

AVIATION WEEK CHECK 6 PODCAST WITH ACCENTURE

“Will My Supply Chain Survive COVID-19?”

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VOICEOVER

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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 commercial aerospace supply chain is writhing. The sudden collapse of the Spring of passenger air travel after the outbreak of the latest novel coronavirus and its COVID-19 disease has upended fortunes in the airliner manufacturing industry. That matters because commercial aerospace is responsible for about three quarters of the whole aerospace and defense sector's business activity. Cash is king right now throughout the supply chain, and companies are struggling to have enough liquidity, according to what several advisors and analysts tell Aviation Week.

Well, liquidity is more of a function of the wider economic downturn, inside aerospace there are even bigger challenges. Where production rates were once being pushed higher, now OEMs are slashing them, cascading pressure down the supply chain. At the OEM in the top tier level, it has probably never been more important to have insight into your supply chain. Joining me to talk about that need and what to do about it are John Schmidt, the global A&D lead at Accenture and Joyce Kline, Accenture's leader in applied intelligence in the North American A&D practice. John and Joyce, welcome back.

John Schmidt: Thanks Michael. Good to be back.

Joyce Kline: Thanks, Michael.

Michael Bruno: John, let me start with you. It seems obvious that OEMs and tier ones want insight into their suppliers, but while that was always true, it used to be about making sure that there were no bottlenecks that slowed or stopped record high production. Now things have changed. What are the new conditions that demand end customers pay better attention to their supply chain?

John Schmidt: Well, Michael, in many ways, the aerospace industry has a clear split between the companies that are working in the commercial world, and those in defense. In the commercial, as you say, the concern used to be we have a set supply constrained world with very predictable demand, always pushing for more, trying to meet those increased rates pushed by Boeing and Airbus. In the current world, that's changed dramatically to being more of a supply volatile with unpredictable demand.

In the defense and space side of things, things have largely remained in a predictable demand with an increased supply chain volatility base. If I just keep looking at those two things, predictability and the constraint or volatility of the supply chain, that's where the primary difference is in. In commercial, we know that demand is going to be directly related to the bounce back of commercial air travel, and the relative rates airlines choose to bring back stored aircraft versus take more efficient models on order from the OEMs, causing more volatility and demand variability.

In defense, it's a bit different again. Demand has remained, and the supply chain has been impacted by COVID. In some cases there are tier one, two or three companies who source both commercial and defense who are trying to generate cash to cover expenses. In other cases, local COVID outbreaks and our government actions are impacting the supplier's ability to deliver on schedule. Now, in both cases, aerospace and defense companies need the ability to deal with volatility like never before, whether they're commercial or defense.

Michael Bruno: Joyce, last time John and I talked here on Check 6 with Accenture, he gave me a peek into some new technology you all were working on. It's a new capability to peer into the supply chain, including using an algorithmic approach that allows more predictive insight, potentially even the ability to hotspot what factories might be in trouble in the future. Can you tell us a little bit about what Accenture is working on and how does this work?

Joyce Kline: Yes, absolutely, Michael. At Accenture, we've been working with our clients in the supply chain area for many years, using analytics and machine learning. In fact, if you go back to last year's Paris Air Show, in our Accenture chalet we had a digital showcase demo that focused on intelligent supply chain. And what this demo did, is it brought together machine learning and artificial intelligence. We used the clients' supply chain ERP data to really understand delivery delays, identify missing parts. We also looked at the opportunity for automation.

What we're doing now is we're bringing together a lot of data sets and we're using artificial intelligence to help companies deal with the increase in volatility, manage uncertainty, and really get at supplier resiliency. That's really the core of what our solution is all about now. For North America A&D client, what we've done is we've taken an artificial intelligence engine that uses the supplier data, and what we're trying to do is we're actually working to predict the number of days late for a particular part. And we're doing that by bringing together the supplier, part number, purchase order number, delivery date and quantity combination, taking all of that information together, actually identifying the number of days late the popular part is going to be.

