# Aviation Week Check 6 Podcast with Accenture on Military Sustainment
# August 21, 2020

**VOICEOVER:** You're listening to the Check 6 podcast, brought to you by editors from across the Aviation Week Network. Listeners now have access to special subscription offers, including 30% off Aviation Week & Space Technology. Go to podcast.aviationweek.com to learn more.

**LEE ANN SHAY:** Welcome to this Check 6 podcast, sponsored by Accenture. I'm Lee Ann Shay, Aviation Week's chief editor, MRO. The pandemic has thrown the aviation aftermarket into new territory for both airlines and militaries. However, behind the scenes, some actions happening in the military aftermarket, including the push for agile development, the use of open architecture to upgrade, and cloud-based software and analytics delivery could hint at broader shifts in the overall aftermarket. Joining me are Craig Gottlieb, managing director of Accenture's A&D Practice in North America, and Joyce Kline, a leader in applied intelligence for the firm.

We'll share their insights and how they think these trends will play out.

Welcome.

**JOYCE KLINE:** Thanks, Lee Ann.

**CRAIG GOTTLIEB:** Thanks, Lee Ann.

**LEE ANN SHAY:** Craig, let's start with you. What are the biggest movements and trends you see in the military aftermarket?

**CRAIG GOTTLIEB:** Lee Ann, I think you actually hit on a key point. In that, we're seeing a bit of a shift back to defense and the military aftermarket... Or sustainment, as we often call it, taking a lead role in exploring new technologies have broader implications to both the military and the commercial aftermarket.
So, there are really three things that we see. The first is a real focus on the improvement in the speed of new aftermarket service deliveries, particularly how frequently we're able to deliver new aftermarket capability at cost, and also a focus on outcomes. And those outcomes have kind of two flavors. The first flavor is the availability of the asset. And the second flavor is, and I think really interesting and perhaps has broader implications as well, how do I make the job of the maintainer easier?

So as we see the Department of Defense, in particular, looking at these three things, their impact back into the contracting community in terms of how they're transitioning from their existing sustainment or aftermarket business models into being able to support that. And really, here, digital and the cloud have a really important role to play. And you mentioned a few things that are already in terms of analytics, AI-powered solutions, and even going to things such as extended reality simulation and other techniques and technologies that are really taking hold in the defense aftermarket in a way that we hadn't seen recently and is really, really exciting.

I think the other thing that I would add too, is that we've often focused a lot on the platform. So, how do I deliver spare parts? How do I make sure that the actual, physical asset is operating appropriately? But as we look into the future, and we can talk about this more as well, a lot of the capability that these platforms provide is really driven by software. And so how sustainment supports both the availability of the asset, as well as the continuous upgraded improvement of the software that drives that asset, is really interesting, really exciting. And when we

see it impacting the ways that our clients are thinking about how they deliver sustainment solutions. So Joyce, I don't know if you've got anything else you'd like to add to that.

**JOYCE KLINE:** Yeah, Craig. Just a couple of points. We're seeing sustainment considerations happening earlier in the overall program design process for both new programs and also being integrated into model-based design and digital manufacturing activities.

And the other thing that I'll add, is that we're seeing them requests, from the DOD, that the OEMs develop cost-effective solutions and work aggressively to reduce cost on existing solutions and programs.

**LEE ANN SHAY:** Thanks for those insights. So what do military OEMs and contractors need to consider, as they develop these sustainment solutions and dividing the hardware and the software? In some cases.

**JOYCE KLINE:** Lee Ann, I can start us off. The way that we're looking at this is, for those contractors it's really a critical situation in terms of what the DOD is looking for. And that's been recently demonstrated by the increased willingness of the DOD to move ahead of industry in delivering new capabilities, as well as take over programs that were once considered long-term sustainable revenue for the contractors. So it's really a wake-up call of "Time to improve, or we're going to actually do this for you on your behalf."

The other thing is, that military OEMs and contractors need to have a deep understanding of how people, let's call it military personnel, are going to consume the parts and the data to get their jobs done effectively and efficiently. So it really comes down to "Let's make sure that we're building products and programs and solutions that are easy to use and easy to access."

