Claus Engelbrechtsen: Logistics that fuel your global aviation supply chain

Introduction:

Before we start this episode of QuickConversations, we wanted to provide a bit of background about the content. This program was recorded in New York back in February of this year – shortly before the COVID-19 outbreak started to wreak havoc on the city. And as we know, as the pandemic spread worsened, so did its impact on businesses of all types – with the aviation industry worldwide hit particularly hard. From cancelled flights to travel restrictions, to self-quarantine mandates and more, the pandemic continues to take its toll on the industry. The Sterling Global Aviation team is working with clients to meet their global logistics solutions today and going forward, as we evolve to a "new normal." We'll be recording additional episodes of QuickConversations to focus on what lies ahead – but in the meantime, we hope you find this discussion with Sterling's Claus Engelbrechtsen informative and insightful, as he shares what it takes to deliver the logistics solutions that fuel your global aviation supply chain.

Chris Riback: Claus, thanks for joining me. I appreciate your time.

Claus Engelbrechtsen: Thank you. Good afternoon.

Chris Riback: We've all been there: We are on the airplane. We are in our seat. We're ready to push back from the gate, and then the pilot says we can't leave. The plane needs a new part. While we all sit there depressed, I imagine that's when you get a big shot of adrenaline?

Claus Engelbrechtsen: Yes. That's when Sterling comes to the rescue. So, basically, in a situation like that, the airline has what's called a "no-go part list," if you will. And based on that determination made at the time, they're not allowed to take off and it could be something as simple as an exit sign light bulb.

Claus Engelbrechtsen: At that point, the airlines ... we work with all of them, the commercial airlines ... they reach out to their internal control and maintenance control, their AOG desk and try to source the particular part. And if they deem that it's not in the local area, let's say within the airport, anything beyond that, they reach out to Sterling because it's now deemed, again, aircraft on ground.

Claus Engelbrechtsen: It costs the airlines hundreds of thousands of dollars every hour to sit and not be having that asset up in the air. And based on that given situation, they decide: Do they put the passengers on another aircraft? Is Sterling able to get the part in a relatively quickly from somewhere in the local region?

Claus Engelbrechtsen: It could be a couple hours sometimes because we do same day, next flight out shipping, shipping 24/7. Right? So, yes. That gives you a brief highlight of the overall situation, and all that's kind of going on behind the scenes while the captain's talking to you.

Chris Riback: To me. And when the captain does make that phone call, he or she is not, literally, calling you, Claus.

Claus Engelbrechtsen: Correct.

Chris Riback: Every pilot in the world doesn't have your cell phone number. Right?

Claus Engelbrechtsen: No, that's correct. There's a whole chain of command there.

Chris Riback: Take me through that process. How does that work?

Claus Engelbrechtsen: So he would, internally, within the airline, notify his control center. It goes back to ... Then they have techs trying to determine what's going on. Is this something they can fix locally? Does it have to be replaced?

Claus Engelbrechtsen: Obviously if it can be fixed, well, that's straightforward. They take care of it. But if it can't be and they need Sterling to ship the part for them, then it goes to their AOG desk, who then would reach out at Sterling.

Chris Riback: Airline On Ground?

Claus Engelbrechtsen: Yes, right; Airline On Ground, AOG desk. Every large airline has one within their overall control center. There's a lot of other flight operations control. There's a lot other things going on, let's say, within that building, keeping the airline running 24/7. Right?

Claus Engelbrechtsen: But that particular group reaches out to Sterling and says, "We have a part in Columbus, OH. It needs to be shipped to Newark Airport. It needs to go on the next flight out." And that's kind of where we take over from there. Then we get into providing them with a timeframe of delivery, and that allows them to determine if it works for their given situation.

Chris Riback: So talk to me about the taking over from there. Quite, literally, what happens? You get the call. The part's in Columbus. We need it. Go.

Claus Engelbrechtsen: Yes. So at that point, we give them a deadline, and if it works for them. Right? In many cases, they are...

Chris Riback: A deadline meaning this is-

Claus Engelbrechtsen: A timeframe of when we can get this piece delivered.

Chris Riback: Yes.

Claus Engelbrechtsen: Once we've been given the go to move the shipment, we reach out to our service partner, who then will pick that up within 60 to 90 minutes, and that's 24/7, 365, including holidays. And in our control tower, we then give instruction to the service partner, what exactly to do with this shipment.