And so, by knowing the number of days late, then what we're able to do is identify and determine, do I have enough inventory? Do I have enough base coverage for that particular part? Because ultimately if I don't, I need to make additional decisions around production. And so what we've been able to do with our solution, we've experienced up to a 10% improvement in part availability for production. We're also able to change the role of the delivery assurance analyst. Previously, this individual was really operating what we call a hero mentality by getting parts in. What we're really doing is turning that role into someone that now uses data and AI to make better and improve decisions around what parts they are going to chase, which parts are actually going to come in on time. So, it's a big shift in role.

For a European A&D manufacturer, what we're doing is we're combining ERP data to identify how supplier performance impacts production by going into the building material and really understanding which parts are going to be delayed by looking at things associated with delivery, warehousing and logistics delays, and ultimately, the impact on inventory and this coverage. So we're at that building material impact production, we can do mid scenario analysis to really determine what do I accelerate and what do I delay based on part availability.

Then another component of what we're looking at is the financial stability of the suppliers. Really understand whether we have any potential default risks that may be occurring. One of the things most recently is we've taken all of these different solutions and we've embedded COVID-19 modeling onto the solution to really understand suppliers who are located in potential hotspots. And when you look at COVID-19 capabilities to predict and the other things that we're doing is we're looking not today but where you might see future hotspots as we still track the disease until there's a vaccine available. And then the power also is on additional external data sources because at the end of the day, what we really want to be capable of doing, being aware of that next potential risk that could occur across the supply chain.

Michael Bruno: So I'm just fascinated by this capability because Joyce, as you mentioned, heroics play a big part in aerospace and manufacturing. And I think that's a bit of an inconvenient, dirty little truth we don't talk very much about in the sector about just when business was fine before COVID-19 how much heroics it took to get the product out the door and get it delivered to the end customers. And now from what I hear from lower level managers and workers that suppliers, this level of insight wasn't something that their own companies may have been very well aware of. So I'm curious, how far does the predictive capability extend? Does it cover potential union strikes or other strife that may come up? You plugged in COVID-19, can you plug in other events that might be able to help with the predictive analysis. And I'm sure there's a limitations here. So what are the limitations to how far the technology can help you and do this predictive?

John Schmidt: Maybe I'll take the first cut at that and Joyce has something to add. I think, frankly, if there's a data set that's available internal or external, we can take that data set, adjust it into the AI engine and include it as component of the solution. And by pulling these different datasets together and giving ourselves a much broader view of what's going on in the supply chain, that's really the net new of what we're talking about here. And when we do that, we can provide data that's applicable to the delivery assurance specialists that Joyce was talking about or to somebody who's running operations on a manufacturing assembly floor as well. That's the breadth that we're talking about by tapping into that combination of internal and external datasets.

And if you're thinking about things like potential risks around strikes or for a company to think about its own operations, if it has many plants, will certainly, we could be building that in because that's data that they would have with the terms on their contracts, et cetera. If we're looking at external, that's something that I don't know if we have access to that publicly available. But if it's out there and if there's something else like it, that comes to mind, we can do it. Joyce mentioned the hotspots and COVID. That's using publicly available data that's available to bring it in and then give us insights into where there may be potentials for slowdowns or other issues with supply chain.

Joyce Kline: Just add sentiment data is really what I think is the core that could be an additional incremental external data set added in that would help us understand that appreciate what employees or related organizations in the ecosystem might be saying.

Michael Bruno: I think some of those capability existed before and including financial data from enterprise resource planning systems that all of the companies have these days basically, but now you're marrying that kind of ERP data it sounds like with some artificial intelligence. And that, to me sounds like a big leap. This is a genuine application of AI in business planning, which seems to be a newer compared with using AI in operations when it comes to flying an aircraft with autopilot or something like that. This is a new paradigm we're talking about here.

