

AVIATION WEEK CHECK 6 PODCAST WITH ACCENTURE AEROSPACE AND DEFENSE TECH VISION REPORT MAY 12, 2020 RECORDING

Michael Bruno:

Hello, and welcome to Aviation Week's Check 6 podcast with Accenture. I'm Michael Bruno, Senior Business Editor at Aviation Week. The aerospace and defense sector has been turned upside down in the last two months due to COVID-19. Never is a pretty overused word, but in this case, it seems to ring true. Never have prospects changed so much, so quickly since arguably, the dawn of the jet age. But, this time we're talking about a 95% reduction in passenger traffic, the parking of up to two-thirds of the current fleet, and a 30 to 50% cut to monthly production rates of large commercial aircraft programs. Even defense providers are not immune, as several are struggling with supply chain issues as factories close for deep cleaning against the novel coronavirus, and companies at all levels struggle to survive a liquidity crunch. Yet, buried in this gloomy picture is a ray of hope, a resounding determination for industry that there are better days ahead, and that business will move back toward pre-pandemic levels.

What will normal look like? What are the new conditions that industry will face? We are starting to get an idea, and it seems new technology is going to play a major role. Accenture is issuing its latest update to its tech vision report, and it has proprietary survey responses from almost 90 of the world's largest A&D companies. Joining me to discuss all of this, and more, are two long time Accenture advisors with deep insight into A&D. They are John Schmidt, the Global A&D Lead at Accenture, and Jeff Wheless, Global A&D Research Leader. John, Jeff, thanks for joining me.

Jeff Wheless:

Thanks Michael. It's good to be with you.

John Schmidt:

Good to be here.

Michael Bruno:

Jeff, I want to start with you. Can you tell us a little bit about the tech vision report and the survey that Accenture has completed of all of these A&D CXOs, and other senior leaders?

Jeff Wheless:

Sure, Michael. Every year, Accenture surveys, over 6,000 senior executives across 24 industries and including aerospace and defense. It's a great way to get a pulse on how companies, how executives see technology, and how it can help them transform and change their business. As you pointed out earlier, we're in a stage of nevers. We've got unprecedented change. However, as an industry, aerospace and defense, almost by definition, solves large audacious challenges. So, that's what we have facing us. This year's technology vision shows, I think a good snapshot in terms of what are senior executives, what's their perspective, what are their expectations around how digital can help them navigate. Certainly, looking post pandemic, and what's important for companies to survive. Long-term is around systems resiliency, security, looking at how do they interact with customers now, remotely.

How do I use AI? How do I use robotics? Things like that, to increase safety and have an interaction that you want to have with your customer. How do I introduce resiliency into the supply chain? How do I innovate? Innovation with a key area that came out in this year's technology vision. The report, this year, shows how aerospace and defense companies can use that in order to set up to both, get through the short-term chaos, as well, setting up for the next, in terms of longer-term and dealing with more uncertainty than we as an industry typically have.

Michael Bruno:

Again, looking at that tech vision report, digital is the overarching theme. I see five focal points, The I in experience, AI and me, the dilemma of smart things, robots in the wild, as you guys talk about, and innovation DNA, and we're going to get into each of these. But John, why did these new technologies, like the one Jeff just talked about, have the potential to disrupt A&D in coming years, so much? Why these five?

John Schmidt:

Well, the five trends are really brought together from all the research that Jeff was talking about earlier. When I kind of translate them into aerospace and defense, and I know we're going to dive into them, we look at it across what I'll call it generally, the value chain. Starting with the customer experience, and that starts on the flight deck with everybody from the crew, to the passengers, and seats. Going on to how companies engineer and manufacture products. How they work with their extended supply chain. Operations and aftermarket, and of course, it's a foundational element across all of this stuff, around software and information security and analytics, artificial intelligence, and talent and expertise itself.

When we look at some of the statistics that come out of this in terms of how technology is disrupting, what we're finding is that 71% of aerospace and defense executives believe robotics are going to enable next generation of services. Which is a pretty big component of a executives, looking at robotics specifically. 77% are already piloting, or implementing AI solutions, which is maybe not such a huge surprise to me. Although, I think we can talk a little bit more about that later as well. 81% think that their connected products and services are going to continue to be updated, an important component of growth in their futures. Then, 90% believe that they need to elevate relationships with their customers as partners in engaging and engaging through better technology.