Claus Engelbrechtsen: So it's, "Go pick it up here. Bring it to this specific airline. Tender it for this specific flight," and all that information is given to our service partner, who then initiates the job. And from that point on, obviously, it's picked up. It's put on the airline.

Claus Engelbrechtsen: At the receiving end, we alert our other service partner if this is what we call a next flight out, an in-air shipment. And the same thing ... Well, it's different, but, technically, takes place at the other end where we give clear instructions.

Claus Engelbrechtsen: There's actually no cargo coming through the building. It's just an information center that provides all the specific details to the partners, whether it be the service partners on the ground or the airlines, of what to do with the shipment.

Claus Engelbrechtsen: And that's what we're managing from a point of pickup, all the way to point of delivery, and providing very clear communication throughout the process of that shipment including any exceptions.

Chris Riback: So in the best of worlds, running a global supply chain is a complicated thing; languages, borders, customs, time changes, airplanes, schedules, weather. Right? A regularized global supply chain could drive someone crazy. What's it like to try to run a just-in-time global supply chain?

Claus Engelbrechtsen: Within the airline industry, you can do a lot of planning, and even then you don't know when the part's going to break, and when it does, where the aircraft is. So it's a big challenge and for the airlines.

Claus Engelbrechtsen: Ideally, they would have a lot of inventory everywhere in the world. That's just not realistic. Right? And that's where we come in with just-in-time delivery, where we allow them to look at their data, and at times we actually work with them on their global distribution model and what's best. But they look at their data and they stock the parts accordingly.

Claus Engelbrechtsen: They also work with other airlines and they pull parts. They loan parts to each other, but even then, you can do all of that planning and put a lot of thought into it. As a supply chain manager, it's extremely challenging within an airline because you just don't know.

Claus Engelbrechtsen: And at that given point in time when that aircraft is deemed AOG, it's costing them a lot of money per minute is really what it comes down to.

Chris Riback: Is that how it gets measured, per minute, cost per minute?

Claus Engelbrechtsen: Well, I would say by the hour, but you could really break it down if you want to. Right? So that helps them make their decisions to use our service versus an overnight like an integrator, for example.

Chris Riback: Digitization in the aerospace industry, what does that transformation look like?

Claus Engelbrechtsen: Well, the parts are becoming more and more intelligent, meaning there are streams of information flowing actually from the aircraft. That's just one example. So going back to what we were discussing, that is making the supply chain manager's life a little easier. There are examples today where you have a long haul flight. Could be a 12 hour flight from London to Singapore and halfway in there's an issue with the part.

Claus Engelbrechtsen: Now, just because there's an issue with a given part doesn't mean the aircraft has to land at that given moment. They fully understand the nature of the situation, and it could just very well be once it lands that they can deal with it then.

Claus Engelbrechtsen: And that information has already started now flowing back to the AOG desk, into the maintenance control, understanding what's going on with the aircraft and they could actually start sourcing the part with us ... Well, sourcing it with a vendor where they can find it, if it's an international base, let's say.

Claus Engelbrechtsen: And then because Sterling is global, we can provide the service anywhere in the world, and they can start working with us to start moving the part to where the aircraft is going to be eventually landing. Now, that's just one example, right, as it relates to the airlines and the parts.

Chris Riback: What are other ways because the digitization and the managing of technology ... I can imagine that once upon a time, your business was much more about the physicality. It's probably still about the physicality.

Claus Engelbrechtsen: Sure.

Chris Riback: You still got to get the part from Point A to Point B.

Claus Engelbrechtsen: Right.

Chris Riback: But at the same time, you're getting data and inputs all over. What does that transformation looking like, and what does that transformation mean for your clients?

Claus Engelbrechtsen: So as it relates to us, specifically, and communicating with our customers and allowing them to continue to plan. What it's really allowing them to do is everything for our customers on the airline side relates to a maintenance event, and there are a lot of components tied into that given event. Okay?

Claus Engelbrechtsen: It could be flight crew. It could be mechanics, and you can go down the list. And our customers are telling us today whether you're going to be a half an hour earlier and a half an hour late. It's extremely important if you can narrow that down on the last mile delivery, if you will, of what's happening with that shipment.

