



Melissa Johnson:

All right. Good morning ladies and gentlemen. I'm Melissa Johnson. I'm the Deputy Director of Department of the Air Force's Rapid Capabilities Office. Welcome to our second panel this week on operationally-focused DAF Battle Network. I am actually kind of a little bit of a proxy for General Luke Cropsy as he did his part one yesterday. So you may recall awhile back there was a small little program called ABMS, just a tiny little thing. And the original goal of the program a couple of years ago was really to start accelerating the Department of the Air Force's information sharing and data management across a bunch of distributed war fighters. The program's overall concept evolved to a much, much broader scope, as you've heard Secretary Kendall talk about this being probably one of the hardest programs he's ever given somebody.

And General Cropsy is the recipient of solving some of the toughest challenges that we have. So now what we have is we call the DAF Battle Network, which is a system of systems to provide resilient decision advantage to our decision makers, to the combined and the joint force. So connecting sensors, C2, to shooters is a commendable vision and it's a high integration challenge. Yesterday hopefully you attended the first operationally focused panel that Luke led, where he emphasized the need to support the broader enterprise-wide network. Today we're going to continue that discussion a little bit farther and we're going to talk a little bit deeper in quantifying the interoperability complexities accompanying all this work and taking that to scale. With that, I'd like to introduce our panel today.

It's my pleasure to introduce to you, first and foremost, Mr. Michael "Willy" Andersen, Vice President of Phantom Works at Boeing, multi-domain special programs and capabilities, Mr. Rob Peacock, Portfolio Director of the Advanced Battle Management Systems, ISR sector at L3Harris, and Mr. Mark Brunner, President of Primer Public Sector. A little bit of background on each of them, because I think it's really important to talk about the diversity of experience on this panel. So a little bit of background on Mr. Andersen. At Boeing, he not only has worked at Boeing, but also across a couple of other defense contractors along with a long history as a United States Air Force officer, and he has worked a lot in operational analysis, innovative technology development, and prototyping and transitional programs. Mr. Andersen retired from active duty after 27 years in 2011 after being in the acquisition community and test community across the spectrum of aircraft, weapons, avionics, international weapons system programs.

Now, Mr. Rob Peacock actually brings to us a high operational experience. He started at L3Harris back in 2022. After 25 years in the United States Air Force as an air battle manager with significant operational time in the E-3 AWACS, E-8 Joint STARS, command and reporting centers, and the E-4 NAOC.

And then finally, Mr. Brunner leads Primer Federal team as Primer expands in the global public sector market. Mr. Brunner previously was vice president for six years at an international strategic advisory firm, the Cohen Group, where he led their engagements with Fortune 500 clients, focused on the technology and national security sectors. Mr. Brunner also served in the US Senate for a decade as a senior advisor to Senator Mark Warner and a military legislative assistant to Chairman John Warner. Prior to a senate service, Mr. Brunner was a Navy pilot and a defense policy advisor at the US Mission to the European Union.

Gentlemen, thank you for being here this morning, and thank you ladies and gentlemen for joining us today. Before we get into overall discussion, I'd like to give each of the panelists an opportunity to share a few opening comments. Mr. Andersen, we will start with you.

Col. Michael "Willy" Andersen, USAF (Ret.):

Well, thank you very much. And first off, I appreciate the opportunity to be on this panel with you. Good afternoon, everybody. First off, Boeing. Well, when you think of Boeing, you think of aircraft provider,



you think of big planes, small planes, and everything in between, and platforms and individual domains and so forth. We've taken kind of a fundamental shift when it comes to JADC2, ABMS, and so forth, which is looking across horizontally at the connectivity of those platforms. That means taking our already system of systems approach and thinking of the platform and now scaling it across and driving forward that connectivity between the platforms to help enable the architecture that the Air Force is striving for.

