Artificial intelligence comes to your aerospace company

AUDIO TRANSCRIPT

00:06 - 02:08
Michael Bruno
Hello and welcome to Aviation Week's Check six podcast with Accenture. I'm Michael Bruno, executive editor for business at Aviation Week. Do the words artificial intelligence fill you with excitement? Fear? Both? or something else? Thanks to chat GPT rollout last year, artificial intelligence or AI and specifically generative AI is maybe the single largest issue in the US business world right now.

Bigger perhaps than interest rates, supply chains, and even the coming presidential election. Some proponents call it the most important or most powerful disruptor since the dawn of personal computers, or maybe even since electricity. Skeptics cite other trends such as big data, cloud and blockchain and suggest AI could turn out to be more of a buzz word. In the end, Accenture falls somewhere in between.

According to new Accenture reports, this year, Gen AI is poised to provide the most significant economic uplift and change to work since the agricultural and industrial revolutions, and it will lead to a reinvention of work with more human centric work processes. They say that after surveying at least 19 industries, including executives in aerospace and defense. Still, Accenture argues that companies must take a values based approach and make sure the technology is implemented so employees find they are, quote, net better off.

And in its surveys, Accenture is finding business leaders have a long way to go to exploit AI and pacify their workforces. So where and how is AI playing out in aerospace and defense? Joining me to discuss this exciting and anxious world of AI are two longtime friends on all things digital. John Schmidt, Accenture's global aerospace and defense lead and Joyce Kline, Accenture's data and AI lead for A&D globally.

John Joyce, great to be back with you. Thanks for coming.

02:09 - 02:10
John Schmidt
Thanks, Michael. Good to be here.

02:11 - 02:12
Joyce Kline
Thanks, Michael. Nice to see you.

02:12 - 02:40
Michael Bruno
So, John, we know AI is here in real. In fact, just on May 2nd, no less than U.S. Air Force Secretary Frank Kendall flew on a highly modified version of a Lockheed Martin F-16 that was operated by an AI agent during a mock dogfight with a simulated threat.

Pretty cool. Do you and Joyce are saying that this is the year when Gen AI is going to become real in the business operations for A&D Companies? What do you mean by that?

02:41 - 05:06
John Schmidt
Well thanks, Mike, but that lead I can only say. Pretty cool. Yeah. And how much would we like to have been Frank Kendall taking a ride in that jet?

I know I would have loved it. but thank you for the question. And and if I step back a little bit, Gen AI, I really kind of, came out through Chat GPT into the mainstream in November of 2022. You know, and as you know, it caused quite the stir. You know, in response, we saw a lot of companies in 2023 coming to terms with quote unquote, what is it more than quote unquote, how do I leverage this in my business?

So we saw a lot of proof of concepts or POCs more than we saw real applications. You know, while the media continued to hype John, by now the hype seems to be receding and we are seeing more focus on particular areas of the business and applications at scale. So, you could say that 2023 was the year a POC's or proof of concepts in 2024 is about and end value powered by Gen AI.

And one of the early areas of activity that we've seen within aerospace and defense is around business development, particularly on the defense side. In fact, we've developed a solution that can ingest RFP from a DoD or an MoD, summarize key requirements, apply company criteria to assess p win, and then even draft the initial response. And while we have initial indications of the enormous time savings for responses and overall quality of the proposals generated, it's a little early to be quoting numbers to you.

I want to make sure when we do that, we have stuff that's statistically relevant, but we're particularly interested in what will be the impact on p win. And it's a clear example of taking Gen AI and driving results down to the bottom line. And if I

may add, we are increasingly using Accenture as our own best credential. And as you probably know, and some on the podcast may know, we're a $64 billion global company and have over 740,000 employees.

So we operate at scale across our business, and we've been integrating Gen AI using Microsoft's Copilot to support our people. By July, we'll have 70,000 using Copilot in their daily activities. We also have a AI tool that we've built within our knowledge repository, which has access to all of our internal content, as well as subscription data feeds that cover each of our 19 industries and all of our service lines.

This has been a game changer in our ability to respond at speed to clients. And on top of that, if that wasn't enough and how we're really seeing this in our own business, we have an internal AI assistant that we call Amethyst, and it's powered by Genie AI, and it's really there to support the internal operations, general business inquiries and those types of things that come up.

05:07 - 05:17
Michael Bruno
So internal improvements. And John, you're talking about contract bids and P wins and winning money. That's definitely important. But Joyce where else are you seeing it?

05:18 - 07:00
Joyce Kline
So, Michael John mentioned business development is one of our areas as we look across aerospace and defense kind of across the extended value chain. We've actually identified a series of priority domains, and we've included engineering, supply chain, aftermarket or we call source sustainment and corporate functions in it as our priority domains.

