EPISODE 288

[INTRODUCTION]

[00:00:08] IP: Hello, and welcome to episode 288 of AvTalk. I am Ian Petchenik. Here as always with –

[00:00:16] JR: Jason Rabinowitz. Hello, Ian. How are you?

[00:00:19] IP: Hello, Jason. I'm well. How are you, sir?

[00:00:21] JR: I'm good. Thank you. Very polite introduction today.

[00:00:25] IP: Well, it's been a week already. Let me say this, it's been a long month.

[00:00:30] JR: It's October 2nd, Ian.

[00:00:32] IP: Yeah. Well, in that case –

[00:00:36] JR: That sets the tone.

[00:00:36] IP: Where do we go from here? Yeah, after what was generally a quiet-ish September, October starts with another round of Middle East airspace restrictions, and conflict zone notices, and all of that sort of stuff. Let's break down what has happened on the first day of October as we sit here on the second day.

Iran launched a volley of a few hundred missiles of various stripes at Israel at local time the evening of the 1st of October. That comes after ratcheting up tensions. Conflict notices went out the previous week by the European Union Aviation safety Agency for both Lebanon and Israel given Israel's ground forces moving into Lebanon. And Iran saying that it was going to do something in response for the killing of a top Hezbollah commander.

Yesterday, that came and resulted in the diversion of 81 aircraft by 16 Airlines to 26 separate airports. Then concurrent to that was the closure of airspace in Jordan, Iraq, and the Western two-thirds of Iran. As well as the suspension of flights to Israel for a few hours yesterday. Where we sit now is no one outside of airlines that have to, flying to or through Iraq. No one that has to or no one, unless they have to, flying to Iran. And even then, most those are going around.

Think most of those airspace users are Middle East airlines like Qatar Airways and Emirates. Most of those flights are going around. Some still using the airspace. Like today's Dubai-Los Angeles flight still flew through Iran. Because routing around Iran, I'm not sure what that would do to the range of the aircraft in order to make it – necessitate a stop. Depending on how long they had to fly around.

But a bunch of airspace restrictions still in place. IASA has expanded its conflict zone notice saying don't fly to or through Iran. They're not prohibitions, interestingly enough. They are just strong suggestions. France and Germany have both issued their own saying that if you're operating a French Airline, or a French aircraft, or you are French operating an aircraft, we strongly advise you not to enter Iran. And it seems like everyone's basically heeded that call.

This is slightly more of a response than was experienced in April, when roughly the same thing happened. Where Iran retaliated against Israel for an attack on Iranian interests in Syria. And at this point, no one's really sure how long we're going to see these airspace restrictions in place. But it is certainly a continuing and growing headache for the world's airlines who are finding a smaller, and smaller, and smaller window to operate flights between Europe and Asia.

[00:04:12] JR: Yeah. It's impactful. If you take a look at basically the X'ed out area of the world that a lot of these airlines cannot operate in, if you include Russia and a lot of now the Middle Eastern airspace, there is a very small amount of wiggle room for a lot of airlines going let's say from anywhere in Europe out to Asia. It's a very, very overly constrained airspace now. And stuff like this is clearly not helping.

And in this particular incident on October 1st, even though intelligence was out there saying this is going to happen, this is going to happen tomorrow, and it didn't happen, it seemed to have happened without any air traffic control notice to the fights that were inbound to the region or

already there. Because I'm sure most of the people listening to this podcast have already seen the very dramatic video of a commercial aircraft flying through Iran with a bunch of missiles being launched into the air right out the window, which is really, really not good.

[00:05:13] IP: Yeah. And the interesting thing to me about what happened this time around was, last time, the Jordanians kind of blew the whistle on what was about to happen. Whether they meant to or not, I don't know. But they published a NOTAM well in advance saying our airspace is closed. And everyone kind of took that as an, "Okay. We understand. And we realize what's about to happen."

[00:05:37] JR: [inaudible 00:05:37].

[00:05:39] IP: Right. And that did not happen this time. They did in fact close their airspace. But not until well after the missiles had passed through or at least the first missiles had passed through. And Iraq did roughly the same thing. And Iran was very well delayed in issuing its own NOTAMs where they basically said, "Okay. Where you normally fly from north to south in the western half of the country, we're going to move everything east. And here are new temporary airways that you can use between waypoints. And don't use the existing ones because we think you might be in danger there. Oh, by the way, the minimum safe altitude while flying through Iran is now 24,500-feet. Good luck." Most airlines took that as a hint not to.

At this point, there's only a few airlines that are still using Iranian airspace. I mentioned Emirates, Fly Dubai, Air Arabia, Aeroflot, Pegasus. Aeroflot, still using Russian airspace. But Russia –

[00:06:47] JR: Iranian airspace.

[00:06:48] IP: Oh, sorry. Sorry. Iranian airspace.

[00:06:50] JR: Yeah. Aeroflot is gonna be using Russian airspace.

[00:06:52] IP: Yeah. They might use that too. We don't know. Yes. Yes. Sorry. Aeroflot is still using Iranian space but only when the sun's out.

[00:07:02] JR: Huh. there's a twist. Tell me more.

[00:07:05] IP: Because the Russians have issued a NOTAM that says, if you're a Russian airline, you can only operate in Iranian airspace between the hours of 6am and 4pm UTC. You can't be in the neighborhood after dark.

[00:07:20] JR: Did they explain why? Is it like they're more likely to launch a missile barrage at night? I wonder what the thinking is there.

[00:07:30] IP: I think that that – I mean, historically, that's when these things have happened. The strikes have mostly taken place at night. Obviously, the cover of darkness enhances the effectiveness of military aircraft not being seen. And so, I think the thinking is anything that's going to happen is going to happen at night. That might not be –

[00:07:50] JR: I guess. Yeah.

[00:07:53] IP: That might not hold a lot of water.

[00:07:55] JR: It's a lot harder to see those missiles during the day, of course, too. It's win some. Lose some. I don't know. But this situation, like you said Ian, was very similar but also very different from the last time this happened. Even though there was intelligence saying that this was probably going to happen, there was virtually no real notice from the air traffic control authorities in the region saying, "Hey, come back tomorrow maybe. Or come back in a few hours."