Michael Bruno:

Let's start diving into them. We might as well, right away, a couple of interesting statistics I've seen in the sneak peek of the report you guys gave me. 72% of A&D executives that you've polled agree that organizations need to dramatically re-engineer, and I emphasize that dramatically re-engineer, to bring technology into a more human-centric manner. John, this resonates with a lot of people in the wake of the 737 MAX issues. But, as you and I have talked about for years, A&D has been wrestling with user interface and information overload for a while, does this go with that?

John Schmidt:

Well, I think it does, yet I would take this at even in a broader sense. At the broadest sense, and again, going back to that, maybe the value chain, as I loosely described it, started with the pilots, and the crew, and the passenger experience. Then, thinking about next generation technology driven improvements, they'll be taking a more human-centric approach. For instance, we used to talk a lot about in-flight experience, or entertainment, bring your own device, but now thinking about going forward in how you take technology and new end ways of engineering product, to improve comfort, hygiene, and safety on the aircraft. For instance, in the commercial side.

Then, move on to production operations, flight controls, and all the way through maintenance, where technology is able to impact our ability to engineer products that better accomplish their tasks. In essence, what we're doing, is we're following that digital thread that we've talked about, with an eye towards how people interact with technology to accomplish your jobs at every step, from the first part of innovation, to engineering, manufacturing, assembly, and production, and then operations.

Michael Bruno:

It seems part and parcel to, the issue has been the rise of AI, artificial intelligence. Again, looking at the report here, 77% of A&D respondents say they are adopting, or piloting AI. More than the average of all the industries that Accenture is serving. Jeff, in another conversation we had, you were telling me about how the horizon for AI can really expand even in the post coronavirus world. I think one example you gave me was about how predicting and

managing for a factory, maybe one benefit, if that factory gets hobbled by sick or absent workers, and how AI can help you do that, maybe.

Jeff Wheless:

Yeah, absolutely, Michael. What we saw from the survey was almost 90% of aerospace folks said that the collaboration between human and machines is going to be critical going forward. As we look at potentially waves of additional outbreaks, and we're used to keeping things running and setting up for maximum production, and now we're going to have to start-stop-change in commercial, certainly it's part of it. But even in defense, where folks are still buying systems and acquiring. However, getting all the workers to work every day, I mean, this is a people business at the end of the day, to deliver all of this.

Using artificial intelligence to simulate operations and to understand, cut through all the noise in terms of intelligence about sub-tier suppliers, or where are the outbreaks happening with some of those suppliers so that you can get a feel for how reliable supply might be. All of those are examples of how AI can be integrated much more into the business. We've certainly done lots of pilots as an industry, and now it's time to double down and use artificial intelligence to help increase the resiliency in terms of operations.

Michael Bruno:

Okay. We've been talking a little bit there about how A&D can use big data analysis and AI to discover and solve new and old issues, and help operate more efficiently. But, there is a never-ending tension in this sector with technology, as I alluded to before with the MAX. Jeff, seems to me Accenture research hints at some of this, as it talks about the dilemma of smart things, as well as the continued advent of robotics across A&D. Well, the good news is the vast majority of A&D executives appear to be embracing innovation and products, offerings, and applications within their own operations. There still seems to be a lag behind other industries, or at least, maybe less enthusiasm. Do you think that's the case?

Jeff Wheless:

Michael, I think I might take a little bit of a different take on lagging versus, just complicated regulatory structure perhaps being in the mix. Because, when we talk about smart things, it's about data coming off of engines, about doing things on maintenance, about drones. Certainly, in all of those areas, aerospace is a leader. However, when we look at it as an industry, it's very much a safety culture. Things need to be regulated for safety purposes in terms of drones and urban environments, or urban mobility systems. So, I think it's more of a regulatory challenge that's driving the fact that, if you look at it on the surface, then aerospace and defense is a bit behind in terms of deploying those in the real world. However, lots of pilots are in place, and it's a matter of getting through the regulatory hurdles, country by country, in order to enable that to happen. When it's happening, it's predicted to happen big.

Michael Bruno:

That reminds me of a quick story, not to get off on a tangent, but I've had many people ask me over the years, why there isn't more 3D manufacturing in A&D then there is, and it's been explained several times that you've got to certify that material all the way down to the raw ingredients going into it. There's a reason aviation is the safest mode of transportation ever around the world. It's because that level of safety.

