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STORIES TO WATCH AT FARNBOROUGH 2022

AUDIO TRANSCRIPT

Joe Anselmo: Hello, and welcome to Aviation Weeks Check 6 With Accenture. I'm Joe Anselmo, Editorial Director for the Aviation Week Network, and your host for this edition of our regular podcast on major issues facing global aerospace and defense. Today, we'll be looking ahead to next week's Farnborough Airshow with two Accenture leaders, Senior Managing Director for Global Aerospace and Defense, John Schmidt, and Joyce Klein, Accenture's North American Aerospace and Defense Applied Intelligence Lead.
Welcome, John and Joyce. I look back at our coverage of the last Farnborough Airshow four years ago, saw both similarities and big differences. In 2018, demand for commercial airplanes was so high that the chief concern was whether the supply chain could keep up. Well, guess what? After the one-two gut punch of the MAX grounding and COVID-19, demand is back and the supply chain can't keep up. Hundreds of narrow-body airplanes at Airbus and Boeing are just sitting there awaiting engines. A lot of difference in defense, obviously. There was a lot of angst in 2018 about the NATO Alliance, whether it was starting to lose some of its cohesion. Russia's invasion of Ukraine has triggered massive increases in European defense-spending commitments, particularly from Germany, and similarities is just China's rise in increasing military assertiveness.

John Schmidt: Well, Joe, certainly things have changed a lot. I look back at our stories to watch and the demos we did in 2018 at Farnborough, and it's close to what you said. We were talking a lot about blockchain back in those days and the supply chain. In fact, we had just done a blockchain program with one of our defense contractor clients in the UK, and we were talking about defense. And much like today, as you say, the defense market, and it was shifting and changing. And frankly, we were looking at it as a market that was ready for accelerated growth. We also are doing a lot of AI demos, AI in action, and a digital twin with a demo of a factory digital twin enabled by a HoloLens, which was using mixed reality, which back then was actually pretty cool leading stuff.

Joyce Klein: And as you both have noted, Farnborough in 2018 was about explosive order booking. And for something that I'm pretty passionate about, data and analytics was a very hot topic in terms of how organizations could use their data for more powerful insights, in terms of how to run their organizations. But the one thing that I'll say about 2018 was the weather was far different from the Farnborough floods of 2016.

Joe Anselmo: Okay, so I think the three of us all agree that things have definitely changed in the last four years. Accenture took a deep look into what you think will be the key themes at this year's show, and you identified three trends. What are those?

John Schmidt: Well, Joe, before every air show, we take a look across our global practice for hot topics with our clients, what our research is revealing, and the macro trends impacting our industry to distill out what we think are going to be stories that will dominate the show. And this year we have three. The first one, probably no surprise to you, is sustainability. The second one is around technology innovation, including the emergence of the metaverse continuum. And the third one is just around some of the things you noted, the economic turbulence we're dealing with, and the supply chain impact of that turbulence.

Joe Anselmo: Couldn't agree with you more on sustainability. Back in 2018, it seemed like sustainability was something that was just a nice-to-do category. Now there's so much pressure on the aviation industry, it's become a business imperative. Tell us what you're seeing.

John Schmidt: Well, it certainly is a hot topic today. In fact, the last time I remember it being this hot a topic was 2007, and it cooled substantially when we got to the financial crisis in 2008. But right now, when you look at the estimates for the number of global air passengers expected to nearly double over the next 20 years, it's causing a lot of focus by companies, not just on how the products are driving carbon emissions, but also on their own operations with commitments to being a net-zero company by 2050. So, looking at really scopes one, two and three.

In fact, we recently partnered with Aerospace Industries Association to develop a detailed report on the aerospace technologies that are being explored, and in some cases, being tested to identify the ones that were most promising. We looked at propulsion engine technologies, airframe configurations, structural materials systems, and what we found was a range of viable options to help us increase in fuel efficiency, which will drive down carbon emissions.

Joyce Klein: The sustainability agenda really needs to go beyond reducing aircraft emissions and really extend to creating business value and sustainable impact across our entire ecosystem, by embedding sustainability in every stage of the manufacturing process, all the way through to delivery of products and services. And this is really from internal strategy to operations to ecosystem partners. Organizations will be able to build more trusted circular net-zero value chains while also driving social and economic benefits. Our research shows that 24% of aerospace executives that we surveyed ranked sustainability as very important today, but this number spikes to 70% of executives seeing it as at a critical focus five years from now.

John Schmidt: Yes, Joyce, I think the industry's going to be talking about how to achieve this ambitious goal of net-zero aerospace industry by 2050. It's going to take an ecosystem approach with focus across the value chain, and frankly, support by governments, as well as changes to the industry supply, to make it happen.