C2 is pretty much in our DNA. I mean, we've had command and control aircraft for decades. And we have an awful lot of experience both in C2, as well as on multi-domain. So we're using that expertise to be able to drive functionality, flexibility into some of the platforms currently, as well as future platforms to be able to allow and enable that connectivity. One of the bigger shifts, and this is a fundamental shift that goes all the way up to our CEO and some of our senior leadership, when we look across horizontally, it's doing the system engineering and the architecting that enable that to happen. You can't just kludge these system of systems together. You actually have to start with use case analysis, operation analysis, gaps, trades, standard system engineering approach that helps drive that. And then what we do is then we take those capabilities, and we've been doing multi-domain testing and demonstrations now for a couple of years, some that we can talk about, some that we can't, but that helps to root out problems. Not just looking for successes, but we're also looking for complexities and things to watch out for.

And probably the last biggest thing that we've learned in our little journey here is, amazingly enough, Boeing doesn't have all the expertise. We'd like to admit that or at least think that we can do everything ourselves, but to be able to go fast, to be able to do things like artificial intelligence and rapid software capabilities and so forth, we really do need to lean on others to be able to help us get there. So we spend quite a bit of time actually getting a process that integrates in a little bit smoother those third party capabilities so that we can be more agile and quick. So through all that I think what you can take away from that, and again, this is all the way up to the CEO, is Boeing is all in to support the Air Force Battle Network and the warfighter as we shift to this new paradigm.

Melissa Johnson:

Great. Thank you, Willy. Rob, over to you for your opening comments.

Robert Peacock:

Okay, thank you. Thank you for allowing me to be a part of the panel. As Melissa stated earlier, I retired last year after 25 years flying in a number of platforms related to BMC2, the AWACS, the JSTARS, the E4, CRCs [inaudible 00:07:19] AOCs, and I've seen command and control battle management at its very finest, and unfortunately I've seen it at it's not so finest as well, with data overload, data scarcity, both sometimes leading to decision paralysis. I've seen the comm challenges that we face in theater. Where you have the right information, you have the right decision, you think, the best decision you can make, and you can't get it to the warfighter because of challenges on the battle space. I've seen the impacts real time of what that means with our warfighters and cross services and how that decision impacts their operations.

I'm excited to be a part of the L3Harris team. We are involved in multiple facets of ABMS and the DAF Battle Network through the Digital Infrastructure Consortium, the C10 Consortium, CBC2 applications along with the Airborne Edge Node and others. So I'm excited to be a part of that team, lending operational expertise and experience where I can, keeping the vision on what I think is the prime imperative decision advantage, and trying to help the team keep an eye on the fact that that's what we're trying to solve. As we looked at the new DAF Battle Network, and thank you to General Cropsey



for providing us some information on all the different programs that that entails, but at L3Harris we sat down and we looked at all the programs that touch DAF Battle Network and we realized that, as Willy said earlier, it's cross company.

It touches every part of our company, and we got to really pull together as a team and challenge some industry standards sometimes in how we operate in a platform centric environment and develop solutions from across our company and then drawing in other companies that have expertise that we can't fulfill. So it's been a challenge. As Willy said, we're all in and we're excited to help the warfighters. We've seen it firsthand. We know how much this is needed, and excited to be talking about this today. Thank you.

Melissa Johnson:

Great. Thank you, Rob. Okay, Mark, over to you.

Mark Brunner:

Terrific. Thanks very much, Melissa, and appreciate AFA inviting Primer to participate in this panel today. I will say, as a former naval aviator, I'm astounded that you actually invited me into the room, much less on a panel, but I'll do my best to rise up to the Air Force standards here. One of the questions you may have for the audience is, who is Primer? So we are a company of data scientists. We hire the best data scientists in the world. Many of our engineers come out of Silicon Valley, out of our best universities, and we use artificial intelligence and machine learning to help solve challenges and provide the warfighter the latest tech so they're able to make better decisions faster. The other question you may have is, how does this relate to Battle Networks? Well, what we're able to do is we're able to automate many of these manual processes using our machine learning and our natural language processing, which is our primary technology, along with large language models, to take large data sets and distill that down to usable information for the warfighter.