Claus Engelbrechtsen: So what we're doing is, we're taking the system from QuickTrac, from our ERP system, and that's operating in real time 24/7, and through multiple links with our service partners, with the airlines, the information is flowing constantly.

Claus Engelbrechtsen: Through digitization and through our network today, we're able to have this information flowing constantly from the point of pickup through a mobile phone that's communicating into our system to the final point of delivery; the POD being provided.

Claus Engelbrechtsen: So operating as a non-asset-based amount of, say, courier, we appear, if you will, like we own all the assets, and we're really managing all the assets like we do own them. So in that way, it's the best of both worlds.

Chris Riback: In the end, I assume your client may know that that part is coming from a third-party vendor, but that doesn't matter.

Claus Engelbrechtsen: Correct.

Chris Riback: You've got to get it there.

Claus Engelbrechtsen: They hold us accountable. At the end of the day, they really do. They count on us to manage our service partners. They count on us to manage the airlines. Some of them are airlines, so they worked internally with their own cargo departments and instead have come to us and said, "Hey, this is what we would like you to manage because you can manage it from point of pickup to point of delivery and everything that goes on with the shipment in between."

Chris Riback: What about the weather? Can you control that, too, Claus?

Claus Engelbrechtsen: Well, not really. The extent that we can control it is we are, again, back to QuickTrac. QuickTrac is linked into weather updates for the respective airports. So when the operators in the control tower are routing an actual shipment, they can see what's going on at the given airports.

Claus Engelbrechtsen: In the old days ... and we still have it today. We would have The Weather Channel. We would have a map and we could see it. It'd be very visible in making a decision. However, today we work in conjunction with the map and also the data information flowing into our system, helping us make smarter decisions around the weather and see what's

going on. So sometimes we might take a longer route in terms of flight time just due to the nature of what's coming up with a given weather situation.

Chris Riback: It makes sense. Claus, you've mentioned QuickTrac a couple of times and [00:16:00] you've mentioned a couple of the inputs. Tell me more about that. What are the inputs that go into QuickTrac? What does it help you do?

Claus Engelbrechtsen: So there are different kinds of input for QuickTrac. There is something called, let's say, like a FlightAware, which provides real-time flight information down to the local minutes at the gate and what's going on with the aircraft.

Claus Engelbrechtsen: The inputs also track the actual cargo of the shipment itself with the airline and work with that group. So the airlines are providing us with pushed messages about the latest update on the given shipment and the same goes for our service partners as well.

Claus Engelbrechtsen: The way we're integrated with them this day and age, the individual milestones as they flow through the handling of the shipment. So you take all that information and you take the operator in the control tower processing all of this information.

Claus Engelbrechtsen: And like we've talked about the combination of the algorithm versus the inherent knowledge and experience of many, many years that a lot of the people that work for us have been with us for a long time, and they know the airline industry extremely well, meaning the size of the parts, the type of parts, so they can speak the talk-to-talk, if you will, with our customers. Right? So a lot of factors come into play in a very stressful moment in a given situation in handling a shipment.

Chris Riback: That's interesting. So you've got the algorithm. You've got all this data, all these inputs. I hear you, FlightAware, weather information, information from the airlines. The predictive maintenance information might be coming in. I don't know if that's necessarily going into the airlines-

Claus Engelbrechtsen: That's coming in more to the airlines themselves. Correct. Not for us.

Chris Riback: Understood.

Claus Engelbrechtsen: Yep.

Chris Riback: So you have all sorts of inputs coming into QuickTrac, whether the FlightAware that you just mentioned, the weather data. And you can write an algorithm to analyze, depending on what the data that's coming in, what the decisions are that need to be made.

Chris Riback: And, yet, at the same time, the human element matters. The person who is interpreting those outputs and making some decisions off of that, and I would assume the communicating of those outputs to the client. That's got to be an important component, too.

Claus Engelbrechtsen: Correct. Like I said, the people that work in our control towers, a lot of them have been there a long time, built long-standing relationships with our customers. So sometimes our customers, it starts with they'll call them and speak to them by first name. Right?