And even some airlines that don't exactly fly to the safest of places made a U-turn yesterday. I picked one up that flies between Iraq and Syria. And even they turned around and went back to Iraq. You know when you're going back to Iraq because it's the safer option. Things have gone a little sideways. Even they didn't want to deal with this and turned around and went back home.

[00:08:45] IP: Yeah. There are now conflict zone information bulletins provided by the European Union Aviation Safety Agency on Iran, Israel, Lebanon, South Sudan, Sudan, Afghanistan, Iraq.

And, of course, Ukraine, Mali, Libya, Somalia, Syria. Most of Yemen. Parts of Pakistan. And those are the active ones.

Like we said, there is a huge, huge compression of available roots between Europe and Asia. At this point, we're down to basically a northern route and a southern route. And the thing here is that the northern route now places a bunch of flights that previously avoided flying over Afghanistan back over Afghanistan. It's really – what are the prohibitions? What are the suggestions? And then what is the risk assessment by airlines saying, "Okay. What airspace do we feel is safe? And at what altitude?"

[00:09:47] JR: Yeah. And then there's even additional constraints, where if you're a Middle Eastern or European Airline flying with a US airline code share, there's additional restrictions of countries you still can't fly over even if that is one of your last available routes. If you have a US airline code share applied, you might not even be able to take it.

[00:10:07] IP: And that was Emirates, I believe, learned that lesson the hard way a few months ago. Yeah. And they were fined by the department –

[00:10:13] JR: I think recently. Yeah. [inaudible 00:10:14] very recently.

[00:10:17] IP: Okay. I mean, lots of moving pieces on this one as far as what the airlines had to do yesterday. I mean, 81 diversions is just a large number no matter what. Topping the airport list of diversions. Istanbul had – what was it? 19. Cairo, 10. Ankara had eight. And then the rest were fours, threes, twos, and one. Most airports only had one diversion. Emirates diverting 26 flights. Qatar, including the cargo division, diverting 29 flights. Just a big mess, especially when we're talking about a bunch of Emirates A380s showing up unannounced.

[00:10:56] JR: They kind of ran out of airports, I feel like. That's why they had to go so far afield for some of these fights. And to go back to Emirates. Actually, the US DOT fine about a foreign airline flying in restricted airspace because of the US code shares. That was actually Air Canada. This came out on September 29th. Where between October 2022 and January 23, Air Canada operating to Dubai from Canada was flying over certain restricted Iraqi airspace, I believe with United code shares on its flights.

[00:11:31] IP: Oh, flying too low perhaps?

[00:11:33] JR: Right. Too low or through some airspace.

[00:11:34] IP: Didn't the same thing happen to Emirates?

[00:11:35] JR: Yeah. I believe it did. But the kicker here is that even after the US DOT sent Air Canada a memo saying, "Hey, cut it out." They kept doing it.

[00:11:44] IP: Oops.

[00:11:45] JR: So, they got a fine. A quarter million dollars.

[00:11:49] IP: Emirates was fined for a significant number of flights between December 2021 and August 2022 that passed over Iraq on their way between the United States and the UAE for flying too low because they had a JetBlue code share.

[00:12:03] JR: And that was the same here.

[00:12:04] IP: Emirates was also fined in 2020. In 2024, the same thing.

[00:12:08] JR: Yeah. That was the same here, where Air Canada, they weren't flying in a place they shouldn't have been. But they were below an altitude restriction for part of that fight over Iraqi airspace.

[00:12:18] IP: There you go.

[00:12:19] JR: Stuff is complicated. Really, really complicated. And even when you think, "Oh, this is fine. This route's open. We're allowed to fly here." You might not think, "Oh, wait. We have a US code share with United. And the FAA and the US DOT don't let us fly there." Man, below a certain altitude even. This is layers and layers of complexity. Always.

[00:12:37] IP: The next thing you're going to say, Jason, is that operating an aluminum tube at 35,000-feet at nearly the speed of sound is complicated.

[00:12:47] JR: Now, when you swap out that aluminum tube for carbon fiber, it gets even more complicated.

[00:12:52] IP: Wait a second.

[00:12:53] JR: Wait.

[00:12:54] IP: We'll keep an eye on this one for sure. Because, at the moment, things seem stable in their degraded condition as far as connectivity between different points in the world goes. But that could all change at a moment's notice as we found out yesterday. This is one that we'll be keeping a close eye on to see how things progress or the opposite of progress.

Let's move on to talking about something that needs urgent attention, Jason.

[00:13:29] JR: Urgent depending on who you ask or who you task with said urgency. And right now, if you're the NTSB, you've got some pointed words for the FAA leading people like me to question what is it that the FAA does these days. Because if even the NTSB chairperson is calling them out saying, "What are you doing? Why are you not acting?" we got problems. Ian, what happened?

[00:13:54] IP: Well, moist rudders happened. I mean, that's what happened.

[00:14:01] JR: Yeah. Moist rudder actuator things.

[00:14:05] IP: I guess I should explain.

[00:14:06] JR: Yeah. You might need a little more nuance and detail in that one.

[00:14:10] IP: Fine, I guess. There is a part in the 737 rudder assembly that is a rudder actuator that, if assembled incorrectly, which a few hundred of them were, they can take moisture in. And

if they take moisture in, well, moisture at 35,000-feet freezes. If it freezes, the actuator could jam. And that's what happened to a United Airlines 737 flight that was landing at Newark. That led to an NTSB investigation. The NTSB investigation led to figuring out all of these issues with the misassembled actuator. NTSB said, "Hey, we figured out the problem. This happened to a couple hundred actuators. We know that the ones in the US have not been flying. We know that that problem's been fixed because there were only a few of them." But there are a few hundred on other aircraft around the world. Because the 737, as it turns out, is only one of the most popular airplanes ever built and sold.

The NTSB said we're issuing an urgent bulletin on here's the problem. Here's how to fix the problem. And we urge the FAA to take action. Because, remember, the NTSB can't mandate that air carriers do anything. They can only make recommendations. The NTSB said, "Hey, this is an urgent recommendation. FAA, you should tell them to stop using these parts and fix them."