And what does that mean for folks in the room? It means, again, that as you think about ABMS, we heard that earlier, we're the make sense people in the ABMS decision loop. So my colleagues on the panel today talked about how not one prime or one supplier has all the tech. And it may be that L3 or Boeing as part of the solution. What Primer offers is, again, these machine learning models that can greatly accelerate the technology. A couple examples, one would be mission planning, speaking to a room where there's a lot of pilots. Air Force spends thousands of hours each day on mission planning, weather, NOTAMs, airfields, en route restrictions. A lot of these are disparate data sets. We can take all of that data and ingest it into our machines and automate the entire process. So literally within seconds, a pilot in command can understand if their route of flight is clear or if there is an issue.

Could be en route weather, it could be that the alternate airfield is out of commission and you need to choose another, or it could be that one of the pilots on the mission maybe doesn't have their night qualification, so we need to pick another crew member for that. The other I would say is situational awareness. What we've learned is that on watch teams, similar to industrial facilities when you have shift work, often humans will lose some information in that human to human handoff when there's a shift change. Whether it's every four hours or six hours, our machines don't sleep, so they work 24/7 and can ingest all that information so the next watch team has the best situational awareness of what's happening in the operating era, and the commanders are able to make those decisions.

One area that I think we could use a little bit of help is in the commercial sector, when we build technology, we're used to iterating very quickly on multiple cycles with feedback from customers. That can be a little bit more challenging With the national security community. We don't always get that rapid feedback. And for the Air Force DAF Battle Networks to think about how do you work in a



technology environment where we're not on a five-year planning cycle, there's not the [inaudible 00:12:57], there's not necessarily programs of record. Instead of an aircraft modification in five years, it could be that the tech updates in five days. So how do we incorporate that to make sure the warfighter has the latest technology as they pursue the mission? So I look forward to the discussion today, and again, thanks for having us.

Melissa Johnson:

Great, thank you, Mark. Okay, let's get into it. Willy, I'm going to start with you. So we talked a little bit upfront about the complexity of this mission space. Willy, how do you manage that C3BM architecture, just the whole mission space in a rapidly degrading operational environment? What are the types of things that are required to be successful in that type of scenario?

Col. Michael "Willy" Andersen, USAF (Ret.):

Well, let's first start off with the context of the problem, make sure everybody's level set. So the Air Force is shifting to a new warfighting paradigm, which is essentially a family of systems type approach. They're doing that while they're modernizing the fleet and they're evolving an ABMS command and control advanced architecture. So with all that going on, really what could go wrong with that? So the first thing to plan for from an attribute standpoint is plan for it to go to hell. When I deployed in OIF, we had the big CAOC, big screen. You could believe the data. All the comms were good and so forth. You plan for things not to go well.

So your command and control is likely to, instead of being big, wide area type command and control, it's likely to break apart, to disaggregate into smaller and smaller command and control chunks. That means your comms have to be self-healing. They have to be able to withstand breaking apart from cyber attack and so forth, be able to mission plan, execute your mission in smaller chunks, and then reform as time permits. Space may or may not be there. There's all sorts of elements here. So plan for the worst case. Also need to plan for the joint war, plan for the international support. So a long time, it's been Air Force only. It's not likely to be that way anymore. So you need to plan for that joint fight. That means the architectures have to integrate together. We need to be able to depend on our international allies.

We're currently doing work with Boeing Australia, and they're doing all sorts of stuff with the Australians down there. Right now, as much as we push on it, here export gets in the way and so forth. Those kinds of things, we're making some progress on. We really need to be able to accelerate and move faster. So the other ... I alluded to it before, the architecture is going to be complex. It needs to be robust, yet be able to take on changes and so forth. The architecting of that starts with the use case. Make sure that everybody, industry and services are all focused on what's the no kidding priority problem, because the architectures may or may not be the same depending on the use cases. Figure out what the gaps are, bring in our industry partners, and get everybody on the same sheet of music.

And what we've been doing down in Emerald Flag is doing multi-domain demonstrations. We've got space assets, we have air assets. We're integrating with ground command and control. We're actually pushing forward real-time software updates to the air platforms. We're executing tactical UDL from Bluestack, OMS UCI to make sure all of that hangs together as you're going through, understand what the latencies are. We're actually walking through all those, again, looking for those gaps, looking through those issues. And I know Emerald Flag's a big Air Force thing. A lot of people are playing in it, but that's what we need to be doing more and more of. And then be able to continue ... we've made some progress, continue to work the acquisition. I talked to General Cropsey earlier this morning, acquisition side of making sure that the requirements get into the PEOs, into the programs of record and continue to gain the momentum and keep accelerating.



