Senior Business Editor Michael Bruno talks with Accenture Global Aerospace and Defense Industry Lead, John Schmidt and Joyce Kline about what will be on everyone’s lips, as well as what might serve as a few surprises at the big annual European event.

**Michael Bruno:** Hello and welcome to aviation week’s Check 6 podcast with Accenture. I’m Michael Bruno, senior business editor at Aviation Week. Today I’m with two of Accenture’s Aerospace and Defense leaders, joining me are John Schmidt, managing director and the global A&D lead at Accenture and Joyce Klein, Accenture’s digital lead in the North American A&D practice. John, Joyce, welcome back.

**John Schmidt:** Thanks Michael.

**Joyce Klein:** Thanks Michael.

**Michael Bruno:** It’s prom season and the aerospace and defense sector is getting ready for its big annual to do. We’re talking about the Paris Airshow later in June of course. This year there are certain to be many issues that fuel the chatter from the chalets to the flight line. Accenture has been studying and working with numerous industry executives ahead of the Airshow and I want to find out what you’re hearing and seeing. So Joyce, let’s start with you and the many technology themes that seem to be emerging in the backdrop for industry. Many, many of the stories we write about at Aviation Week these days revolve around digital disruption. What are the technologies that executives are grappling with right now?

**Joyce Klein:** Thanks Michael. There’s a lot of them. We can go actually in a bit of a spectrum and talk about things like artificial intelligence and machine learning, extended reality, virtual reality, block chain or distributed ledger technologies, as well as get into aspects relating to advances in quantum computing. It’s a wide spectrum of capabilities, are being deployed and clients are asking for help across those different capabilities and deploying them themselves. It’s a pretty exciting time.

**Michael Bruno:** And then there are the old new technologies like 3D printing that were still talking about.

**Joyce Klein:** That’s correct and robotics and IOT. Exactly, it’s a pretty wide spectrum of opportunity.

**Michael Bruno:** According to Accenture’s research, many executives think that artificial intelligence will have the greatest impact of these technologies on A&D, how so?
Joyce Klein: Yeah, it’s pretty exciting actually because artificial intelligence provides us the ability of really looking at applications within their internal operations, across the enterprise, everything from HR to finance to supply chain and as well as the aftermarket, as well as extending into changes within the customer experience. This is a pretty exciting time. You know, a lot of the work that we’re doing, I’ll just pick on supply chain as an example, we can see applications of artificial intelligence and in machine learning around supplier delivery and better predicting when that part is actually going to arrive. We can look at opportunities from inventory optimization, in the aftermarket, we look at things around predictive maintenance, when is that part actually going to fail and how can I be more understanding of when that part is going to come in so that I’m ready for the overhaul and actually can do that turnover or swap out much more efficiently.

Michael Bruno: Well predictive maintenance something we’ve been hearing more about, well we’ve been hearing about for years, but you were talking about predictive supply chain. That’s really interesting. And that gets to my next question, which is A&D companies not surprisingly want to make money like any other business and I hear so much about the importance of making sure that tech investments provide an ROI. What is that and how do companies make decisions or make good decisions to increase the likelihood of an investment making good.

Joyce Klein: Yes Michael, that’s actually quite interesting in the sense that one of the things that we’re seeing is that as organizations are making investments in digital innovation, only 22% of large organizations are actually receiving benefits that are driving growth. And we’re finding that those organizations are what we’re calling the champions. So it’s very important that an organization spends the time up front in terms of making the right decisions as they’re making these investments.

So there’s a few things to call out here. First and foremost, let’s talk about the fact that we’re moving beyond if you will, the science project. A few years ago, this was all about making, you know, just testing and understanding is something going to work.

Michael Bruno: Sky was the limit.

Joyce Klein: Exactly. Let’s test a augmented reality. Let’s see if this IOT pilot might work. Let’s try the use of analytics over here. And one of the things that we’re finding is science projects were beyond that. And what clients are doing now is really looking at what is the ROI, to your question, what is the business case? And so that movement is actually quite exciting. And it’s getting fueled actually by the fact that people want to actually build sustainable solutions, so because it’s business case driven, we can do a proof of concept if the business cases realized we can quickly move to pilot and then we can scale that opportunity. This application of digital in this manner is also part of what Accenture’s talking about around helping clients make that wise pivot. It’s about keeping the legacy business running, but knowing where you want to invest around innovation and the future so that you’re actually keeping the lights on while at the same time moving the organization to that next frontier from a digital perspective in managing that digital transformation.