Claus Engelbrechtsen: We do try to get our customers to go more online and we are successful; depends on the nature of the type of customer we're dealing with, whether it's an airline, an MRO, a Maintenance Repair Overhaul facility, or an OEM, the Original Equipment Manufacturers. So depending on the nature of the customer, they have different interests and needs and requirements of how they want to communicate with us.

Claus Engelbrechtsen: And when you go back to the actual operators ... Again, that experience combined with the information ... and a lot of that information, this day and age for us now, is historical information that we have built up many times, in particular, just to that customer, knowing their routes and any given challenges we might have in supporting them that have come up over time, right, and taking all that information and providing the overall best, optimal solution for them.

Claus Engelbrechtsen: And that's where I really feel the human factor, ultimately, comes into play when that decision is made.

Chris Riback: So tell me more about that the control towers. Take me inside a control tower, and how do you think about the geography, the global geography, in terms of your placement of them?

Claus Engelbrechtsen: You walk into the building, the control tower is a floor of a lot of people servicing different parts of the shipments that are being handled. It might be a certain section is the domestic desk and another desk is the international desk, and you can break it up further depending on different aspects of the service being provided for the given customer. But like I said, there's no cargo flowing through.

Claus Engelbrechtsen: We all have desktop monitors on the floor. We have visuals up on the wall, a lot of display boards providing different pieces of information starting with whether it be the weather, the call, the phone system, and the wait time, and exceptions, live exceptions on jobs that have been alerted to be having an issue. Those are obviously extremely important. Right?

Claus Engelbrechtsen: And then the strategic placement of the control towers for us is more a bit historical based on where the company was founded. And from there on, we expanded from Virginia. We expanded on to London, and we had an operation over there. We made a 24/7.

Claus Engelbrechtsen: And, strategically, that's been a really good location as far as supporting the rest of the world, but overall it's a combination of experience and longtime

knowledge along with, yes. They're good locations to be in, but as I said earlier, the cargo doesn't move through the facility so it's kind of irrelevant.

Claus Engelbrechtsen: And in addition to that, when it comes to the international logistics, it's important to have a staff that's versed in international. It's not just logistics, but understand the world. They travel. They have a good sense. Right? That's where, many times, they'll eventually end up on the international desk. So whether it's near Washington or London, that comes a little more naturally.

Chris Riback: Now, I'm getting the sense that it's in your job description to worry all the time. 24/7, you've got to worry. When it comes to just-in-time supply chains, what do you worry about? What keeps you up?

Claus Engelbrechtsen: Well, what keeps me up at night is providing the level of service to the customers that we're offering to them, which is truly what, say, put us on the map from Day 1. It's 24/7, same day, next flight out, whether it's domestic or even international. The transit times that we can offer our customers, you cannot get that from your standard integrators that everybody knows about.

Chris Riback: Do you feel like that's your reputation?

Claus Engelbrechtsen: Yes. That's definitely what it is. I mean, it starts with that, the ability to provide that level of service. Now, when you talked about digitization earlier in terms of the information flowing to the extent that we can now manage it in real time and update our customers, accordingly, 24/7, and keep them running their operations, because on the airline side, our customers operations are all 24/7.

Claus Engelbrechtsen: So we kind of work hand-in-hand, and we're really an extension of their supply chain, if you want to look at it from that standpoint. So continuously being able to support our customers in that capacity is what keeps me up at night, and that's how we built the business and that's just still what we do today.

Chris Riback: The business is built on the fact that you stay up all night. I understand.

Claus Engelbrechtsen: Well, yes. There has been many moments where we have all convened at 2:00 in the morning depending on a given situation for our customers, for sure. And we interact with the customer. We interact with the control tower. And managing our business development team on a global basis, I can tell you that I'm extremely proud that all of them work this way with their customer.

Claus Engelbrechtsen: Their customer knows if they need something, even if they're on vacation, I hate to say, but that's the truth. Our team is always available to our customers. Of course, our control towers are always open 24/7, but the team, to speak to someone and get a little more interaction, or asking the customer what their needs are and what else can we do in a

given situation, it might need to be further escalated within the company, and you can go all the way up to our CEO.

Claus Engelbrechtsen: Well, we're all available 24/7 to support the customer's situation.

Chris Riback: What are the trends that you see? Are they in the predictive maintenance side and down to the individual parts themselves? You know, things are getting smarter. Is it on the input side, the data that goes into QuickTrac, for example, and all the inputs that you're able to add to an algorithm and kind of do the math of all the factors coming in at the same time?