Melissa Johnson:

Great, thanks. I think one of the things that you said about being self-healing and data being able to reform really kind of leads into my question for Mark based on your background. One of the attributes in this community praises artificial intelligence and machine learning for the ability to label a large amount of data in a very, very short amount of time, but we also know that AI and ML have been used in the past as buzzwords. I think one of the things that we would like to hear is, Mark, how can you dive a little bit deeper into how AI and ML as a tool can be utilized to close long range kill change and help a weapons developer or program office to reduce the complexity in development cycle and improve efficiency?

Mark Brunner:

Yeah, thanks for that question. As we look at this sector, one of our approaches is to produce what we call practical AI. So these are tools you can trust. And again, it's to demystify AI and really think about how we can work on many of these use cases that the Air Force engages in every day. So this includes asset tracking, and it also includes, from the commander, thinking about what type of asset is the right one to select for the targeting. So is it a vehicle? Is it an aircraft? Is it a missile? Again, these machines can crunch hundreds of millions of bits of data a second, and you can use them to look at historical patterns. This could be weather. Again, this could be enemy patterns of operation. So this is where AI can ... again, it takes the workload off of the operator and the analyst.

And then as you think about specific use cases, one would be rapid data processing. We can automate many of these workflows. And that takes a load, again, off the analyst, where we can take in hundreds of millions of bits of data and process this so the analyst is actually doing the analyst job. Mission planning and optimization. Another use case that we're involved in is, for the pilots in the room, think about how many missions you've flown where you need fuel. Where's the tankers? Where's the nearest alternate landing fuel? So think about a world where you would have all of that at your fingertips. So if your primary landing location or the tanker goes out of commission, immediately the machine has ingested all of the data for every airfield nearby, every tanker, and immediately gives you a menu of choices.

It calculates your time to target, it calculates how much fuel you have, provides you an initial vector. So you don't have to call back to base, you don't have to check in with the AWACS. It's all at the operator's fingertips. That's the vision. So when you think about the kill chain, what you're doing is you're taking out a lot of these human and manual steps. We're reducing the latency. And then the last one is aerial networking. As you think about communications chains, especially when we go from JADC2 to where I think we're going, which is combined JADC2, and now we're going to war with our coalition partners, how do you parse out the communications networks? Who gets what information at what level of classification? And how we entrust the commanders and the operators to understand how we can move data and information not just across the service but across platforms.

And these are areas where I think it can be tremendously beneficial. What we need from Air Force and other services, what I'd recommend is greater engagement with companies like ours that have the technologists. Again, they're at your service. I'd also recommend engaging with labs like MIT, Lincoln Lab, and others, and then thinking about, again, how do we align the CONOPS, the concept of operations, how do we align the CONOPS development as new battle plans are being written with the latest technology development? Because ideally, those work hand in hand so the operator has the rules of engagement and the latest tech at their fingertips to prosecute the mission.

Melissa Johnson:



Thanks. No, that's great. And it resonates with me about integrating that ops and acquisition folks together. It's a model that many of us already do. So I think expanding that ... I think it was a great answer, talking about commanders getting asset tracking, which really is going to lead into Rob, the former operator here. So Rob, I'll put you on the spot a little bit. Hopefully you've read back in April, AFDP1, the basically mission command was released by chief of staff, basically emphasizing moving from centralized command, decentralized execution to centralized command, distributed control, decentralized execution. What does this mean to you, and how does this, if at all, impact industry solutions for the DAF Battle Network?

Robert Peacock:

Sure. Yeah, that was a great publication that came out. We've been talking about that for a while. So I'm sure this room is full of people that know this, but the centralized, controlled, decentralized execution has been our mantra, the thing that we've all known in our soul for decades. Power of airpower under one Airman, unity of command, mass, to get air powers effect, and then take advantage of the speed and flexibility of air power once it goes out over the operational environment with decentralized execution. However, for those of us who were operating in this environment for the last 15 years, we started to see a change, where the speed and complexity and scale of conflict was challenging the notion of decentralized control, and we were bound up within that.