Joe Anselmo: Okay. Let's get a reality check, though. I mean, there's a lot of skepticism out there about whether the industry can really truly become net zero by 2050, and there's a lot of different solutions that you just mentioned a few of them. But there's SAF, sustainable aviation fuels, hydrogen propulsion, hybrid electric. Can you walk us through those pieces and where each of them sort of fits in?

John Schmidt: Well, Joe, the skepticism is legitimate, as the challenge is significant. As I said, net zero in 2050 is an ambitious goal, for sure. The report we do with AIA, we found that decarbonizing the energy supply could take the form of sustainable aviation fuel, or SAF, as you mentioned, hydrogen, electricity, battery-powered, hybrid-powered. And there's also onboard technologies, things like composite structures and flight deck optimization software that are already being adopted today, some of them at scale.
However, there's a lot of other technologies that are going to need a longer time to get into production, need broader support, and many of them remain in development with significant steps in tech maturity and supporting infrastructure required before they really can enter the commercial fleet. And the question is, when they do, will they be able to enter at scale in time to help meet that ambitious goal? There's other approaches being explored as well. I was talking with one of our clients who did research that suggested that if you just took a few more minutes to get from takeoff to cruise on a wide-body international flight, that they could save a material amount of carbon emissions just by making that slight change and delaying that aircraft's arrival by two minutes on a several-hour flight.

Joyce Klein: To add on, John, what I would say is that there's no silver bullet to achieving more sustainable practices. Aerospace executives, they can start by tackling sustainability with technology that is going to drive small reductions in emissions. And these can be tied to things like weight, aerodynamics, flight efficiency, and the use of life-limited parts. You know, executives can also be thinking not only about their internal operations, but extending to activities with their supply chain partners, but the bottom line is, everybody across the entire ecosystem has a role to play.

Joe Anselmo: No silver bullet, indeed. Let's talk about your second trend.

Joyce Klein: Sure, Joe. Our second trend is the metaverse continuum, and let me start off by first of all saying that the metaverse can be used as a buzzword. However, what we're talking about and seeing with our clients is it's actually more of a continuum. This is a new wave of disruption that's really going to reshape aerospace and defense future. Some of the foundational elements are already taking shape. In areas like augmented reality, in manufacturing, and on the assembly floor are Digital Twins that are being developed to showcase products or processes that can span from engine design all the way to sustainment.

But one of the things that's interesting that we believe is the metaverse is really going to fundamentally change how companies work, how they make and distribute their products and services, and how they interact with their customers, and most importantly, I think bring their employees into the fold from the standpoint of training. To capitalize on all this, companies really need to start putting their technical foundation into place by identifying their growth opportunities associated with this, along with their investments, and thinking about their new strategies for how they're going to employ this technology.

John Schmidt: Well, and I'd add that while I think metaverse in that continuum and seeing what's happening now is going to be something that you're going to hear about more, aerospace and defense is also being impacted by a tremendous number of other technologies. And it's one of those industries that thinks in decades, because our products last for decades.
When we interviewed industry executives for our technology vision this year, they told us technology is front and center, with all of them agreeing, literally 100%, that emerging technologies are enabling their organization to have a more ambitious vision. The next couple of years, they're going to be an inflection point for laying the groundwork and figuring out what they can harness to be mainstream, whether it be mainstream with technologies like AI, quantum, virtual experiences, or it's going to be the metaverse itself. Lending strength to what Joyce just said on metaverse, just over half of the executives we surveyed said that metaverse is going to be a breakthrough or transformational technology impacting their business within the next four years, which in our industry is pretty fast.

Joyce Klein: And John, I think one of the things that we're expecting at the show is that people will be talking about the practical steps to making the metaverse a tangible reality. So, if I were to break it down, I think what we're going to hear is companies talk about their interactions with customers, and this is everything from branding to marketing, to products and services, content, and customer service. When we think about how things get done, this is where the metaverse comes in with immersive experience in areas like recruiting, onboarding, training, and collaboration with suppliers and ecosystem partners. There will also be discussions about how companies make and distribute their products, including things like virtual design and the testing of new approaches before actually executing them in the real world. And this is going to span everything from Digital Twin to edge computing to smart and connected workers and many more opportunities. And then lastly, it's around how companies operate. This is around reshaping how the ecosystem and the organization operates. This is where we have the opportunity to experience and work with Digital Twins to drive better insights, connect data, and really bring together and link not only the digital, but the augmented and the physical world.