Chris Riback: Is it in the communications, the way that you connect with customers? What are the trends that you find most interesting

Claus Engelbrechtsen: I think, honestly, it continues to stay with the fact that we are, as I said earlier, a true extension of our customer's supply chain and they can rely on us 24/7. What we have over time done is, we've improved the way we communicate with our customer. We have different methods of getting the information out there.

Claus Engelbrechtsen: A lot of the airline customers still prefer to speak on the phone today, but we have customized email notifications. We have our online portal, which we continue to update on a regular basis. We have our quick board, which is more like a flight screen at the airport. So I'm seeing that the trends are that, to some degree, some customers don't want to speak to us as much as they used to, which is good.

Claus Engelbrechtsen: As much as we want to interact and speak to our customers, we also want to be able to work intelligently with their information and spend more time doing that; creating the routings, getting the information into our system. Let's say an automated web portal order entry, for example, versus someone on the phone. There's less chance of error. Right? Or a full API integration with a customer where the data flows right into our system.

Claus Engelbrechtsen: At that point, there's less human interaction for that given shipment, but it allows us also to work within the given shipment and put even more time and thought into it.

Claus Engelbrechtsen: Some want to speak to us all the time. Others are becoming a lot more electronic and adapting to the world of digitization. Most importantly, we are speaking to our customers, trying to understand what their needs and requirements are.

Chris Riback: What do you do to prepare no matter what the situation? I mean, you've got natural disasters. You've got manmade disasters. How do you manage mission-critical logistics when the world is so unpredictable?

Claus Engelbrechtsen: Well, this is where we take a lot of pride in, quite frankly, because we feel we have built an extremely robust IT system. We have an extremely talented team on a

global basis and that goes throughout the whole organization. And when it comes down to it, as we all well know, things happen every day. And when they do, it's the infrastructure that we have put in place that allows us to deal with the given situation.

Claus Engelbrechtsen: And a lot of these situations, just like anyone else, we can't predict. And when they do happen, we take in all the information of that given situation, and we look at what the options are to support our customer, and, yes. There's plenty of stories I could give you.

Chris Riback: That's just where I'm going.

Claus Engelbrechtsen: Yes.

Chris Riback: I want the stories. Does any example come to mind where-

Claus Engelbrechtsen: Yes, like the Icelandic volcanoes some years back where slowly less and less aircraft were able to fly the given routes and there was less and less supply available.

Chris Riback: So I remember. So this was a massive volcano. Iceland shot everything up into the air. Is it magnetic aspects of the ashes, is that what it is, and it throws off the-

Claus Engelbrechtsen: Yes. That's an issue, I believe, for the engines on the aircraft. Right? So as that cloud spread and it got worse-

Chris Riback: And it shut down aviation...

Claus Engelbrechtsen: Well, the transatlantic aviation, to a great extent, was very limited at that point because of the size of the cloud. And at that point, less aircraft flying, less passenger aircraft, which is what we mainly rely on. Right? And with that, you started having a smaller, say, backlog of cargo due to that. And then what comes into play is there are different ways we can route the cargo.

Claus Engelbrechtsen: Sometimes it has to be done via a channel that does take a lot longer, but the fact is, we're open-minded. We're creative and we're constantly thinking about options, even as far as chartering aircraft, specifically, for our customers.

Claus Engelbrechtsen: Obviously, that costs a lot more money, but some of our customers are willing to pay it every day.

Chris Riback: What's the craziest mode of transportation you've had to employ to get something from here to there?

Claus Engelbrechtsen: I would say an Antonov as far as a large aircraft to move engines for the largest wide bodies that are out there. These are massive aircraft. These engines can only

fit on certain types of aircraft and these are huge projects and they're very challenging situations for our customers.

Claus Engelbrechtsen: And that's, in particular, the commercial airlines because they're the ones flying the big wide-body aircraft. Right? And those engines have only gotten bigger and bigger and becoming even more challenging, so not only in the air, but also on the road in terms of moving them with permits and so forth.