Jeff, I think you were just speaking to that. But, in another way, John, Accenture notes that the so-called innovation DNA within A&D seems to be pretty obvious. For instance, 82% of A&D executives polled believe the next wave of innovation will be driven by science seeking sustainability and other ecologically friendlier approaches. That sounds pretty interesting, and maybe not a novel use of new technology, but definitely something where technology is going to come in pretty handy.

John Schmidt:

Well, I mean, that's right, Michael. The statistic is 82% of aerospace and defense executives believe the next wave will be driven by scientific research, targeting sustainability, and climate change, and energy. That's higher than the 77% of executives across all industry, and it's no surprise to me. I've been saying for some time that the drive to meet sustainability targets is completely aligned with the drive for lower cost and higher efficiency from aircraft and engines. It's unsurprising to me in the least that A&D executives would be higher on this trend than all industries. It's what we've been pushing for, for years. We've accomplished great strides, there's still more work to be done to hit the targets that are up there. But, the fact that aerospace and defense is counting on those as being drivers of innovation, higher than the rest of industries, is absolutely no surprise to me.

Michael Bruno:

And, it's not just things like jet fuel burn more efficiency in the engines. It's more connected aircraft, and the other things we've talked about over the years.

John Schmidt:

Absolutely. The ability to better manage operations all the way through for the operator, that's going to lead to tremendous gains. It's not going to just come from one magic bullet of fuels, or one magic bullet of an engine technology, it's going to come from the end-to-end application, and technology is going to be a big part of that. That's again, why I'm unsurprised that 82% are looking at those as being drivers in and of themselves.

Michael Bruno:

All right, this all sounds good, but there does seem to be a bit of a financial elephant in the room, now A&D could be suffering its worst downturn in memory. Right now, companies from Boeing all the way down, have been battling a liquidity crunch. We all hear the term, cash is king, and yet all of this technology innovation is going to require some major spending. John, how do companies afford making these investments?

John Schmidt:

Well, it's obviously a very good question with everything we're seeing and reading in the news, and all the questions around the known, unknowns, and what the timeframes might be for getting back to whatever we might consider normal to have been. But, I would say this, since mid-March, I've been talking with senior executives across the industry, and across all of our clients, primarily here in North America, but also a few companies outside of North America. I would say the first two weeks, say the last half of March, most of the time, it was really kind of maybe head spinning. Things were moving so fast, locked down, either locally, or whole countries, borders, people coming down illness, facilities being closed for deep cleans, people's heads were spinning. Since then, and starting really in April and even continuing now, the topics are more on where to focus on cost and efficiency, and which investments to continue to make to come out of this stronger.

There's a little bit of A Tale of Two Cities here in my mind, between what I'm hearing from the commercially oriented companies versus the defense-oriented companies. But in general, most of them are wishing that they were more digital, more data-driven, more in the cloud, using more automation and AI. They wish they had a more variable cost structure for their operations, that their IT shops weren't buried under a high degree of legacy IT debt. And, had they thought through the implications of having a more remote workforce. Having engineers, having to tap into high performance compute environments, for instance. It's not something that most of these companies had thought about, and was forcing them to have engineers going into work under the height of the crisis. Really having the ability to deal with an extremely volatile situation in their supply chain, which is not something we've had to really deal with in either commercial, or the defense side, in a long time.

My counsel to them today is really the same as what it was prior to when we had this COVID-19 crisis. It's really managing what we call that wise pivot, between what you do now and how you invest in the new, along the financial, the talent, and the innovation dimensions. The research that came out after the 2008 recession by Harvard and

Northwestern professors, shows that companies that manage this wise pivot, who managed the decisions on where to drive for cost and efficiencies now, while also making smart investments for coming out of recession, come out stronger than the competition. That's what I think is really happening today, is companies are working through, what does that mean? What does it mean for the rest of this calendar year, in terms of budgets and investments, and then what does it mean for 21 and beyond?

Michael Bruno:

Well, that is excellent, and we could talk a little bit longer about it, for sure. But, we have come to the end of our time. John, Jeff, I want to thank you for joining me and offering your insight.

John Schmidt:

Thank you, Michael. It's always a pleasure chatting with you.

Jeff Wheless:

As always, Michael. Great to talk with you.

Michael Bruno:

Thank you to the listeners for joining us for another Check 6 with Accenture, please look for Accenture's technology vision report and be sure to check out the rest of Aviation Weeks, Check 6 podcasts at aviationweek.com.

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