[00:15:43] JR: But, also – well, the NTSB uses the word moreover here. It says that, in briefings, media briefings, congressional committees, they were made aware that the FAA was downplaying the urgency of the issue, "maintaining that the units are no longer in surface." However, the NTSB urgent memo goes on to say, "According to information that we have received from Boeing and provided to the FAA, that's incorrect." That's really not great that we have out there on one of the most popular aircraft in the world a part that is known to have been assembled incorrectly that could end up with an aircraft going off the runway on the landing rollout because of this defective part. And the FAA doesn't really seem to have its wits about it whether or not this is actually installed on aircraft or still installed on aircraft. Or why they're not telling airlines to take it off. The aircraft – it's very concerning that the FAA has to be called out by the NTSB in public here. It's not a good look.

[00:16:43] IP: Yeah. I'm confused as to why this wasn't an easy airway [inaudible 00:16:48]. Or even if you don't need an airway. Just Boeing puts out a, "Hey, here's a service bulletin." And the FAA says, "Okay. Go file a service bulletin."

[00:17:01] JR: It should be that simple. But, also, it goes in not just blasting the FAA. But also, Boeing drawing some similarities to MCAS here how the suspect aircraft in United's fleet were not originally specced for United. They were white tails designed or specced out for other

airlines. But taken by United for whatever reason. But this aircraft had a part that was optional that was not ordered by United. And while the memo goes into explaining that while the part was electrically disabled, it is still mechanically linked to the rudder assembly. But Boeing never apparently told United about that. And I'll just read the quote, "Equally concerning is Boeing's failure to inform United Airlines that the 737 airplanes that had delivered to the airline were equipped with these actuators. And that the actuators were mechanically connected to the rudder control system. We're concerned of the possibility that other airlines are unaware of the presence of these actuators on their 737 airplanes. Consequently, the flight Crews may not know what to do. What to expect If the roll out guidance actuator fails at low altitude or during landing?" And it goes on.

They're really drawing parallel situations here to MCAS. That there's something on the airplane that Boeing has forgot or withheld from telling the airlines that the airlines themselves and the pilots may not know is a problem. And when they encounter that problem, they may not know how to overcome it. And it could lead to a bad situation. In the NTSBs words, "Unacceptable and cannot continue to be tolerated." Those are strong words.

[00:18:38] IP: I mean, they're not wrong.

[00:18:40] JR: They're not wrong. And I would say it's unusual to see a government agency like the NTSB here using such strong pointed words and publishing this memo in public. Because they want it to be seen. They want to know that, "Hey, if this happens again, don't say we didn't tell you so. Tell that to the FAA."

[00:18:58] IP: Yeah. Well, but the FAA has been busy because they've been investigating United Airlines for a few months now. And the results of that investigation have turned up –

[00:19:12] JR: Nothing?

[00:19:13] IP: Nothing. The answer is nothing.

[00:19:14] JR: Nothing. Back over the summer, people and the media were still on edge after the Alaska Max blowout incident. And United had a couple bad weeks. There was that incident

where the 777 had the wheel fall off at LAX, which was caught on video. And then one of its 73s had a runway excursion I think at Houston or something. And there were a couple other things like nonsense things like diversion.

[00:19:41] IP: Wait. Hold on. I want to go back. I think the wheel fell off in San Francisco. But they had a flat tire on landing and diverted to LAX.

[00:19:47] JR: Right. Right. Things happened. Little things. Not a big deal. Nobody was hurt in any of these situations. But the media and the public at large went wild with it. And the FAA probably had a bit of a knee-jerk reaction needing to be seen doing something. The review process, the Certificate Holder Evaluation Program, ended up –

[00:20:08] IP: CHEP.

[00:20:08] JR: CHEP. Thank you. Ended up actually restricting United to add aircraft and services to its fleet in the high summer season, which is not great. There was actual passenger impact here. But I will read you the statement in full from the FAA.

[00:20:25] IP: Oh. We don't have time for that, Jason. This is –

[00:20:27] JR: Yeah. And I'm going to read it as fast as I can. Here we go. I'm going to speedrun it.

[00:20:31] IP: Okay. Ready? Go.

[00:20:33] JR: "The FAA finished its Certificate Holder Evaluation Program, CHEP, of United Airlines. The review did not identify any significant safety issues." There's some background. Another whole sentence. "The FAA has concluded the enhanced oversight and approval process for United to add aircraft and services." That's it.

I don't know if we'll ever see an actual full report of any maybe nonsignificant safety issues. But this really does confirm, at least for me personally, that this is ridiculous. That it was just the FAA needing to be seen doing something even though nothing had to happen. And the media just

really needed to take it down a couple of notches in the – I can't – I'm so upset about this. I can't even get the word sensationalized out there. It was just ridiculous. But here we are with a two-sentence statement saying, "Yeah, we're done. We didn't find anything."

[00:21:30] IP: I love it. And by love it, I mean hate it. It's just – at least issue a report. Come on.

[00:21:37] JR: I mean, maybe there is a report. I don't know. All we have is the media statement. But it doesn't link to anything. It doesn't say a report will be issued. It just says we didn't find a damn thing. Cool. Good news for United.

[00:21:48] IP: All right. Let's stay in the area and talk about Southwest, shall we? They had a big day last week.

[00:21:56] JR: We could speed run this one too because –

[00:21:58] IP: Yeah. Let's do it.

[00:21:59] JR: They didn't really say anything new. They pre-announced everything. And if your name is Brian Sumers who puts out a lovely report – is it the airline observer, I want to say?

[00:22:08] IP: It is indeed. Yes.

[00:22:10] JR: It is indeed. I think he called Southwest CEO's opening remarks as milk toast, which I think is a good way to put it. Every major shift they announced they had already announced previously. And that would be the shift to remove the open seating policy going to assigned seating, and preferred seating, and extra leg-room seating. Basically, more or less kind of offering a basic economy where the lowest level fair want to get away, for those of you Southwest flyers out there, will not include seat assignment or even I think the ability to select the seat. You'll just be either assigned a seat at check-in. Or maybe you can buy up to one. I'm not entirely sure. But they will not touch the bags fly-free policy. Because they determined more harm will come to the brand and to their bottom line if they started charging bags than if they wor just to eat that cost apparently forever. That's it.