So I'll give you a quick example. At the height of OEF, when the AOC was dealing with OIF and Horn of Africa operations back in OEF, we at times, especially when there were two carriers in the Gulf, we'd have 200 plus aircraft a day launching up into Afghanistan. We'd have 20 to 30 troops in contact situations. We'd have dozens and dozens of [inaudible 00:24:18] requests for artillery fires. And at the end of the day, we used the ATO for a couple of prime features. We needed to know who the aircraft was, what was their call sign, their modes and codes, and when they were taking off. And after that, we were going to figure it out in the air. The battle management platforms, the AOC, the ASOC, the TACPS, the fighters, the tankers, we were going to use mission command on the fly using the air operations directive ... I'd never read that before OEF, by the way. I assumed it got published, but this was the CFAC's list of the priorities of what was going to be done with air power.

We had that taped up next to our consoles because we would reference that document three to four times a day, trying to understand where does the CFAC, where would he prioritize air power in this instance? So we were already pushing against the bounds of distributed control, even back in 2007, '08, up through '15. So this has been something that's been a long time coming, and we recognize that. So in the last 15 years, how much has the speed, the scale, and complexity of operations increased even more so? We need more sensors of course, but more sensors lead to more sensor data. We haven't solved the data allocation and prioritization and availability challenges yet. The connectivity, we know that connectivity is going to be challenged in the future environment. Do we have the resilient assured comms necessary so that not only do we get the right information that we can pass the command and control operations out to the operators?

So the distributed control portion of the new mission command doctrine is a critical step forward and industry has to recognize what it is that the Air Force is trying to achieve and how we can participate. So there's a couple of key things that are going to be required under distributed control: resilient, assured, cross domain connectivity. It has to be cross service, it has to be cross component, it has to be there when you need it, and we have to build the solutions to make that happen. Through the various aerial network initiatives underway, I think we're getting towards some very reliable systems in place on platforms. I think with the new satellite transport layer, with the optical comms, we're providing persistent global communication capabilities with some of the edge communication capabilities. We're providing connectivity out to locations that didn't exist before and allowing those ad hoc network of



networks to be formed, created, perform, and then move on as needed. We also need data fusion. So we now have information coming and operators from thousands of sources, every domain.

I can tell you even back in the late 2000s, 2010, we were overwhelmed with information at that point. We need the artificial intelligence that Mark spoke about earlier to help us parse through all that information. If we have information over here about an asset and information from some other place, it's impossible to work through the 100 plus chat rooms that have been our go-to up to this point to get that information together. We need artificial intelligence and we need that to empower the intel side as well as the operator side so that we understand where the track is and then we have the tools necessary to maintain custody of that track. Target custody, track custody, we have to keep awareness of where that aircraft or that platform is so that we can prosecute as needed. And the final piece is edge processing. So in this environment where we're going to send people out to the edge, we're going to have limited comms for all of the data that's being sent.

So we're going to have to have edge capabilities with lower swap capabilities to process all of the data that they have available to them in a localized context, and so that they can access the global data integration layer as needed. And when the data integration layer is not available for a short period of time, because this is going to be a dynamic environment with contested operations, they need to be able to operate in that small localized team that has been established to do the command and control, to process the information, to do all the track fusion as necessary in that ad hoc manned/unmanned team to affect command and control. So I think industry has a lot of work to do to participate in this. It'll be great to see the DAF Battle Network as it's unveiled and kind of where the capabilities and the gaps are, but those are certainly three big areas I think where industry is going to have to step forward and bring together the solutions we have alone, with partners, and consortiums to help solve these problems. I think most of us know we have to have these problems solved as quickly as we can.

Melissa Johnson:

Thank you. Luke, no pressure. Okay, so now if you take all those three things. We talk about the complexity, operating in a degraded environment, the tool sets, and really what it means in a day in a life from a mission command perspective. I think if we pivot just a little bit and take those three things together and dive a little bit of a level deeper, when they're passing data, one of the discussions in the community is about zero trust, which means I think some different things to different people. But when you relate it to the DAF Battle Network and the need to connect our past sensitive and classified data, there's kind of a mantra that at least some of us have heard about, never trust and always verify. How do you all see the need for the government to articulate those expectations to you on zero trust? And what are some of the attributes, from an acquisition perspective, that we should be considering when communicating those expectations? So I'd like to kind of hear a little bit from each of you. And Rob, happy to start with you.

