony like you would for an airplane it rolls out because it's always being updated. That to me from a cultural aspect, we have to be able to change in knowing that we will never have initially have a finished product because you don't know what you don't know based on software, based on the threat, and you can continue to work this.

The other thing I think is really important to us as well is as we use kind of this open mission system and we use a common language with all of the defense industry. Then it drives competition for mission systems as long as it fits the form factor, it fits in this size black box, you can adapt it very quickly and any company can do it.

It has the capability. Part of our adaptation too, is making our process is much easier to work with the DOD and we're making some progress there, but it's something we got to contain to work on.

Bryan Clark:

I want to turn to the audience. We got a couple more questions I want to be, but let's tell the audience first. If you can say your name and affiliation, we'll bring the microphone to you right up here. We'll start with Patrick Cronin.

Patrick Cronin:

Patrick Cronin, Asia Pacific Security Chair Hudson Institute. General Brown, excellent discussion. I want to ask about how we prepare our operators for the grey zone. I'm thinking very much about real relevant cases in Asia Pacific right now, including the recent dangerous air encounters Australia, Canada, U.S. have encountered.

A possible idea that may be declared in the South China Sea the fact that the PLA and China's just announced, they're not going to respect international interpretation of international law in the Taiwan Strait. How do we prepare our people, our operators, and our allies to operate in these dangerous situations in the grey zone?

Not to mention all the way up to potential complete denial of communications. Thank you, sir.
Gen Charles Brown:

I think there's two key aspects I think about. The first thing I think about is the professionalism of our airmen and our service members. When you get in those situations, like you just described examples that happen, where you have an encounter that's unprofessional. How do we respond? Do we take the high road and remain professional?

Understanding what the risk is how we may or may not respond. To me, that part is important. The other part that as I came into this position and wrote the action order on competition, the competition piece wasn't about the orders of battle or military capability. It was about more the understanding of geostrategic environment.

You know the things that you’re doing how they apply particularly in this grey zone. If you don’t understand that this geopolitical environment, you as an airman for example, have a very tactical action that has strategic impact unbeknownst. Part of this understanding of, in this case of our pacing challenge, the PRC.

The dynamics in the Indo-Pacific I think are really important for airmen to understand. We're doing a couple things internally. It's not only in our professional education, we're increasing some of the education, but it's also more intel briefs for our airmen at all levels, but you don't necessarily have to have an intel brief to do this.

There are so many things on the open source that done places like here at Hudson and other think tanks that we point airmen to so they have a better, deeper understanding. I have a strategic competition in terms of the air staff and their job is to really connect with various think tanks. We also have a China Aerospace Studies Institute that's based down at Maxwell with elements here in D.C.

Using them to help us raise our own awareness, so when you go into the grey zone, you actually know you're there. Then you know how to respond and how to react, and to continue to be professional airmen and professional service members. The last thing I would say is, I think is really important is the relationships we have with our allies and partners.

Often, they understand the dynamics of the region much better than we do. The one thing I found as an air component commander, I probably got more out of listening than me talking because as I ask questions and have them really educate me from a historical perspective, here's some things you might want to know before you just wander off on something and think you're solving a problem.

You may be creating more problems than you know, and that to me is important. That's why I think I really appreciate the aspect of our IMET, our International Military Exchange Program that bring in military members into our professional military education. The relationships we build and the jobs I've held.

I've got air chiefs from around the world that I know that we share text on WhatsApp and other applications just to stay connected I think that's, that's another key aspect to help us better understand the grey zone from all of our perspectives as well.

Bryan Clark:

One quick follow up on that. You've mentioned airman many times here, and now we need experience and capable airman. How challenging is it to keep people in the Air Force that have that set of skills once
you've built them up? Recruiting is always hard, but retention I think maybe is the bigger challenge. Is that problematic or is that happening pretty easy?

**Gen Charles Brown:**

It's always depending on the economy sometimes drives when we saw that during COVID, our retention would reach at all-time high. I do think we're going to continue to see challenges. I think those that stick around and stay with the Air Force, if we can give them meaningful opportunities to contribute, that's what they want to do.

The other point is we got to take care of their families. We often say you recruit the airmen, but you retain the family because if you stick around long enough, you're going to have a family, your family gets a vote. We have to also think about how that impacts particularly when you think my father's a retired army colonel. The family dynamics now where spouses stayed at home versus spouses having a career.

We got to pay attention to that. There's aspects of childcare, education, healthcare, housing, and spouse employment. These are factors my wife, Sharene is focused on. Those are all key factors for family members, and if we don't pay attention to those in addition to getting the mission done, we may not retain that particular airman.

**Bryan Clark:**

Next question, sir.

**Daniel Berninger:**

Daniel Berninger, New Architecture Foundation. Thank you for coming today, General. Two retired generals over the Air Force generals over the weekend posted an opinion piece. "U.S. must counter collective nuclear blackmail." What they mean essentially is that when Putin invaded Ukraine he said, "We're invading and if you intervene, we're going to use nuclear weapons."