Joyce Kline: Yeah, Michael, it's really a great example of using the power of data to drive insights and ultimately take actions. And it's really that combination of, from data to insight, to action, to outcome that we're really trying to impact here. And if you think about supply chain, it's so ripe with data and information that we really can address some of the major challenges that OEMs and tier ones face in understanding things like deliver delays, the impact to production, and ultimately part delays that go down to the building material that are going to constrain and really impact the overall build process. That's really what taking all this data and information allows us to do. And then you can enrich it by looking at things like COVID-19 risk and hotspots and financial information to really come up with a robust set of information to ultimately analyze.

If you step back one of the things that we're trying to do with, with this capability is to provide information to all levels of the organization. We've spoken about that delivery assurance analyst, and how to make that person do their job better as we go to other roles and levels and look at the person that's trying to manage production and how can they use this information to understand if they're going to accelerate or they might delay because there's

concerns with part. You can look at it so people that are managing supply chain risk and help them around financial and operational performance, and then all the way up to the vice president of operations and how we can help complete their job.

One of the other things that I'll add on here is the approach that we're taking very much persona based. So we're using our members of our Fjord's game design thinking skills. So we're making sure that at all levels across the organization, that we're tapping into that right persona to make sure that the information that ultimately gets visualized is at that role level so that the person that consumes it is getting that right amount of information to help him or her complete their role or their task.

John Schmidt: That's a key point, Michael. Making this into more than just a dashboard by making the data intuitive to the person who's using it, that's part of the key here because otherwise you end up with great dashboards and it takes too long to really consume where you really need to be. And our Fjord team is just excellent at doing that data visualization.

Michael Bruno: Well, I want to take a little bit higher level look at the supply chain and why this insight is needed. But before we do that, let's hear a word first from our sponsor.

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Michael Bruno: All right, John, to be frank, we're entering some turbulent times here for the supply chain. Aviation week has heard some advisors who are forecasting that around a fifth of the existing lower tier suppliers could exit the sector due to the pandemic effects. Those exits could be because of bankruptcies that could be planned takeovers. They might've been strategic exits to get out of the marketplace before any of this occurred. You never know, but now things are looking worse. Do you think another round of consolidation is coming?

John Schmidt: Well, you're absolutely right. Our forecast as well points to a reduction in capacity needed for several years before we're going to require the glide scope of growth that we had in 2019. And so for sure, capacity is going to be reduced for the next several years and how that translates into bankruptcies or consolidation or strategic decisions to the industry is really hard to forecast. Having said that I suspect we're going to see a mix of all three at various levels of the supply chain. I know of a few clients at tier one and two who are already seeking to leverage manufacturing capacity to enter new segments, for instance, most recently talking about Med Tech and how they can redirect manufacturing capacity in that direction to make up for all the excess that they have. And I can imagine that decisions around things like that are happening at every level. And especially for those suppliers that are farther down the supply chain, who source to both commercial and defense, if that mix is heavily towards commercial, then right now they're going to be in a really tough spot. And so something's going to have to happen.

Michael Bruno: So Joyce, that consolidation used to be something that middle level managers could let their CXOs worry about, they didn't have to worry about it so much in their day job. But as business gets more tense now, due to the downturn, it seems the program managers who are responsible for purchase orders or receiving deliverables might have to start worrying about their suppliers status too. No company ever wants to go into bankruptcy and it's not like it gets announced well in advance.

Joyce Kline: Yeah, Michael, absolutely. Evaluating the risk of suppliers from a financial standpoint is important for anybody that's managing a supply chain today. As we talk to our clients pre COVID-19, and even now, the

challenges of understanding financial status of a particular supplier is just so important and critical. One of the things that we're learning as we're working on our delivery resiliency capability is that in some countries, suppliers are actually required to submit a report, I guess I would say, their financial data to the Ministry of Tax and also for the Chamber of Commerce. We're also learning that this particular requirement of data sharing might actually start to permeate across Europe. But if you think about that, just becoming so much more important that there's this visibility and transparency to financial information, it's so critical because this data is just necessary to understand and better manage the supply chain, but it is tough to get at, but that transparency that might be created in Europe, I think, is a welcome act to really try to get at the use of this information for predicting performance.