Speaker 4: And now a word from our sponsor.

Joe Anselmo: Let's talk about the third trend you think is going to be front and center at Farnborough this year.

John Schmidt: Well, the third one is all around economic turbulence, and really the impact on the supply chain. In fact, there's always a lot of meetings between companies in the supply chain getting together, and I think you're going to have a lot of conversations this year on that very topic.

Joe Anselmo: And this supply chain meltdown, it's not just exclusive to aviation or aerospace, right? It's sort of a global phenomenon, it seems.

John Schmidt: Well, it certainly is. I mean, let me start with aerospace first and say that looking through the rest of this year, we think it's going to be pretty difficult for the supply chain. In fact, twice a year, we do a survey, we then bring together in terms of our Commercial Aerospace Insight Report. And what we found in the last one is, more than half the executives we spoke to say that they have reduced confidence in our supply chain timeliness and quality. This uneasiness and this level of uneasiness is at an all-time high, since we first started reporting executive sentiment on supply chains in our annual survey six years ago. So, we're going to do another one here in another couple of weeks and we'll see what happens, but my expectation is that near-term is going to be a rough ride.
And then going to your broader comment, what's more, according to our recent research, supply chain disruptions arising from COVID-19 and Russia's invasion in Ukraine, I mean, for instance, could cost European economies just under a billion in GDP by 2023. Aerospace industry's exposed to this, of course, because they bear high exposure to inflation. Material inputs typically represent two-thirds or more of their overall cost structure. On the other hand, executives are optimistic, as I said, that supplier execution is going to improve over the middle term, 12 to 18 months, and be able to meet or exceed delivery expectations. So, we will see how that goes.

Joyce Klein: You know, John, I'd like to just add on, I think one of the things that we're going to hear people talk about is, what can be done to address all of these supply chain issues? And just one of the things that I think we often hear about, via Michael Bruno at Aviation Week, is just the importance of supply chain to our broader industry ecosystem. Yeah, I think another thing that is going to be called out at Farnborough is how organizations are using data analysis and collaboration, which in fact are really two main trends that we're seeing, to improve supply chain performance. As everybody knows, our industry is such an interconnected network. When OEM deliveries are delayed because of a sub-tier supplier challenge, everyone feels the impact, and all we need to do is think about recent earnings announcements, where examples of this were highlighted.
One of the things that organizations can do is start to embrace the concept of end-tier visibility, and this is really one of the things that I think is going to help transform the industry. As a result, there's opportunities to take this end-tier visibility and think about it from the perspective of collaboration among and across the entire supply chain. And this will allow us the opportunity to also establish some opportunities to look at where the failure points are, and alert companies in advance to these potential failures in the extended supply chain.

I think there's also going to see opportunities where OEMs can shift from supply-led to demand-driven manufacturing and supply chains. You know, the current inconsistency that's existing in demand and production rates, it's really causing some big challenges for OEMs and tier-one suppliers. So, there really needs to be a look at rebalancing production lines as demand changes. I think as always, supply chain's a hot topic, and we're going to hear a lot about it at Farnborough.

Joe Anselmo: Yeah. Well, thank you, Joyce. John, you're going to be at Farnborough. If someone wants to find you there, where do they look?

John Schmidt: Yes, we're going to be there. We're at Farnborough and Paris every year. We'll have a chalet right on the flight line, and we'll be hosting client meetings and sharing several demonstrations in our technology showcase. In fact, what we do every year is we take things we're doing in the market with our clients and we kind of simplify them down so that we can then do them as demonstrations, to give people a real idea of what this means. In fact, this year we're going to have five of them in the metaverse, one in around generative design, one around supply chain resilience. We have another one around private 5G networks, connected worker, and one around customer service. And again, these are all going to be done in the metaverse in our chalet.

We also have a couple of industry 4.0 demonstrations we're going to be showcasing, which really brings out the capabilities we have through our position of Umlaut. And these are going to be around factory planning, worker enablement, and then lean eradication of non-conformances. So overall, we're expecting it to be a pretty good and busy show, and looking forward to getting out there.

Joe Anselmo: Okay. I don't know if you know this, but I already have my appointment booked, so I'll see you there.

John Schmidt: Fantastic.

Joe Anselmo: And for that, we'll call it a wrap for this edition of Check 6 With Accenture. Listen in next week as Aviation Week's team brings you new episodes of Check 6 from the Farnborough Show. John, Joyce, thanks for your insights. John, I'll see you on the other side of the pond.

John Schmidt: Thanks, Joe. Look forward to it.

Joe Anselmo: And to our listeners, thank you for your time, and have a great week.