So, across these domains what we're doing is we're taking an end-to-end value stream view. So, let's take a few of these as examples. So, let's start with supply chain. If we look within the supply chain today, we have specific roles and processes for demand planning supply planning and operations planning. And the reason that that exists is because the data is siloed, and the systems are siloed.

Gen AI can actually break those silos and pull the information together, with the result being a unified planner process and actually a unified plan or role. If we move to engineering, what we're seeing is the opportunity. And actually, we're creating this for an orchestration layer that assists the engineer with design activities, simulation and MBSE. Also with engineering, we have a capability where the engineer can review a document to obtain a set of requirements.

o So, consider this a capability like chat with your documents and aftermarket, If we move there, we're exploring how Gen AI can help to develop new technical publications or update existing tech pubs as part of a change process. These are just a few examples of what we're calling our no regret use cases. And there's a whole host of others that we could talk about.

07:01 - 07:17
Michael Bruno
I'm intrigued by a term you use choice chat with your document. As a writer, when I think about chatting with my document, I think about me yelling at what I've written on the screen because I don't like it. I don't think that's what you mean. So, can you elaborate a little bit more on how I help somebody chat with their document?

07:18 - 08:56
Joyce Kline
It's how can you change how work is being done? So, if you put yourself in the position of a junior engineer, this could be somebody that's new to the aerospace function or it could be somebody fresh out of college. So, what we're seeing is in this world, we have, Pre Gen AI, if you will. You know, you really, you know, at the whim of the people that you report to that senior engineer, and your kind of looking to that senior engineer for guidance.

So, in essence, you're saying to this person, can you help me? Can you guide me? Well, what if Gen AI was that source of guidance? So that senior engineer really becomes more of a chat. So, take for example, that junior engineer now gets their guidance right from their fingertips. And they have that senior engineer, you know, in a situation where they're not being burdened.

So, what's really happening here is they're using Gen AI to ask the appropriate questions. What's the parameter that I should be testing something at? What's the PSC that I need for a certain stress test. So really what we're seeing here is the opportunity to reinvent the way that work is being done and change ultimately how new employees are onboarded.

You know, you can also take this chat with your documents example to more seasoned employees, let's say people within the contracts team. And what we're doing here is, you know, maybe I'm chatting with the document to gain IP requirements, limits, liability, or maybe it's back to engineering. And I'm using travel documents to do version control across different specifications.

So, there's lots of opportunities that we see within this one. Simple use case of chatting with documents for obtaining additional information.

08:57 - 09:25
Michael Bruno
So, lots of opportunities for a change in how work is done. Definitely what I'm hearing as the theme. John, I saw in one Accenture report that at 81% of the company surveyed, Gen AI is seen as one of the main levers for reinvention.

And your modeling shows that 44% of working hours in the US are in scope for automation and augmentation. Do you think that these levels of change apply to the aerospace and defense segment specifically, or is this industries significantly different?

09:26 - 10:29
John Schmidt
Well, in this case, the answer is a simple yes. And actually that 81% statistic was from our survey of commercial aerospace executives, where we found that the executives expect Gen AI to start having a transformational impact within the next three years, with nearly two thirds of those already exploring use cases.

Remember, that was more 2023 timeframe, and that was the year of the proof of concept. As you can tell by the excitement in his voice, this is becoming the year of actually delivering solutions at scale. And you know, in that same survey, when we asked about the next 12 to 36 months, what we found is 70% expected to see transformational impact from Gen AI across a range of functions.

And the mean value levers that they suggested were going to be around faster time to market new revenue sources and higher productivity. The second statistic, around 44%, is also relevant in aerospace and defense, and the anticipated change in working hours will be significant. I mean, new roles are going to be needed and some roles will collapse. As Joyce mentioned with the planning example, it's going to be, quite an impact on our industry, just like every other.

10:29 - 11:09
Michael Bruno
All right, So pretty universal expectations that Gen AI will truly alter business, including in aerospace and defense. So, I want to unpack more about what you're thinking in regard to the very real human needs and effects of Gen AI's rollout. John, I was struck in reading Accenture's advice for how executives should think about Gen AI. When you and I talk about big data, cloud or blockchain, in the past, you've stressed the point about pursuing pilot projects that add real value to the company and then maybe expanding implementation from there to another, and maybe so on. And so forth. But when it comes to GI, it sort of sounds like it's go big or go home. Is that a fair assessment?

11:10 - 11:55
John Schmidt
Well, not quite, but close I mean, I think companies can pursue gender by investments in really two categories of Joyce mentioned earlier the no regrets investments that offer productivity improvements. And then there's the strategic bets that offer truly novel competitive advantage, including reshaping how our industry operates.