[00:23:01] IP: All right then. Well, we'll see if that's enough to get them out of the crosshairs of an activist investor, Elliott Management. Spoiler alert, it is not.

[00:23:13] JR: It is not.

[00:23:14] IP: And they'll continue going down that road as well. I wish them all the very best. Machinists at Boing are still on strike. We've got no updates on that. But they're still on strike. New strikes are longshoremen. And as our good friend, John Ostrower, always says, "There's always an aviation angle." And the aviation angle to the longshoreman strike affecting ports along the gulf and Atlantic coasts of the United States is that Airbus manufactures its A320s. It also manufactures A320s. But those parts are trucked down from Canada. It ships over A320 components to its Mobile, Alabama final assembly line. Those ships are unloaded by, Jason?

[00:24:00] JR: Longshoreman.

[00:24:01] IP: There you go. It seems that if this strike lasts more than a few weeks, Airbus could be impacted at its Mobile plant by not having enough components to actually assemble the aircraft. But it sounds like they've got a few weeks for its part. Airbus says, "We're aware of what's happening. We're taking measures to make sure nothing bad happens." Though, I mean, I'm not sure what they could really do at that point depending on how long the strike lasts.

[00:24:31] JR: Fly those fuselages over in the Beluga XL.

[00:24:34] IP: Possible. Although, the A320 – they could fit in the regular Beluga. Couldn't they?

[00:24:40] JR: I don't know if it could make the flight. They'd have to do a lot of hops to get over here.

[00:24:43] IP: Oh, yeah. That would be Hamburg, Keflavik, Bangor.

[00:24:49] JR: But, hey. In the face of a strike where you're not getting them by boat, that might be not the worst solution.

[00:24:54] IP: That might be the way to go. Well, let's hope we don't see that come to pass. This isn't interesting bit of news that has been previewed in the Australian aviation press for quite a few weeks. But now it's official. Qatar Airways is planning on taking a 25% stake in Virgin Australia. This comes after its recently announced 25% purchase of South Africa's Airlink. The plan is interesting in that, by 2025, Virgin Australia will wet-lease Qatar Airways aircraft for service between Australian airports and Doha.

[00:25:30] JR: I've heard of this before. But we have to go back about 10 years and swap out Qatar for Etihad and Virgin Australia for, let's say, Jet Airwaves. Well, Etihad kind of went through a spat of this where it was actually kind of the kiss of death where –

[00:25:48] IP: Any airline that participated in this was gone.

[00:25:49] JR: Any airline. Except for Air Serbia that partnered with Etihad. They did something like this. They took in Etihad aircraft. They kind of painted it their own colors. Or maybe not. In the case of Jet Airways, I think they just painted up front operated by Jet Airways or something like that. But all those airlines are gone now except for Air Serbia.

[00:26:10] IP: But the difference here is that these will be wet-leased by Virgin and operated by – the backstory here is that Qatar said we want to operate more flights to Australian airports.

[00:26:21] JR: But we can't do it ourselves.

[00:26:23] IP: Well, they applied to. And Australia said, "No. Go away." And that was widely seen as being protectionist on behalf of Qantas. Protecting Qantas. And so, Qatar said, "All right. Well, how about this? We'll buy a quarter of Virgin Australia from Bain Capital. And then they'll pay us to operate all these flights." But they'll be Virgin Australia flights. Because Virgin Australia can operate flights. But it'll just be with Qatar planes, Qatar crew, Qatar food.

[00:26:56] JR: Very sneaky.

[00:26:58] IP: I mean, it's interesting to me. This all still needs to be approved by regulators. And I'm not sure what the chances are of this being approved by regulators in Australia. But it seems to me like this would be – if they're concerned about competition, well, it's competition.

[00:27:16] JR: I think this is really interesting. It is different than what Etihad had tried and failed to do with its Etihad had partner scheme. But I think the real winner here is Bain Capital. Because what else was it doing with Virgin? They couldn't do long haul. They struggle mightily domestically. And here you have Qatar coming in buying a 25% stake in your airline. That's a real win.

[00:27:38] IP: But Virgin Australia is back to making money for the first time in years.

[00:27:43] JR: A long time.

[00:27:44] IP: I mean, it's not a bad deal for them.

[00:27:47] JR: No. Probably got 25% for a song too. Probably didn't cost all that much.

[00:27:52] IP: Yeah. We'll see what happens with the regulatory approvals for Qatar taking a 25% state in Virgin Australia. But if you're looking to fly between Australia and Doha and onwards come next year, might have a new option.

[00:28:07] JR: Cool.

[00:28:08] IP: Speaking of Australia, Qantas operated its first A380 flight to Africa this week. Operating QF63 from Sydney to Johannesburg for the first time using the A380. Previously, it had been the 787. And before that, it had been the 747. This is the first time they've operated an A380 flight to Africa. And it's the first time an A380 has operated through the far Southern Ocean.

[00:28:35] JR: Yeah. That's a long way.

[00:28:37] JR: Four engines for long haul, am I right?

[00:28:39] IP: Four engines for long haul coming back.

[00:28:41] JR: 14 hours. It's not even – I figured it'd be a bit longer. It's certainly slower than the 78 was. The last few days before they switched over was roughly 13 and a half hours. The A380 managed in a little over 14. Four engines for long haul but a little bit slower.

[00:29:00] IP: Four engines for longer haul.

[00:29:03] JR: A leisurely long haul.

[00:29:04] IP: Leisurely long. There you go. Let's take a quick break and then we're going to come back and chat with Captain David Surridge, who is American Airlines Director of Air Traffic Management and an A320 family pilot. And we're going to talk to him about ADS-B In. If you're using Flight Radar 24, you've got the app pulled up, you've got the website on your screen, you're seeing data that's all part of ADS-B Out. But we're going to talk about what happens when you put an ADS-B In device on your aircraft. Some really cool stuff happens. Stick around. And we'll be right back with Captain Surridge.