What they're saying in here is that's new, that's not mutually assured destruction. It's not a stalemate. It's an actual aggressive. In China, the rhetoric is doing the same thing regarding Taiwan. I don't know if you can say anything about it, because it's an ongoing hostility, but I just wanted to raise that.

**Gen Charles Brown:**

Well, I think this is why I say the dynamics are much differently today than over the course of the past 30 years, or even going back to the Cold War. Now, you have two nuclear superpowers, or peer adversaries that we got to pay attention to. Not only Russia and its capability but works where the PRC is going.

That drives a different dynamic that we have not as a nation have had to deal with in the past. We got to be walking in with our eyes wide open because we don't want to go into World War III, our job is to deter. You don't necessarily want to go to war. You want to be prepared and the nation ask us to do so.

The aspect of how we're able to deter, and how we use all of our capability across not just the military, but other parts of the government with our allies and partners to maintain not only regional security, but also global security. This plays into that factor. I just tell you; it's gotten more and more dynamic and more challenging that we collectively all have to be thinking about.
Bryan Clark:
Next question.

Michael Marrow:
Hi, I'm Michael Marrow with Inside Defense. I had a question about the F-15EX. Something that's come out of the appropriations' authorization process that's going on right now is house appropriators raise some concern about the force structure size of the F-15EX. They said they were concerned that the Air Force initially wanted to buy up to 144 of the planes.

Now, it looks like they're buying maybe up to 80. I was wondering if you could talk about what informed that decision. In addition, on that same point something else they raised was the repeated use of un definitized contractual actions to issue awards for the plane's procurement.

I was wondering if you could touch on the decision on the force structure size and the use of UCAS for the plane's procurement.

Gen Charles Brown:
UCAS that's not my expertise. I'm not as well-versed in that area on the force structure piece, this is where we looked at a balance of capability capacity. Not only the F-15EX, but what I try not to do is just focus on one particular platform. It's the mix of platforms. Things we're trying to get done and going back to the previous question, fully funding our nuclear portfolio.

We do that once a generation and that drives us to have to take a hard look. How do we then look across the rest of the capabilities? Where do we prioritize today versus what we need to prioritize in the future? What is the fighter mix? What's the work we've done? Bryan mentioned four-plus-one or fighter approach was we know what capabilities we want to have.

What is the right mix? What the right weapons to go with? That's the dialogue we've been having and realized that the hack d is one of the four committees and they have an opinion the other four and I have an opinion. Part of that is the dialogue we'll have. I think that's really important that we continue to have dialogue with our congressional members and their staffs on how best we approach this.

Bryan Clark:
Next question, Peter.

Peter Huessy:
General, thank you for being here. I've been doing nuclear weapons helping the Air Force for 40 years. I'd like your comment on both the B-21 and the Sentinel. Particularly, the B-21 seems to be now under budget and on schedule. I think you can say Sentinel's on budget and on time, and both are critical.

I would think if you go nuclear in the business, all our conventional plans will work as you know. Could you give us just a comment of where we are on those two Air Force nuclear modernization programs?

Gen Charles Brown:
As Dan described about adaptation, our approach with these particular programs is different from the way we've done other programs. The aspect is having our operators very much entwined with their acquisition professionals very much entwined with their industry partners are working these programs. They're also doing it in a digital environment. Instead of working and looking at designs on paper, they have a digital model that'll be able to look at real time and make adjustments and constant flat dialogue, because of that dialogue, you don't run selves into situations where you're surprise now, when you start looking at the pieces of paper. You can solve them together very early in the process.

I think the other beauty of this is that our technical acquisition experts can actually bring down the appetite for our operators to get to some level of reality, so we can actually get to a capability because if you've probably watched programs over the years, what happens is we have another good idea. We keep adding those good ideas on which drives cost and schedule issues versus going, "Here's what you can really get done."

If you're using a digital approach, then you can actually continue to upgrade and modify, particularly if it's software based and make adjustments to the design before you actually start bending the metal. From that perspective, those two programs that we're using this particular approach and it's new and different from what we've done historically.

The feedback I've gotten my opportunities to go visit both of the program offices and actually go out to where they're doing some of the work to me, it's positive. It's a different approach. It's something that we want to continue across the Air Force.

Bryan Clark:

Thanks. Next question.

Jillian Rich:

Hi, this is Jillian Rich with Janes. I had a question about Russia. Russia had a lot of criticism or Russia wasn't able to gain air superiority. I was wondering what would the Air Force do differently in that type of environment to gain air superiority?

I know we've talked a lot about lessons learned from Russia's invasion of Ukraine. Are there any studies being commissioned by the Air Force to look through actual lessons learned?

Gen Charles Brown:

There's some work on lessons learned, I'll take the second part of your question. I think the thing the way we approach this is we would look at how we would do suppression. Many of our air defenses, ensure we have air superiority to support what would happen on the ground. That's the way we've operated.