And of course, this presumes that companies are already addressing the three things that we talked about last time we chat about Gen AI, or at least are in the midst of doing it. And those three things are build responsible AI into the process. Establish a digital core that's built on a solid data foundation, one where data is tagged and appropriately governed and trusted. And then lastly, building a strategy to help guide where and how to lead the value.

11:56 - 12:49
Michael Bruno
Okay, but Joyce as clear as that advice is, there still seems to me to be a big disconnect that needs to get worked out between the people and the technology. Looking at Accenture's Pulse of Change survey when it comes to workers and executives on how they view Gen AI affecting the workplace.

There's some pretty stark differences. 58% of workers say Gen AI is increasing job insecurity, while only 29% of CXOs that were surveyed think their workers think this is an issue or 94% of workers say they can learn the skills needed, but only 32% of CXOs think that a lack of worker skills will hold back their company. And 60% of workers say Gen AI could actually increase stress and burnout, but only 37% of CXOs said the same. Some pretty big differences here.

12:50 - 14:03
Joyce Kline
Yeah, absolutely. Michael, and thanks so much for mentioning this and pointing out the differences in the research depending upon who's actually responding to the survey. You know, one of the things that we're saying is really important for our clients in aerospace and defense and across actually all industries, is that there must be a culture of transparency and trust, you know, navigating and understanding these trust gaps, really not just admiring them and knowing that they're there is really crucial for leaders who want to deploy Gen AI responsibly.

You know, our extensive research shows that leaving people net better off. It's a clear pathway to closing that trust gap and getting people ready and comfortable with Gen AI. You know, at the end of the day, employees need to understand the outputs. What's the Gen AI telling you along with those recommendations? We really need to avoid this black box situation.

And then employees really need to understand how their roles will be able to be easier by leveraging this new technology. And I think once we do that, then people will start to be more comfortable and want to embrace this technology and the change that it's going to be, not only to their jobs, but also to the way that companies are operating.

14:03 - 14:27
Michael Bruno
So, John, we hear Joyce talking about how employees need to see that technology is helpful to their current positions. But I noticed that Accenture's research does not spare the corner office either. Let's be honest, aerospace and defense is like a lot of other industries where having business acumen has been more relevant to becoming a CEO or CFO than knowing how to code or even being an engineer.

14:28 - 15:05
John Schmidt
Although the people in the corner office are going to have to learn to adapt to new technologies faster than the past, and, you know, for example, 65% of the executives we surveyed admit they lack the technology expertise required for a Gen AI led transformation. So, it's important that leaders immerse themselves in the technology. Technology can't just be left to the CIO to, quote unquote, deal with it, when things like Gen AI will have such a broad impact on the business.

I mean, to be effective and build trust in the Gen AI enabled future leaders are going to need to show up, lead differently, and challenge old mindsets to learn new things. That's just simply how it's going to have to be for those guys and gals in the corner office.

15:06 - 15:26
Michael Bruno
I just want to say that the two of you have long stressed that new technology is not and should not be seen as a tool to eliminate human workers, and here again with Gen AI, you say humans must be in the loop. Why? How do we know it isn't really about cutting workforces to achieve much better business results?

15:27 - 16:03
Joyce Kline
So, Michael, you know, this is really about reinvention in terms of how work is conducted. Gen AI is really a game changer in terms of how information can be presented and ultimately consumed. The human in the loop is really important. As the technology is emerging, the output needs to be trusted and the models really need to be trained. So new skills are going to be required, such as prompt engineers, bot trainers and managers, and new roles will be created as skills are collapsed. As we've talked about, this is all part of what we're calling new ways of working powered by Gen AI.

16:04 - 16:43
John Schmidt
Yeah, let me pile on that, Michael. I mean, there's a lot out there already on the what's going to happen with AI, generic automation robots and how they're going to replace all the people. You know, there are so many parallels with every major technology inflection, and it's never played out that way. We don't think it will now either.

I mean, as Joyce was just explaining with the new roles that are going to be created and and while some will change and some will go away, these new rules are going to create new opportunities, you know, functions to work on improving prompts engineers who tune in to robotics and manufacturing to improve repeatability, reproducibility leading to more consistent quality. I mean, this is not the end of work. This is shifting of work as we know it.

16:43 - 17:22
Michael Bruno
Shifting of work as we know it. That's a pretty, it's a pretty intense theme, and I look forward to seeing how this plays out some more. Well, John Joyce, thank you. This has been a very real conversation. We may be able to reinvent work with the help of Gen AI, but we'll never get to reinvent a genuine discussion like this.

And I'm grateful for your time. Be sure to check out Accenture's new reports, including reinvention in the Age of Generative AI. And join us again soon at Aviation Week for another edition of Check six, which is available for download on iTunes, Google Play, Spotify and Stitcher. Thank you for listening and have a great rest of your day.