Claus Engelbrechtsen: In that given situation, the plane was inflight over the United States, and working with the operator that manages and actually owns that flight, we were able to get that fight. It was flying empty legs, so we were able to get the aircraft on the ground in the U.S., and to position it to support our customer and saving them, say, time and money by working, say, virtually with our customer 24/7, in a given situation like this. This is really what goes on behind the scenes all the time.

Chris Riback: So this Antonov airplane was headed someplace.

Claus Engelbrechtsen: Correct, probably overseas.

Chris Riback: So it's flying back across the U.S. empty. You get contacted that your client needs a 777 engine, and you actually stopped the Antonov airplane before it exits U.S. airspace.

Claus Engelbrechtsen: Correct.

Chris Riback: And say, "Hey, I got something to put in your cargo belly?"

Claus Engelbrechtsen: Technically, yes, that's what's happened. Yep.

Chris Riback: And how did they react? What was that conversation like?

Claus Engelbrechtsen: Well, I mean, it's back and forth in the middle of the night with our customer, and even our customer is using their experience leverage with the U.S. government for the best of, say, supporting the given situation. Right? So, yes. It's what we do 24/7, again, for our customers.

Claus Engelbrechtsen: I personally wasn't involved in that level of the communication, but I know how our team works. Our charter team is very close to our customers, and, again, back to they see them as an extension of their supply chain. And they know if anybody can make it happen, it's us.

Claus Engelbrechtsen: And, so, scenarios like this come up all the time where it all comes down to money. Right? And if you're willing to make the commitment and pay the operator, they

want that asset flying, and they'd rather have something in the belly hole than no cargo at all. Right? So everything comes at a price.

Chris Riback: I understand that. And with apologies to you in advance, the next time I realize the night before that I have forgotten to get an anniversary gift, you know I'm calling.

Claus Engelbrechtsen: We've done a few of those.

Chris Riback: Listening to you, I'm becoming less and less impressed with Uber Eats and Grub Hub. I used to think it was fantastic. They get me hot food from a restaurant across town, but shipping a massive engine that only fits on a certain size airplane to someplace around the world, that's slightly more impressive than Uber Eats.

Claus Engelbrechtsen: I agree with that.

Chris Riback: It doesn't taste as good probably, but it's-

Claus Engelbrechtsen: We've handled the worst, trust me, and we have a solution for it all.

Chris Riback: Yes. You've got to kind of feel that way.

Claus Engelbrechtsen: I do, yes.

Chris Riback: It must be torture for your kids because I would imagine there's no excuse that you're willing to accept.

Claus Engelbrechtsen: That's very true. You're right. We're willing to take on any logistical challenge. That's really what we pride ourselves on, the standard every day that goes through, whether it be a consolidation or a network, that's not us. Everything we do is, call it "mission critical" whether it be aircraft, parts, organs, high-tech components, and it's because somebody is dealing with a very critical situation that's either a true human life, or an assembly line is down, or an aircraft is down. And I'm speaking through all parts of our company now; the different verticals.

Chris Riback: Understood.

Claus Engelbrechtsen: So, yes. We take pride in these kinds of challenges, quite honestly.

Chris Riback: Claus, tell me about you. Was it always airplanes for you or was it logistics? Were you the kid in the backseat of the car with the map, or did you have the model airplanes?

Claus Engelbrechtsen: Well, I've always been good with maps, I should say, but, no. I was never overly passionate about the airplanes and then I studied finance and I took a job out of college working out at JFK in logistics and would sit there at lunch with my boss, and I'd get to

know all the planes and it kind of evolved over there from there on. So I got my experience in logistics there and got more and more of a passion for airplanes.

Claus Engelbrechtsen: I've always had a passion for traveling on a global basis, so, yes. I ended up in this industry not really thinking this is where I would be, quite honestly, but now I'm using my background in managing the business unit. And I've had many years of experience, before this role, as an international product manager within the business, understanding what it takes to put all these pieces together because many of them are really intangibles. Right?

Claus Engelbrechtsen: So it's a service that we provide, and how do we provide that service better than anyone else? And making sure I get that message out to our customers through the sales team and they're educated, accordingly.

Chris Riback: Well, I have to say a few knew from the very start, or learned from the very start, how to navigate through JFK, then I'm confident you can get anything anywhere. Claus, thank you. Thank you for your time. Thank you for your insights.

Claus Engelbrechtsen: Sure. Thank you very much.