Michael Bruno: Going forward and maybe not necessarily cautiously but going forward without a lot of waste in the process.

John Schmidt: And sometimes we’ve seen it on this transition about the science projects. Instead of doing a pilot, which could have even been something in a conference room, then moving to proof of concepts, then moving into a proof of value, which may be brings in a little bit more real life to it, we’re seeing more clients saying, hey, this thing makes sense and we should be doing this and let’s look for a permittable viable product, something we can do quickly and get out there and then really prove it in the real world. And maybe one little unit or one line or one part of the business. And then when we get the real data from real operations, now we can go and make improvements to it. So it’s no longer a minimally viable and scale it quickly and in fact, you know, at Accenture we do a lot of that through our innovation hubs here in Chicago.
We have one of those and it’s where we bring together a lot of our digital and technology talent to be able to quickly, you know, design and then implement solutions just like this.

Michael Bruno: So, it’s more about this minimum viable product. It’s not just simply what you can achieve, but it’s what’s going to actually provide a little bit of a return in what the midterm is it or is it a near term?

John Schmidt: Near term and more than just a little bit of return. I mean the hurdle rates are still hurdle rates and getting these things across and so I think one of our objectives is to work with companies to say instead of 22% next time this survey goes out, we want to see that double triple so that we can start seeing the promise of these digital technologies.

Michael Bruno: Workforce remains a pain point for industry, but it’s not just sourcing enough workers. There’s a technology theme here too. It’s also about sourcing the right kind of skilled workers. Joyce, what are companies looking for in regards to technology and future workforce?

Joyce Klein: I think one of the things that we’re seeing is it’s that balance between new hires that are digital natives and really have an expectation of what the work place is going to be for them against the incumbent workers, if you will, who may be shy in embracing new technology. So it becomes that balance for the organization where they need to be capable of understanding both types of employees and basically providing the tools and capabilities to be attractive and keep and maintain, if you will, those digital natives while at the same time upskilling some of their more seasoned employees who might need some help in and guidance on the use of some of these newer technologies. So it’s an interesting perspective in terms of that actual balance. And I think one of the things that we’re seeing is that organizations really need to make sure that they’re understanding and appreciating how to manage through this. In fact, one of our surveys recently highlighted that, a majority, actually it was 67% of A&D executives believe that 40% of their workforce, will move into new roles that require substantial reskilling just due to this impact of technology.

John Schmidt: Yeah. We call that employee velocity, right. The ability to move people from one function to another, from one line to another, and doing it in such a way that they can quickly adapt to the technologies that are being used. And it’s going to create a need for workforce of the future. It’s a little bit different than what we’re looking for today. I mean more adaptable, more technologically savvy, and it’s going to be an interesting transition.

Michael Bruno: And speaking of savvy, I was struck, I was looking through the tech vision report, that Accenture puts out and there was an element in there about talking about how workers need to have social media savvy. It’s just one of the many skills. And that just kind of blew my mind about the idea that you need to think about your workers being able to get on social media, whether it’s LinkedIn or Facebook or whatever else and how to use that for your corporate benefit as a workforce skill.

Joyce Klein: Absolutely. And I think it’s also that aspect too of just understanding that fine balance between your outside of work activities and your inside work activities and how to make sure that you’re appreciating that persona that you’re projecting internally at work, and then outside of work.

John Schmidt: Well one of the other things at that report was highlighting along social is we used to say SMAC, right, SMAC - Social Mobility Analytics and Cloud. And what we’re finding now is when we survey, that’s basically table stakes technology for any company in this industry to have their hands on. And so to do that, obviously the people within the company and needed to be able to operate in the social case and companies need to be providing mobility to their workers. And I can’t remember a time I’ve had discussion with somebody who said they wouldn’t want their employees to be as productive with that device in their hand as they are at their PC.