Michael Bruno: So Joyce, looking broader, do you think this new level of technology driven insight is going to change the relationship between OEM customers and their suppliers? I'm thinking there's always been a battle between how much you let an end customer peer into your business operations, but at the same time, if the whole industry is really going to have to work together, if it wants to survive COVID-19 and get back to anything resembling 2019 levels, there's just going to need to be more sharing of information on all sides. Is this a new level of relationship?

Joyce Kline: Well, in some respects, I think it's something we can only hope for. If you step back a little bit, the supplier and OEM relationship is certainly an interesting one and one, that up to this point, there hasn't been a lot of transparency. So I think one of the things that what we're hoping for with the data availability and in having fact based data driven decisions, it's really, I think, a potential to change the relationship. It's a two way street here with OEMs impacting and causing volatility across the supply chain, suppliers who have delays of their own and the amount of information that they're sharing about some of their own challenges, and really comes down to the ability of using data and analytics to really power change in that ultimate relationship. So we're hopeful that some greater transparency is going to exist as a result of data actually powering.

Michael Bruno: All right. Well finally, John, I think we've got time for another one or two questions here, and I want to ask you, I'm hearing a lot of predictions about how the aerospace supply chain could change in the post pandemic world. What trends do you think we're going to see?

John Schmidt: Well, I'm glad you limited the question to supply chain because I think trends in aviation and trends in aerospace, there's going to be a lot of things that we're going to talk about changing, wearing masks and aircraft and little private snack packets when we walk on planes. So let's talk about supply chain. We're already hearing some of the trends and in talking to clients and working with clients on and dealing with what comes next in this COVID environment, at least in our lingo, there's the now and the next. And one of the things that we're seeing is a lot more discussion around regional sourcing, working to minimize logistics risks and the risks that come from crossing borders. So I was just on with our European team this morning, talking about something we're doing with a client there and dealing with those potential risks.

We're also seeing a lot more discussions around the wisdom of dual sourcing to minimize disruption. None of this stuff's going to happen overnight, but the frequency of going and seeking the lowest cost location and laying down a sole source contract, that's something I certainly expect we're going to see less of in the future. And in fact where one source equals risk, a source across an ocean, or even across the national border, it may also equal risk. And so we're going to see trends towards a different look at how we do strategic sourcing as we look forward and going in a post pandemic world.

Michael Bruno: So more resilient, maybe more regional?

John Schmidt: Yeah, resilience. And the go back to my initial comments on volatility and dealing with volatility. When there's volatility, having resilience and the flexibility to be able to shift and move, that's critical. And the tools that we've been putting together using these different AI engines that Joyce was talking about, actually helped provide that resiliency by giving early indication of where the challenges really are, not just what order is going to be late. It gets down to the part and which part and which part of assembly or which part of manufacturing, and that's really the twist in bringing that data together.

Joyce Kline: And ultimately which suppliers you have to watch for. At the end of the day, it's that supplier who makes those parts, it's the combination of the two that really becomes the data and information that we're really trying to drive and understand that ultimately can cause the impact to that OEM and tier one.

Michael Bruno: Right. It's everything from the parts to the providers...That everyone's going to be keeping a key on, keeping a watch on. Well, that brings us to the close of this edition of Check 6 with Accenture. John, Joyce, I want to thank you both for joining me and offering your insights.

Joyce Kline: Thank you, Michael.

John Schmidt: Thank you, Michael.

Michael Bruno: I note that listeners should reach out to John and Joyce if they want to hear more about the supply chain insight technology they're working on. Don't forget this podcast is now available for download on iTunes. Thank you for joining us here on Check 6 with Accenture. Have a great rest of your day.

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