[MUSICAL BREAK]

[00:29:47] IP: Welcome back. We are now joined by Captain David Surridge, who is American Airlines Director of Air Traffic Management and an Airbus A320 family pilot to talk about ADS-B In. Regular listeners of the podcast will know all about Flight Rider 24's use of ADS-B Out. But this is a bit new territory for us, Jason and myself. And we're so happy that Captain Surridge can join us because he has been at the forefront of bringing this to the American Airlines fleet. Captain Surridge, thank you so much for joining us.

[00:30:20] DS: Absolutely. Glad to be here with you two.

[00:30:23] IP: Tell us from the beginning, I guess. Let's start at the basics. What is ADS-B in specifically?

[00:30:32] DS: ADS-B in is the technology that takes the ADS-B Out signal and all the information that's being sent out from airplanes all around it. And what it does is it ingests that information. And then we can do things with that information. So we know where the aircraft is. We know how fast it's going. What direction it's going? What altitude it's at? There's a ton of other stuff that we also know. But take that information, bring it into the flight deck where the pilot can now see for the first time ever the aircraft that are around them. And they know their call sign. So they know if it's Delta 123 or United 345. It's a lot of information that comes into the flight deck. And it allows the pilot to see. It really improves their situational awareness for the traffic that's around them. In essence, that's what ADS-B In is.

[00:31:28] IP: And you can integrate the ADS-B data that's now coming into the aircraft into the other aircraft systems, which is seemingly game-changing as far as some of the things that you've been able to do with the aircraft now.

[00:31:42] DS: For sure. And it's super exciting to see what we can do with that information. Not only is it improve the situational awareness of the pilot. And in turn, it improves safety throughout the NAS. But we're able to use that information and ingest it into a set of algorithms. And by using those algorithms, we can actually make the airspace much more efficient.

What we're able to do in interval management is what it's called, and we're doing it at Albuquerque Center, is the controller can give us a clearance that says maintain 80 seconds behind. We'll call it Delta 123. And the pilot then puts into what's called the MCDU, which is a screen that's in the flight deck. And they put information in there. Let's say 80 seconds. They'll assign it to the Delta flight. And what it ends up doing is spitting out an airspeed that says, "Hey, if you go this airspeed you will get to within 80 seconds of that aircraft." Which is typically around six or seven miles depending upon how fast you and the Delta are going. With that, you really get precise spacing like we've never gotten before.

[00:33:02] JR: It almost sounds a little like how more advanced car cruise control systems work where you radar-guided and you say, "I want to stay two car lengths behind the car in front of me." And it kind of computes how fast it needs to go to stay that distance behind whatever's in front of you. Is that kind of like what you're doing here but in the air?

[00:33:22] DS: Yeah. The technology is different. It's not a radar system that's pinging off of it. It's just information that's coming in. But as pilots are in the air, if a controller wants you to have a certain spacing, today what they'll do is they'll use vectors and they'll use speed control. The controller will kind of say, "Hey, maintain Mach 79." And so, the pilot would do that.

But the controller doesn't have the information that this system has on the aircraft in front. With this system, the system now gives the speed versus the controller. And the pilot can very accurately maintain that spacing that the controller's been looking for all this time. And that in turn brings aircraft more efficient spacing allowing for the airspace to be utilized even more. If you look at certain instances, you can get up to 25% more aircraft in a certain space just because of the accuracy of the spacing.

[00:34:28] JR: That's a really big deal and something I feel like we could sorely use here up in the New York area. Being able to reduce the spacing between aircraft by that much by – what did you say? It was 25%? That's pretty dramatic. How long has this been in testing at American?

[00:34:43] DS: This technology has actually been around for close to 20 years. It wasn't until when the ADS-B Out mandate occurred in 2020. Now we have all these aircraft to start going and actually doing the interval management on. And it's been about 10 years that American has really been involved in this technology. We had it on our 330s at one point. And we tweaked it. We've been working with ACSS and we've been changing the technology as we've learned throughout these years to make it better and better to the point now that we have it on 300 aircraft. And we're really now able to trial it in such a way that we're getting meaningful data back.

[00:35:34] IP: What actually is being installed on the aircraft to equip them with ADS-B In to enable this?

[00:35:41] DS: You have to have an ADS-B In TCAS unit. We have to get a different TCAS unit. In in addition to that, we have to have some type of screen in the flight deck that displays this information to the pilots. We call that an aircraft guidance display. And then we've learned that if you integrate it into the MCDU, which is a multi-purpose control display unit, that the pilot then

has an interaction between the system. And they can type different things in per whatever the controller gives them. Those are the basic things that are in there.

[00:36:19] JR: It's interesting that you mentioned TCAS, because I was actually going to ask you, how does this differ from TCAS? The Traffic Collision Avoidance System? Which we all know basically every commercial aircraft out there is aware of the other traffic around it to presumably prevent a collision. Are you getting more information out of the system? Or is it simply how you're utilizing that information coming into you to squeeze that extra efficiency out of the very limited space around airports?

[00:36:46] DS: Sure. It's both. We're getting more information with the ADS-B Out. And then how we use it is completely different. TCAS in and of itself is a traffic collision avoidance system. This is actually information that's always on our screen. It has a lot more information. And, obviously, TCAS is still there and it's still working. But this brings it to a completely different level for the pilot and gives them information about the aircraft in front of them.

[00:37:20] IP: This is all used in-route with the generation of the closer in spacing and working on the IM, on the interval management. But you're also trying something on approach. And walk me through kind of the differences between the in-route spacing advances and what's happening on the approach phase of the flight.

[00:37:41] DS: Sure. And let me just give one more thing before we go there. On interval management, it's actually not closer spacing. What it is, it's more consistent spacing. So that the spacing is always maintains the criteria that exists in today's world. We actually don't bring the aircraft closer all the time. But what we found is that when a controller was giving different speed assignments, one aircraft would be eight miles apart. The other would be 10 miles apart. The next one would be 9 miles apart. In this one, they're all about 8 miles apart and they're very consistent. By doing that, we're actually not closer per se every time. What we are is we're very consistent and predictable. That's an important part.

[00:38:34] IP: You bring up an interesting point. And I wanted to ask you about this then. Is it required that all of these aircraft are equipped with ADS-B Out and In in order for this to work? Is

it just the American Airlines aircraft that are able to do this at the moment? Or is it you need one lead aircraft and then the others can follow? Or what's the equipage like on that?