Probably a good example of that is Desert Shield Desert Storm, where the air campaign kicked off before the ground invasion. We're able to take out many of the surface air defense systems. Declare areas so then we could provide air superior over the areas where the ground forces were operating. That's not the way the Russians have operated.
They really haven't looked at suppression defenses. I would say their air of power moved more closely where they had ground superiority. They based on their doctrine, they stuck to where they were overhead, where their ground forces were went and ventured very far, partly because of what the Ukraine’s were able to do with their air defenses.

One of the things that we were able to do with their air defenses was not keep them static. They stayed fairly dynamic, which made it more difficult. If you can't do dynamic targeting very well, you're going to have a hard time hitting moving targets. That's something we do, I think we do fairly well and we did something we to continue to work on.

Jillian Rich:

What about the technology that might have changed?

Gen Charles Brown:

Well, part of this is precision guided ammunition. More and more intelligence surveillance from a space-based systems as another area that led into this. I think that for me, it's surprising for the Russians because the systems are going as they build their own systems.

They should know them fairly well and how to defeat them. Begs a real question for me how could they don't understand their own systems and how they might defeat their own systems?

Bryan Clark:

General, one thing that raises, which we haven't talked about is electromagnetic warfare. Big part of suppressing air defenses is using electronic attack, going after those systems' deception, et cetera. It seems like the Air Force is moving towards maybe a new approach to fighting in the spectrum with your developing the EC-37 to replace the Compass Call aircraft.

The Navy is divesting of its ground-based growler squadrons. Are you looking at moving to new approach to electromagnetic warfare that maybe uses more off board platforms? Like the Valkyrie unmanned air systems or other Skyborg systems, or Golden Horde.

Gen Charles Brown:

We are. One of the areas that as you look at one of the operational prayers, we have the next generation air dominance family assistance. That family systems is using collaborative combat aircraft. With those collaborative combat aircraft, there's a load of autonomy, but there's level of modularity as well.

Where that particular lower cost platform could be a sensor. It could be a jammer, it could be a weapon, or a weapons' carrier. It's that aspect of how we use those capabilities in combination to be able to provide more aspects or aspects in the electromagnetic spectrum to complicate things and complicate targeting for our adversaries.

Bryan Clark:

A different portion and just brute force standoff jamming. We're going to try to deceive and create a more complicated picture for the opponent. John, you have a question?
John Walters:
I'm John Walters, I'm president of Hudson. General, I want to thank you on behalf of all my colleagues in the audience for being here. Thank you for keeping us safe every day. We have learned we can't take that for granted. Following up on the Ukraine question, somewhat in your remarks about the Taiwan Strait and other kinds of threats.

I wonder how you understand the priority for sharing technology and operations with our allies? We've seen this now and we see people now, Vladimir Putin has given rebirth NATO and some people's eyes. We're now concerned about how we integrate friends and how we share technology, and what technology means.

There's a comment about the Ukraine and the use of a lot of Cold War era systems that might needed to be integrated if in the capabilities of allies. Can you say a little bit about how you see rethinking the Alliance structure, given the threats the United States faces, and the issue of weapons improvement in modernization?

Gen Charles Brown:

Well, thanks for the question. One of the things I feel sometimes as we say allies and partners, but we need to put our action with our words. It's the aspects of not only how we share information, but it's also how we develop capability together. I think there are opportunities there because United States doesn't necessarily corner the market on all the good ideas.

We have some great partners that have capabilities and how we work together and help maybe co-develop capabilities. This is some things we are talking about. I think ACAS provides us a bit of that opportunity. It opens an aperture to have us not just for those two nations, but also more broadly for us to think about how do we do this from the very beginning.

Whether it's developing operational plants or developing capability, the things that we do much more open with our allies and partners. I really believe this partly because of my past 12 years of working with allies and partners how frustrated I would get, where we either couldn't share information, there's things we couldn't do together.

I found even when I was air combatant commander there's times I'd just go, "I know what the policy was, I'm going to take the risk." We need to do it for operational reasons and part of that is I think this current situation has driven NATO together more closely, and actually helped us do some things more quickly.

I've found some things that were going to take several months type timeline. It took down to several weeks to get approvals for. We got to have those kinds of crises every day to help us not so much a crisis like this, but internal to our own processes to go, "How do we break down some of these barriers because it's not that hard when we need to do it." We can't wait till the crisis occurs to say now's the time because we're going to be further behind.

We got to do these much early in the process and figure out here's the criteria of why we would do this and break down some of the barriers that we've been driven over the years. We're in a different place and I think we need to really rethink those, and we are. The National Defense Strategy does talk about allies and partners.
I think it has more teeth in it than the previous strategy I’ve seen. I think there’s a plus there now we just got to deliver it.

**Bryan Clark:**

Well, thank you, General. That’s a great note to close on, I think. We really appreciate your time today on behalf of Dan Patt, and myself, and the audience here at the Hudson Institute. I want to thank you very much. I think definitely discussion today shows how you’re disrupting defense. Why we wanted you to be the first speaker in this series looking at defense disruptor. Thank you very much.

**Gen Charles Brown:**

Appreciate it. Thank you very much.