Michael Bruno: So, one of the other acronyms you all talk about is DARQ, DARQ technologies, and John, I want you to explain that in a moment. One of those refers to quantum computing. And it struck me just a couple of weeks ago, I was
listening to an investor conference, the CEO of Honeywell, Darius Adamczyk was speaking to an analyst on stage and the analyst asked about Honeywell’s projects in quantum computing. And I thought, wow, this is amazing. This is a kind of, someone say older school, industrial and conglomerate and here he is being asked about quantum computing. So what’s dark and why are A&D, bigger, older companies looking at it.

**John Schmidt:** So DARQ power, a term we’ve come up with - DARQ where the D stands for distributed ledgers or block chain, the A is artificial intelligence, the R is all elements of reality, augmented mixed, virtual reality and the Q is quantum. And what we’re seeing is an emergence of all four of these technologies, and you know, a majority of our clients are actually already kind of, exploring these technologies inhouse, not to necessarily to the extent that they’re being deployed and you know, at scale, probably the closest and the most precious one to the executives we survey is artificial intelligence these days. On the other hand, when we say quantum to go to that, it is surprising to have analysts questioning the CEO of a major company like Honeywell on their plans for quantum. And I think the answer he gave is spot on. And in a sense I think what he said was we have to look for where this is going to be a game changer for us and then go deploy, which goes with what Joyce is saying no science projects, we’re not going to get it and just go and play around with this and see what happens. We are going to think about where in our business do we have problems where solution or technology is better than a solution like quantum can help us much like the block chain conversations we were having two years ago when people would say, let’s do block chain. Well wait a minute, what are we trying to solve with block chain? And there are some particular use cases if you were with block chain is being deployed in our industry and we’ve been doing some with our clients as well. I expect quantum to travel the same path those two years ago, maybe a week that block chain would be two years out, we were wrong. I think the same is going to be the case with quantum, it’s progressing really fast.

**Michael Bruno:** Well, I want to go high level and talk with you two about some other issues like uh, the Max aircraft, China and other big issues facing the industry. But before we do first let’s hear a quick word about our sponsor.

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**Michael Bruno:** So John and Joyce here we are creeping up on midyear and there’ve been a lot of negative headlines effecting A&D this year, but Accenture is still predicting growth of maybe as much as 5.4% in the commercial aerospace sector. What is happening in the marketplace?

**John Schmidt:** While we put the, a projection in context, when we did the research around the net econometric modeling and the executive survey that kind of informs that, you know, data, it was right before we had the Lion Air incident. And so now having said that, I think that and before the breakdown in the Chinese trade talks, or at least the stall that we’re at, at the moment, many things and the timing of that commercial index that we do, the insight report is really along the lines of the annual reports and the majority of the companies in our segment, obviously there’s a few companies have fiscal years that are a little bit different than calendar. So we do that twice a year. And so that’s the kind of timing here, Michael. I mean, having said that, you know, there’s, there’s maybe a feeling out there that by reducing the rates, because there’s no max to be specific as still being built at 42, I think a month right now. And the suppliers have been told to continue producing to be able to get to the regular rate, if you will, at 52 and there are still plans in place to move it to 57. So you know, the expectation is that probably helps some of the suppliers, you know, deal with all that pressure. We’ve been talking about supply chain pressure for years. It comes out of every research ship piece we do and in some cases may have given some spires a few months to kind of catch up.

**Michael Bruno:** Right, the supply chain supply chain slowdown was one of the big sort of somewhat of a surprise story from last year.
The engine suppliers and the four genes in the castings providers all having trouble getting up the rate and now maybe this is a little bit of slack that they can try to take advantage of, although for unfortunate reasons in the beginning. So China trade concerns though, continue to loom large over the aerospace sector. I’m a little surprised they have not hindered the outlook to date. Are you surprised? What do you think might change that, if anything?

John Schmidt: Well let’s maybe start with a few facts about the China’s commercial air space market. I mean, first of all try and China’s need for new aircraft is, is maintaining their market growth rate with double digit passenger traffic from 2017, you know, over 500 million passengers. You look at 80% of the world’s population is yet to take a commercial airline flight, and yet the middle class in China and other countries in Asia is continuing to rise. We have, you know, the Chinese national champion Comax still having challenges with the certification of their first, you know, airliner. And on that new development program, you’ve got aircraft, which is a huge export to China to supply this incredible need for more commercial airplanes. And you have fact that Airbus and Boeing both have five to seven year backlogs in commercials. So, you know, there’s a lot of macroeconomic issues that kind of play into this and into the outlook for aerospace. I mean, overall, I think that the outlook on growth remains strong.