[00:38:56] DS: Yeah. Sure. Actually, you just need ADS-B In in your aircraft. For American 321s, we will go ahead and we might be following a Southwest because they have ADS-B Out and so on. We have had instances though where we've had four or five American 321s in line going into Phoenix and following each other. And that's very interesting to watch because you see very precise space amongst those four. And because it is so precise, what ends up happening is, out of those four, you have enough space to actually put another aircraft behind them because they're so tight. Again, consistently tight versus 10, versus 8, versus 9. They're all at 8.

And because it's a time clearance, as they go down and they naturally compress together, they perfectly compress together. So that by the time they get to the boundary between Phoenix and Albuquerque center, it's about five miles. That's what they want them at. But they gave him an 80-second clearance the whole time.

[00:40:09] IP: Interesting. I mean, that's impressive that you get such good spacing that you can add an extra aircraft into the mix. That's impressive. Okay. Walk us through the approach phase trials that you've also been working on.

[00:40:21] DS: That's called CDTI, which is Cockpit Display of Traffic Information. Assisted separation on approach. And what that does is the system actually – what the pilot – the controller will say, "American 123 designate United 345." And the pilot then goes into their MCDU, they select the United flight. And from there, the United information comes up on this screen called the AGD, and it gives them, "Okay. Here's where United is. This is the direction they're going in relationship to me. This is how far they are from me."

And then on top of that, it gives them a closure rate. It'll tell you, "Hey, I'm doing 40 knots faster than United right now." And that's a huge benefit for the pilot to not only know that, "Hey, I know early on in this arrival and this approach who I'm going to follow to the runway. But, also, this is my differential airspeed or ground speed to this aircraft in front of me." Giving the pilot, again, more information so that they can make better decisions as to when to slow their aircraft and

just where the other aircraft is better. It's just all around really a safety enhancement that helps the controller as they're starting their approach into the Dallas area.

[00:41:52] IP: Right now, this is pretty concentrated as far as where the tests are happening. And you're just one airline. Are you excited to see this expand to other areas and other airlines?

[00:42:03] DS: For sure. We really believe – and we see this after talking to the controllers, the controllers had told us, "The more. The merrier. For sure." If everybody was equipped, it would really change how they control traffic for the future. Really allowing for a much higher throughputs at any airport. And, again, we strongly believe in the safety enhancements that this brings to the NAS. And the more the marrier for American too.

[00:42:38] JR: And that's something I wanted to ask you about reading the memo that originally I think we picked up on some of this information from. First of all, what's a hazy visual condition? And second, it says this technology is actually leading to a reduction in the number of go-arounds, which I thought was really interesting. And some of these go-arounds are caused by other aircraft being late to get off the runway or just taking an extra couple seconds. How is this technology leading you to know that it's actually okay to land? There's enough spacing to actually land in situations where without this technology you may not have been able to. How does that work?

[00:43:16] DS: Typically, what happens in a non-CAS environment, the controller will give you vectors, will give you a speed to the final approach fix. The pilot is looking out their window. They may or may not see the aircraft they're following. And they have no information on that aircraft. They don't know how fast that aircraft is going. All they know is that they're following somebody. And they're pretty much blind, to be honest with you. And the controller is leading them around by the hand.

With an ADS-B In CDTI environment where you have the display of traffic information and you know your relative ground speed to the aircraft you're following, the pilot can see that, "Hey, I've got five more miles until I land. This guy in front of me is at three miles." And I know as a pilot that two and a half is pretty much pushing it. And I'm doing, let's say, 30 knots faster. I might put the gear down a little bit early. I might put some drag in a little bit early to maintain at least two

and a half miles by the time that aircraft touches down to where I am on that final. So that now I can make better decisions and I'm more proactive in how I handle my aircraft, my drag, and everything else, my speed control. To make sure that this doesn't go into a go-around.

I have pilots who've literally told me that they were coming into an airport and they could see that they were compressing on the aircraft in front of them at a high rate. And that they needed to do something now or it would result in a go-round. They advised ATC, "Hey, I need to slow down or I'm going to go around." The controller says, "Yeah." They agree. Slow your speed at your discretion. They slowed down and they saved a landing. They didn't have to do a whole go-around, get back into the stream of all the other traffic and then try and land again.

We've actually had other pilots say, "Yeah, I could see that this was going to turn in into a go-around." And instead of being proactive with the controller, they felt that their best bet was to get ready for the go-around. And sure enough, the go-around came. But they were ready and it didn't catch them off guard. A lot, again, safety implications and efficiency.

[00:45:46] JR: Yeah it sounds like a really promising, also at the same time, not new technology. I'm really looking forward to other airlines following American's lead here. Perhaps, American rolls us out fleetwide beyond just the 321s. But this seems really promising. And I hope we see some more action from the FAA advocating for this. Because it seems like a win for just about everybody.

[00:46:10] DS: And we are very excited about this new technology at American. And our pilots have fully embraced it. We've had some pilots say our biggest concern is, is that this somehow comes off of our flight decks, which it will not. It's there to stay. But the pilots really believe in it. And American Airlines really believes in this technology also.

[00:46:33] IP: We've been speaking with Captain David Surridge, who's American Airlines Director of Air Traffic Management. And a pilot on the A320 family. Captain Surridge, thank you so much for joining us and explaining the ins and outs of ADS-B In.

[00:46:46] DS: My pleasure. Thanks for having me.

[MUSICAL BREAK]

[00:46:54] IP: Welcome back. That was a very interesting discussion if only because now I absolutely want to sit on the flight deck of one of those flights and watch it all happen.

[00:47:07] JR: Yeah. It's very fascinating to see literally the other direction of ADS-B here. And it sounds like this program chiefly being led by American here is actually going to deliver on some of the promises that NextGen made here in the US that really didn't come true. But now we're trying something new. And, hey, it seems to work.

[00:47:29] IP: We're almost there, Jason. We're almost there.

[00:47:31] JR: Now, put it on every plane. Make it a requirement to fly into New York.

[00:47:33] IP: There you go. This is a story that I don't know if this has ever happened before at an airport specifically. It's certainly happened in a number of places. But an unexploded 500 lbs. bomb under the taxi way of Miyazaki Airport in Japan exploded. It had been there for 80 years.