Robert Peacock:

Okay. Yeah. So decentralized operations of course are going to have aero trust built in from the beginning. Honestly, we're probably a little bit behind in trying to understand what these attributes look like. DOD came out with their zero trust strategy last November. Excellent document. A lot of good detail in there. And I know that the services are starting to move forward on their specific strategies as well, but we need to have the detailed attributes that need to be baked into these solutions. So zero trust is a loaded term. It assumes that your network perimeter is always breached, and therefore you have to use identity management at multiple points throughout the process so that you can trust the members that are within your network and you have trust in the artificial intelligence.



So two things require a high level of trust. Artificial intelligence. I think we've all had this, when you're using Waze or your map of choice and it tells you a route to go and you're like, "No, no, no, you don't understand. I know right now that that's a bad time of day to go that route." So there's a level of trust there that you still have to develop with that artificial intelligent output. So with zero trust, there's a lot of things that can happen within that artificial intelligence database. There could be data poisoning, intentional. There could be data hallucinations, unintentional. There could just be bad data outcomes because with our network of network systems, people can't access the data they need. So we have to build in those zero trust attributes from the very beginning so that we can advance forward with the artificial intelligence concepts that we need, the mission command, doctrine training concepts that we have to establish. So to industry, the specificity in our programs of how we can incorporate zero trust attributes that have been blessed across DOD, hopefully with our allies and partners, is critical to moving forward on these programs.

Melissa Johnson:

Great. Mark, how about you?

Mark Brunner:

No, that's a great question. And it's terrific that General Cropsey has joined us today, who's spoken a lot about the need to reduce the complexity, that if our systems are so complex, it's going to slow us down. And we have to find ways to provide the appropriate security. I think zero trust is a good framework for us as a company. We cheerfully comply with all of the best practices and compliance guidelines. So we're NIST 800-171, we're CMMC, we just got the ability to do FedRAMP here this week, and we're a part of Tradewinds. So we follow all those guidelines and we do feel an obligation though to illustrate where we think there are points that are slowing us down. And one that I would specifically identify is our security system as far as clearances and how we compartmentalize information. The way this whole system was set up, whether it's confidential, top secret, or compartmented, it was designed to restrict access.

So we now have this wave of pretty valuable OSINT data, which is on the low side, and I think we need to rethink how ... to your point about data fusion, how do we fuse the data from the low side into the high side, and then ensure that the right people have access to that information? And then how do you do that in a combined and a coalition fight? I think that's the challenge, because all of us who have participated in exercises in our military career, think about the times when we do those coalition exercises. There's usually some limiting factor that, whether it's another service, another platform, another country, makes it challenging to rapidly get that information to the operator, to the tip of the spear. So that's something I think we're really going to have to look at, the DOD, is how we classify information and how we set up the system, not just for security, but also for speed of decision, because that's where, again, ABMS and JADC2. The true power comes from when you're able to move data from platform to platform across services, direct to the operator, then I think you've got a lot of power.

Melissa Johnson:

Great. Thanks. Willy?

Col. Michael "Willy" Andersen, USAF (Ret.):

I agree completely with my two colleagues here, but I'm going to come at it from a different angle. When I deployed, I was in cyber testing and operations and so forth. Albeit it was a while ago, but that's what my background was. The idea of zero trust in this kind of construct is absolutely ridiculous. They're



going to be in the networks, we need to assume they're in the networks, so we need to have protocols, technology, and so forth to be able to establish information assurity. The mission planners and the command and control folks making decisions, they have to believe the data, otherwise everything they do is a waste of time, or worse. So there has to be a rule set, protocols, the technology. AI plays a piece of it, but we have to assume they're in the networks. We're talking about integrating in commercial satellites. You don't think there's vulnerabilities there?