Craig, how about thoughts for you?

**CRAIG GOTTLIEB:** I think one of the things that we've talked about with a lot of our clients, in aerospace and defense and other industries, is this notion of, we call it at Accenture, the wise pivot. So how do I continue to support my current business and keep that running while pivoting the business to new opportunities that are really enabled by these new digital technologies? And that's a fundamental factor that's at play right now, when we take a look at the military sustainment and aftermarket business.

So in particular, we see this pivot from a business that was predominantly based on provisioning parts and depot operations, to one in which the contracting community is really being asked to support agile decision making and use analytics to drive supply chain activity and sustaining readiness. And frankly, being compensated to a certain extent on readiness versus the availability of a part or a physical solution. And as they make that pivot, the contracting community and those that are providing the aftermarket solutions really need to start to fundamentally rethink, not just how they're operating their businesses, but also what kind of platforms that they're using to deliver those outcomes. And a lot of those are increasingly being predicated on the cloud, which is really interesting and really, really exciting in our business.

**LEE ANN SHAY:** How long do companies have to make this pivot? How quickly is it going to happen? And how does this tie in with the agile development and the cloud solutions? How quickly is this all going to turn?

**CRAIG GOTTLIEB:** This is turning as we speak. It's turning like the... I still have an analog watch, forgive me, as I talked about digital solutions, but it's turning like the hands on my watch right now. As Joyce mentioned, we are seeing actively, the DOD in particular, going forward where they feel that there's opportunity for them to define capabilities and needs that are based on cloud and digital solutions, where historically the contracting community has provided those answers. And our feeling is that, now is a time where, both on existing programs and in particular on new programs, this train is leaving the station. And it's really exciting, but it also has a tremendous impact on the industry's business model.

**JOYCE KLINE:**  And I would just add, it's really driven by, not only the aspects of availability and the need for solutions that are inherently solving problems, but the need to do things cost-effectively. So it's like the confluence of everything that's really driving this need is, as Craig said, for the wise pivot, which is really "I have to keep the lights on, but I also have to change pretty dramatically from the way that I'm operating today."

**LEE ANN SHAY:**  There's a lot of talk about model-based design. Can you highlight how it fits into the needs of military sustainment?

**CRAIG GOTTLIEB:**  Yeah, absolutely. Model-based design, model-based systems engineering, probably could be an entire podcast in amongst itself. And perhaps we should add that to a future conversation, but it is really getting to the core of how folks are thinking about sustainment, particularly on new programs. So if model-based systems engineering, as an approach, is being written into contractual language, particularly for newer programs. But we also see on existing programs, how can companies take model-based engineering designs and use those to drive downstream aftermarket outcomes?

In particular, when we start to talk about things like the digital twin and the digital thread, those are initially predicated upon expected results of an engineering design model. When we talk about things like the opportunities around using analytics and simulation and new user experiences to drive the availability of assets at lower costs. A lot of these are really fundamentally based upon taking model-based approaches to both the initial engineering, but also the manufacturing and eventually the sustainment of the asset.

**JOYCE KLINE:**  And maybe I can just add on a few other things associated, and that would be that we're seeing the need and the integration of model-based design all the way through to model-based sustainment. And as Craig highlighted, this is enabled through analytics and AI-powered solutions that are taking these digital threads and these digital twins to support maintenance and also operational decisions.

And what we're seeing is, on the line, it requires the presenting of operational data, technical publications, and maintenance instructions that are intuitive. In an easily consumable format, that's based on tail number configurations as one example. And then when you take this back to the depot, what we're seeing is the advent of smart work scope. That's based on aircraft utilization and configuration information, that not only helps to reduce costs, but also the time that, that particular assets out of the fleet.

**LEE ANN SHAY:**  Joyce, can I follow up on that? We've talked about both new aircraft platforms and sustainment for existing aircraft, but when it comes to digital threads and digital twins, isn't that a lot easier to start with a new platform as opposed to retrofitting for the existing ones?

**JOYCE KLINE:**  I would say not necessarily, in the sense that when you look at what is required of a digital thread is really data and data availability of good quality.