[00:47:59] JR: Which is also the number of flights that were cancelled, which is fun.

[00:48:02] IP: That's true. It was dropped by the US during World War II and has been there ever since. They built an airport or rebuilt an airport. It was an airfield at the time. And it was under the taxi way. And it blew up yesterday. Thankfully, it did not injure anyone.

[00:48:22] JR: And, also, thankfully, it was off to the side of the taxi way. The image from Reuters shows a nice-sized like New York City pothole style on the side of the taxi way. No big deal. You could drive right over that. These things happen. We see every now and then every couple years or maybe more frequently. You typically see this in Europe where Frankfurt Airport closes or Hamburg Airport closes because they found an unexploded bomb that's somewhere on the field. But it's not usually underneath the taxi way. And it doesn't usually explode in place unexpectedly. This is a twist on a very familiar story.

[00:48:58] IP: Yeah. Like I said, no one injured. There was no aircraft near the bomb when it exploded. Thankfully for that. But the airport says it hopes to be back up and running or is back up and running now. There you go.

[00:49:09] JR: You just drive around it. No big deal.

[00:49:12] IP: Just don't use that taxi way, I guess?

[00:49:13] JR: Sure.

[00:49:13] IP: Hey, let's head down to Argentina where something interesting is happening.

[00:49:17] JR: Steak.

[00:49:18] IP: Finally. Well, besides that.

[00:49:22] JR: Oh, that's why I want to go to Argentina, for the steak. But I think we talked about this last year. But I can't find it in the show notes. But last year, word I think came out that Argentina wanted to go full-on open skies with the airlines in country. And a bit of a Twist on that is usually when there's – and open skies is a treaty with another airline. That means any airline between those two countries can fly without arranging the necessary approvals and all that. They can fly wherever they want whenever they want.

However, Argentina took a dramatic step further that I don't know if we've ever seen before in a major country like Argentina. Letting any old Airline come in, set up shop in the country, and let foreign airlines operate domestic fights inside Argentina, which is kind of crazy. This update comes to us from One Mile at a Time who noted that the decree, Argentina government signed decree number 844/2024 on September 23rd, 2024, which essentially deregulates domestic flights in Argentina and allows domestic flights to be operated by foreign airlines. The new decree will come into effect 60 days after it was issued.

And, honestly, I'm not sure what to expect here. Are you going to see United start operating domestic Argentinian flights or something like that? I don't know what to expect. But we've seen

airlines spin up international subsidiaries before. We saw back in the day Norwegian Air I think actually had an Argentinian off shoot that operated for 45 minutes. They had two planes and then the whole thing caved in. It was such a flash in the pan. But they had to set up a whole domestic company, an Argentinian company with the Norwegian brand. This appears to be any airline from anywhere in the world can set up shop in Argentina and operate domestic flights. Really interesting potential here. And if you're a LATAM, you're probably not too thrilled about it.

[00:51:25] IP: If you're a LATAM, you're probably thrilled about it.

[00:51:27] JR: Wait. Don't they have an Argentinian – no. I guess they don't. LATAMs going to be real happy about it. Okay. I take that back.

[00:51:36] IP: If your [inaudible 00:51:36], tennis then maybe not so much.

[00:51:38] JR: No. Which they're also trying to privatize that particular government-owned.

[00:51:43] IP: Yeah. There's a lot of domestic politics involved in all of this that this particular podcast doesn't really have the time to get into. But if you're interested in why this is happening, you should read up on what is happening in Argentina as far as domestic politics are concerned.

[00:51:59] JR: Yes. And LATAM does have an Argentinian subsidiary. But it ceased operating June 17th, 2020. So they no longer do. But maybe now they will again. Who knows?

[00:52:09] IP: They will again. Or they won't need a subsidiary. They can just come and operate the flights. No problem.

[00:52:12] JR: Yeah. Who's going to stop them? Not the Argentinian government.

[00:52:15] IP: No. In storm-centric news. In the efforts to further hunt hurricanes, NOAA has awarded a contract to Lockheed for two C130 new hurricane hunter aircraft. I'm excited.

[00:52:32] JR: It's very exciting.

[00:52:33] IP: These would replace or will replace the pair of WP3D Orion hurricane hunter aircraft that NOAA currently operates.

[00:52:41] JR: And those date back to the mid-1970s. Their retirement is earned.

[00:52:48] IP: They can fly forever, Jason. I'm interested in what they're going to call them. Right now, the two P3 aircraft are Kermit and Miss Piggy.

[00:52:57] JR: Oh. We're going to get a naming contest.

[00:53:00] IP: Yeah. I mean, one assumes. If not a contest, then at least like it'll be fun. I'm looking forward to that.

[00:53:05] JR: Yeah. They're going to deck these aircraft out with all sorts of things that they probably just can't do on 1970s era airframe. They say both new aircraft will be customized with the same multimode radar as P3s. As well as new automated drop zone launchers. Not sure what that is. High-speed internet connectivity, so you can tweet about it while you're going through a category 5 hurricane eyewall. That'll be super cool. Vertically scanning doppler radar. Instrument ports for a variety of instruments for surface winds, wave, oceanographic sensing. Though, also, I'm not sure what this is about. But they say the C130Js will also be able to launch and control uncrewed aircraft system that expand the reach of the aircraft into new and under-measured areas of the storm environment. I want to know more about that.

[00:53:56] IP: Two things here. The drop zones are the little measurement devices that they – I'll put a link in the show notes to – I don't have the NOAA version. But I do have the British Met Office version on video. And, basically, it's a tube in the aircraft. basically a torpedo tube. You put the thing in the tube. You close the tube so it's not – and it drops out. Off it goes. But the cool thing about it, as far as the UCAVS go that NOAA has been experimenting with, they've got some really cool stuff that they're doing with uncrewed – basically sending drones Into the storm. Instead of sending one aircraft, it's like sending an aircraft carrier.

[00:54:42] JR: That's got to be like a one-way mission for those. I can't imagine dispatching like a DJI Mavic into a hurricane to get it back.

[00:54:50] IP: No. No. No. No. No.