I mean, we need to be planning for that. And that's probably the biggest takeaway in this, is the only time you get zero trust is when you have point to point networks. That's the only time. We're integrating in commercial, we're integrating in allies, we're integrating in a lot of complexity. And I think in the panel that we heard yesterday, one of the panelists said, "Hey, you're able to fuse data from different classifications because you eliminate the sources." Well, that doesn't help in this particular context. You want to know this little crumb of data came from your super source and this other big glob of data may be a suspect. You want to know how to do all that. So that would be my point is plan for the worst day.

Melissa Johnson:

Gotcha. No, that's very insightful. So we just have a few minutes left. What I want to give each of the panelists an opportunity, about a one-minute closing thoughts, any last parting shots that you have for us? Mark, we'll start with you.

Mark Brunner:

Yes, thanks. It's been a terrific discussion. What I would say is that at a very top level, we're really honored to work with our military service partners, especially the Air Force. We've got a number of terrific initiatives that are ongoing. I think from the macro, it's often said that we have an innovation problem with the Pentagon. I don't think we have an innovation problem. I think that we do have an innovation adoption challenge. I was fortunate to sit on the Atlantic Council Commission on Defense Innovation and with Secretary Esper and former Air Force Secretary James, and that's what our top line thoughts were, is that, again, it's adopting the innovation, it's getting close to the community like ours, like Primer, and incentivizing those actions so that companies with the leading edge tech can work with the Pentagon and solve the types of data management challenges that we've talked about on this panel today.

Melissa Johnson:

Great. Thank you. Rob, over to you.

Robert Peacock:

Okay, thank you. First off, thank you for having me on the panel. It's nice to know after you retire, you can still contribute in some way. I swear I'd never talk about ABMS again, but here I am. That's what happens, I guess. So really I think one of the things I want to leave here with is the operational imperative of decision advantage. So as we begin talking about connectivity, sometimes that's easy to measure. You can look at a dashboard and see the attributes. We kind of know how to build that out. Data quality, I think there's some great attributes and indicators that tell us what we should be looking for data quality. We know, okay, I can trust this data. It all makes sense. I think where we struggle is data-driven decision advantage, and how do we measure that? What makes a bad decision from a pretty good decision? What are those KPIs?

What are the decision quality indicators that let us know that after we put all this together, we have the connectivity, we have the data quality, we've put it in the hands of the war fighter to make the decision,



and they've made the right decision? How do you debrief that? What tools did they need? Where did they need more data aggregation or contextualization? Who did they not have connectivity with? And get at the root of the problem. Why is that dot red? Why was that decision poorly made? And how do we walk back to the architecture that we've built, the platforms that we have in place, how could we have used it better? How could we have moved the data faster? Who got cut out of the loop? So that's really the area where I'm excited to focus some of my attention. I know the ABMS team has put out some work very recently on the transformational model for decision-making, and I think they're trying to get after this. So maybe it's my work with [inaudible 00:39:33] all these years, him and I think very similar, but I'm excited to work with the Air Force team to help solve those problems, because turning that red dot to a green dot on decision quality is what I'm after. Thank you.

Melissa Johnson:

Great. Thanks Rob. Willy?

Col. Michael "Willy" Andersen, USAF (Ret.):

Again, thank you very much for allowing me to participate in this. This has been an enjoyable conversation. I think I want to leave you with two things. Number one is in the acquisition community for a long time, I've seen the most change in the last couple of years that I've seen my entire career. Now we've got a long ways to go, but we're accelerating, working through the painful stuff having to do with things like requirements and hurry up demonstration, get them onto platforms, but you can see real change, and that's encouraging.

The other thing I want to leave you with is I said we're doing an awful lot with third party technologists and so forth and integrating those in, trying to do that as quick and seamless as possible. We're working also with an AI house called Spark Cognition, and we're integrating in AI into our mission planning softwares and so forth. As an example, some of the smartest people, smart as a whip in terms of technologies, and that's just one example. So it's just real encouraging to be able to make that capability change to be able to accelerate things and open the door a whole lot more than the past for companies I've been investing in a long time and they've got something to show.

Melissa Johnson:

Great. Well, thank you all for taking the time to share your thoughts with us today. Everyone, would you please join me in giving a big thanks to our panelists?