Michael Bruno: The underlying trends remain what they are, which is a growing middle classes overseas and the need for air travel and that’s what’s driven the backlog to date and you’re suggesting that those are still there essentially. In a sense, yes. I want to touch on one other subject before we go, and that is mergers and acquisitions. We’ve had a couple of rip roaring years, it seems with major deals like United Technologies buying Rockwell Collins or L3 and Harris, but moving towards smaller deals and, it also seems that the deals are more focused on gaining access to technology or capability than to product lines or capacity. For example, you look at the investment recently, Boeing made in Aerion, right, Supersonic a business jet company, you have Lockheed doubling down on tech investment. They added 100 million to the technology investment fund and they’re investing in companies like Humatics you know, Khakis a $750 million for LGS’s spectrum management and C4ISR expertise. I mean, so there’s seems to be more strategic buying of maybe smaller deals to get into different spaces. But in terms of what you mentioned in year to date announced deals, we’re really in line with what we’ve seen is the average over the last several years in terms of both in terms of both volume and average deal size.

So the year is only half over. We have yet to see what comes out in the back end. But I think the bottom line story here is it’s really about precision plays and using mergers and acquisitions as strategic tool more so than the mega deals in the mega moves that we’ve seen in the past.

Michael Bruno: Eliminating a major competitor, doubling your capacity, those are no longer...

John Schmidt: Or creating a six prime, which is a pretty strategic move. Not to say that those aren’t strategic moves. They are. I think they were just seeing that shift now and, and I think this is kind of the ebb and flow of what happens in the MNA market.

Michael Bruno: So, we have a tradition here about now that we’re coming up to the Paris Airshow and making some bold predictions. Here we are halfway through the year and, and what do you think might be surprising to the sector or to, you know, parts of the sector. Joyce, I’m going to start with you.

Joyce Klein: I was thinking you were going to start with John.
Michael Bruno: No, no, no, no. Big, big bold prediction from you.

Joyce Klein: Well, Michael, you ask us this on an annual basis, so it’s always exciting to figure out, you know, what is our amazing projection for the show this year? And I’m going to go off of something that was a big topic last year and I’m going to bet that it’s going to continue to be a top topic this year, I’m not going to go with the weather, Michael. I’ve done that a few years in the past, I’m actually going to go with the conversations associated with grabbing insights from data. And I think what we’re going to hear a lot of the OEMs and tier ones talk about is their continued use of the power of analytics and the underlying data foundation that enables that. I think we’re going to hear things around digital thread and digital twin associated with that. And I also believe that we’re going to hear a lot around predictive maintenance capabilities that’ll be enabled. So I think it’s going to be an overall package with the overarching theme of data and analytics. But I think that’ll be a very high area of conversation. A lot of press releases to be issued is where I’m going.

Michael Bruno: Certainly, a lot of talk happening if he stays around those issues. Absolutely.

John Schmidt: No, Joyce always goes first and steals my thunder. If we were smarter, we would actually collaborate on this. So we knew we were going to say before we got in here with you, Michael. I think the big thing I’m expecting in predicting is there’s going to be a lot more announcements this year around aftermarket and services and new services and the aftermarket side and it’s going to leverage some of the new things Joyce mentioned. I mean the data that’s being created by the aircraft and engines these days, just tremendous. There’s a lot of companies, OEMs, tier ones, even independent companies trying to tap into that data. And in fact a majority of the executives in our last survey said they expect this kind of data to drive new revenue sources in the future. And I think you’re going to see some of the announcements coming out at this show.

Michael Bruno: Well, John, Joyce, I want to thank you for joining me and offering your insight and your predictions. I hope you and everyone listening who might be attending the air show has a wonderful experience. That brings us to a close for this edition of Check 6 with Accenture. Please check out the rest of our Check 6 podcasts on Aviation Week.com. Thank you.

John Schmidt: Thank you, Michael.

Joyce Klein: Thank you, Michael.