[00:54:52] JR: Like, "Steady. Steady. Got to land it."

[00:54:54] IP: Wouldn't that be something? No. This would be kind of along the lines of – what they did in the most recent storm is it's called black swift. They look like they've got communication sensors. They've got wind temperature, wave height. All sorts of stuff. They basically drop in a tube and then the wings rotate to create an air flow. It's like a big tube thing. And then the wings rotate on top of the tube to create the air flow. And then they fly around inside the storm. It's really cool. We'll put a link in the show notes to –

[00:55:31] JR: Your tax dollars at actual cool work.

[00:55:35] IP: I could do a whole maybe podcast series on this. And maybe we even should. But not today. Jason, if you want to become an air traffic controller, you –

[00:55:45] JR: I can't. I'm too old.

[00:55:46] IP: We're both too old. But if you wanted to and you weren't too old, you would have to apply. And then if you were accepted, you would have to go to school. The FAAs traffic school in Oklahoma. But that's not necessarily the case now. Is it?

[00:56:05] JR: That's true. There are programs out there that specialize in air traffic control training. But to date, even if you graduated from that, you still got kicked into, as I understand it, the FAAs Air Traffic Control Academy, which is not great. Because we really need air traffic controllers. And if they're repeating things, it takes more time.

However, today, the FAA has signed agreements with Tulsa Community College and the University of Oklahoma to become the first two schools of the Enhanced Traffic Collegiate Training Initiative. Otherwise known as ET-CTI. Basically, these two programs will feed graduates directly in to FAA facility training. So they won't have to go to the FAA Controller Academy at Oklahoma City. They can go to I guess any FAA facility for on the job actual

training. And, hopefully, we can actually have a fully staffed FAA air traffic controller program by 2048. Maybe this makes it 2047. I don't know. But any shortcut to getting people in the chairs, in towers, in the TRACONS, wherever seems like a great idea.

[00:57:13] IP: A couple of quick notes before we go. Jason, you flagged this one. Alaska's retiring it's 737 900s. But which ones?

[00:57:24] JR: The non-ERs. And for many of you out there, you may not even know that the non-ER was a thing. But before the 737 900 ER, the NG became wildly popular. Boeing tried to basically turn a 738 into, I don't know, a worse aircraft. And somehow, we got the 737 900.

[00:57:44] IP: And succeeded.

[00:57:45] JR: They succeeded. They did it. And they only delivered 52 of them I think entirely to Alaska and United where I think all of them are operating. I don't think or any other airlines with these. But they're old now. Alaska is retiring it's oldest. I think they're up over 20, 23 years old. And they're now being driven out to the Arizona desert where they will almost certainly never fly again. I don't even take anyone wants to turn these into freighters.

[00:58:15] IP: No. In my mind, it would be very annoying to deal with a 900 frighter. A non-ER –

[00:58:22] JR: They don't even have winglets. Disgusting.

[00:58:26] IP: This this is a big story from last week that we thought about putting higher up in the show notes but then realized that we were both over and one with it. And, really, all that needs to be said can be seen in Jason's interview with the Wall Street Journal earlier this week. But the mayor of New York received a bunch of upgrades on Turkish Airlines for reasons and really wanted to fly Turkish Airlines. And, okay.

[00:58:52] JR: Yeah. I never thought that, A, the mayor of New York City would be indicted for anything. And, B, I would be quoted by The Wall Street Journal about the mayor of New York being indicted. That's all sorts of fun. Didn't have that on my 2024 bingo card. But what happened here was, basically, over the course of many years before and during the mayor's

time as mayor. Previously, he was borough president, which I guess is like your alderman in Chicago. Not really sure.

Turkish Airlines tried to curry a lot of favor with Mayor Eric Adams by way of free or damn near free travel and also free upgrades all over the place for a bunch of years. Not only for him, but also a lot of his close staff friends, family, I guess. Basically, his entire Administration is under indictment.

But the crux of The Wall Street Journal article was, "Man, if you want to travel for free or in business class cheaply, there are so many better ways to do it than by taking illicit upgrades that will end up getting you indicted by the Southern District of New York. It's just like open up the miles and smiles credit card. Or do something. Play the miles game that we have to play and often play pretty successfully. Because you probably won't be indicted for doing that. But as someone who doesn't particularly like this mayor or the administration, I am enjoying it, Ian. It's so dumb. It's so stupid.

[01:00:23] IP: I'm just glad it's New York and not Chicago.

[01:00:25] JR: Not yet.

[01:00:27] IP: And, finally, we have repeatedly said on this particular podcast that there are a few things that cannot be killed no matter how hard you try. One of those is Alitalia. And this week, we are proved correct. Because ITA Airways is proudly presenting a project to enhance the Alitalia brand, which will complement our identity logo ITA Airways to reinforce its values of excellence and air transport which are recognized worldwide. They're going to slap the Alitalia logo back on stuff as far as ITA Airways is concerned.

[01:01:15] JR: Yeah. The ITA Airways logo, they put a subtext under it that says "inspired by Alitalia" with the Alitalia logo, which is all sorts of fun. And me being myself, I tweeted that back out where, under Alitalia, I put powered by Lufthansa. Operated by Air Baltic. Because that's the real reality of things. But, slowly, I feel like the "inspired by Alitalia subtext is slowly going to become bigger, and bigger, and bigger. Until it's bigger than the ITA Airways text. And, suddenly,

it will just become Alitalia. And we won't question it because it will have happened so intricately that we won't even know it.

[01:01:51] IP: There's a warehouse with stencils of progressively larger Alitalia logos already in progress. Oh, boy.

[01:02:00] JR: Love it. Welcome back, Alitalia. We missed you.

[01:02:05] IP: All right. How about we call this an episode? Hey, if you liked this episode, if you like any of the episodes, if you don't like the episode, either way, let us know. Leave us a rating or review wherever you get your podcast. It certainly helps other people find the show. And if you have something that you want to say directly to Jason or I, email us at podcast@fr24.com. And if you've made it this far into the show, thank you so very much for listening. I am Ian Petchenik. Here as always with –

[01:02:39] JR: Jason Rabinowitz. Thanks for listening.

[END]