So as long as I have that, I can still implement and deploy the solution because it's a data-driven solution. In fact, if you look at the DOD's definition of a digital twin, it's really a data-driven solution versus the visual nature of some digital twins that are out in the marketplace. So when we take those two together, if the data is available, I have the ability to create. Now, data availability and data management is probably a different podcast in and of itself, but I think just from a standpoint of, "Can I do it?" The answer is, yes. It really just comes down to data availability and the quality of the data.

**LEE ANN SHAY:**  Great, thank you.

**LEE ANN SHAY:** So what does the DOD expect of its sustainment solutions? And it seems like the Air Force is taking a slightly different approach, maybe even diverging from some of the others. What's your opinion on this?

**CRAIG GOTTLIEB:** I think that, when we look at where the Air Force is in particular, I'm not sure we would characterize it as being different, but perhaps they're a bit more out in front of the curve than other parts of the services at this point in time. Really, at the end of the day, what's interesting and exciting is that the Air Force... and I think, when you look at things like how the Army is looking at future vertical lift as well, the services are all very critically saying, "I don't have the time to wait for new capability to be introduced into the fleet. And I don't have the time to wait for sustainment capabilities that are going to keep my fleet at the level of readiness that I expect."

So we see perhaps different approaches to this problem. So for example, on the Air Force side, a rapid drive to the cloud, the introduction of dedicated user experience requirements, and expectations around outcomes for both the asset and the maintainers and the other people who are involved in the platform being kind of at the core of where they're going, and a real focus on agile delivery of solutions. For new programs on the Army side, there are interesting approaches being taken to, at least at the beginning, bifurcate the hardware and the software. Because there's an acknowledgement that there can be further progression on the hardware side, while new software and mission software developed for future release, while I can enable the programs earlier with proven technologies.

So it's really exciting because what we see is these different approaches being applied, but fundamentally coming back to the same core principle of, "We recognize that we need to be faster. We recognize that we need to be more cost effective. And we also recognize that this isn't just about providing parts anymore. It's really about how do we apply insight to the availability and the cost of sustaining these programs?"

**JOYCE KLINE:** I think that I would just add onto Craig's comment by saying, I think gone are the days when years and months we're okay. The need for more rapid solutions are imperative now. So whether it's "I'm trying to do predictive analysis and previously I could wait months for an answer," now it's, "Help me with the insights. I can only wait weeks at the most, days would be preferable." And I think the same can be said around the need, as Craig highlighted, for delivery and expectation of new solutions or new releases. Gone are the times that those could be done in years.

Actually, now it's all about, "I want an agile methodology deployed and I expect iterative releases on upgrades and new capabilities. I can't wait anymore."

**LEE ANN SHAY:** It sounds like this is potentially a very different approach to capabilities and cost from the military sustainment side.

**CRAIG GOTTLIEB:** A lot of careful thinking is going on. It's a fundamentally different environment when you start to move from an area in which I had IP protection around my parts, I had IP protection around, perhaps, bespoke software that I was providing as a black box. And now I'm moving into a cloud-native environment in which my customer's expectation is that they're able to plug and play, if you will, different software components, different analytics, integrating to different platforms. And it has implications both on the protection of intellectual property and also the compensation models for how contractors are eventually going to get paid for sustainment services that they provide.

It's very much a top-of-mind for folks in the contracting community. And it's an evolving conversation, frankly. I don't think there's been a true model put out there that says, "This is how it's going to happen." And it's something that the services and the contracting community are working through together, as we speak.

**JOYCE KLINE:** I'll just add that I think that aerospace and defense, and specifically on the military side, probably has the ability of looking at other industries where they have been tackling this conversation for quite a while. Healthcare might be one to look at as a model. But it is a great question, because at the end of the day, this is something that needs to be solved on the military side, as well as on the commercial side, because it is a horse race in some respects as to who's owning the data. And who feels that they have that ownership.

**LEE ANN SHAY:** Right. Well, Joyce and Craig, thank you so much for sharing your insights. Really appreciate you taking the time. And that's a wrap for this Check 6 podcast.

**CRAIG GOTTLIEB:** Thank you very much.

**JOYCE KLINE:** Thank you!