Paul White: Life Science Logistics: A Matter of Technology, Temperature & Time

In this episode of QuickConversations, host Chris Riback speaks with Paul White, Corporate Executive Vice President for Quick. Paul, who's based on the UK, caught up with Chris by phone, at the time when Brexit was in the headlines and the coronavirus was emerging. Paul shares the unique insights that come from a 35-year career focused on managing logistics in the aviation and life sciences sectors. In this podcast, Paul discusses:

- How to integrate emerging client requirements with new technologies to speed deliveries and improve efficiencies.
- The temperature-controlled logistics solutions needed for maintaining the integrity of your temperature-sensitive shipments door-to-door.
- How to keep global supply chains moving not just during anticipated crises like bad weather or Brexit deadlines, but also when hit with unexpected ones like the coronavirus pandemic.

And what is the overarching objective that drives Paul and his team? As Paul has said, "Our goal is to always be customer-focused…and find solutions to deliver our clients critical shipments, no matter what is going on in the world." You'll hear more about that customer-centric commitment in this conversation – an approach that today, in these unprecedented times, is more important than ever.

Transcript

Life Science Logistics: A Matter of Technology, Temperature & Time

Introduction:

I'm Chris Riback. Welcome to Quick Conversations, our podcast that explores the extraordinary world of global supply chain logistics: How it keeps business – and life – moving.

Of all the logistics required to maintain efficient and exact global supply chains, temperature requirements surely are among the most fascinating: Ship something that absolutely must remain as cold as 196 degrees below zero Celsius across the world? Or how about a shipment that can't go any lower than 15 degrees Celsius while simultaneously and precisely never heating above 25 degrees Celsius? They involve extraordinary logistics planning, tracking the temperature in every step throughout transit and using the latest innovations in packaging – a new world scientific and technological update to the old world's simple box.

But for Paul White, Executive Vice President of QuickStat, it's only one of many challenges he has seen in some 35 years in logistics and sees today across the aviation and life sciences sectors including the importance of strategically located conditioning facilities to help shorten

delivery times of temperature-sensitive products. How to integrate emerging client requirements with new technologies to speed deliveries and improve efficiencies? Or how keep global supply chains moving not just during anticipated crises – like bad weather or Brexit deadlines – but also during ones no one knew were coming: Like the Icelandic volcanos 10 years ago or the coronavirus today?

A note on timing and location: We caught up with Paul in the UK, as Brexit was dominating the news and coronavirus was emerging.

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

Paul White: No problem, thanks for having me.

Chris Riback: I understand that you have been with Quick since 1985. So this should be an extremely short conversation because I can only assume the logistics haven't changed an iota since then, have they? You haven't had to learn anything new since 1985?

Paul White: No, it's all status quo. Exactly, nothing has changed. No technology advancements. No challenges. It's all pretty much the same as it was in January 1985.

Chris Riback: Yes, I knew it. That was what my research was showing. Just in case my research was wrong, what's been the biggest change? You mentioned technology. Have the biggest changes been on the fulfillment side or on the client expectation side?

Paul White: Good question. I think it's a bit of both really. We have to react obviously to our customers. We are customer-focused, that's our business. The customers are king. That's what we all get out and go to work for. That's our focus really is making sure our customer's expectations are met every time they phone us and ask us to deliver a critical package for them.

Chris Riback: Who are your customers, Paul?

Paul White: We have a wide range of customers. We work in a number of vertical markets: aviation, life sciences, which also includes clinical trial supply for clinical trials. It's a wide-ranging group of customers from airlines to pharmaceutical companies to banks to law firms. Yes, pretty much across every sector.

Chris Riback: As you were talking about the changes that you have seen over the years, and I was asking you about where are the biggest ones on the Quick side in technology or in the client expectations? It sounds as if those are totally commingled. I would assume that each side ratchets up the other as technology improves, expectations rise. As expectations rise, new technologies are needed. Is it in sync like that? Is there a pattern in that way?

Paul White: Yes, I think you're right. I think that we're fortunate enough to have our own in-house IT team who are all ex-operations background so they understand our business. They’re

able to react to our needs, which are obviously our customer's needs. We've done a lot of really interesting stuff from a technology point of view with our websites, with our track and trace capabilities, with our online booking systems. An example, we have a system called Cold Chain Manager, which allows us to manage the temperature of shipments throughout their journey. Yes, I think the way you put it is absolutely right. They do commingle.

Chris Riback: The temperature management technology is something I'm really excited to get to talk with you about. Before we get into those specifics, just tell me quickly a little bit about you. Your background, your areas of business, and how'd you get into this in the first place?

Paul White: Well, that's an interesting story. I joined Quick in January 1985. I was working in another company in the same building and one day I went back to see the Quick team and got offered and job and accepted, and that was the start of my journey really. From there, when I joined Quick in the UK we were only three people. We're now 180+. My journey has seen me going through operations at every level, and then ventured into commercial. I ran the UK office for a number of years. We've since gone more into our vertical markets. I now play a part in both areas of aviation and QuickSTAT, which is our clinical trial supply division. I manage the biggest customer within that group. Then, I support our aviation guys. Also, from an Asia perspective, I've been given the Asia side of our business to manage. I extensively travel out to Asia and Australia to support the people we have on the ground in those areas and to increase our business levels.

Chris Riback: If I'm understanding you correctly, you're a logistics fellow who 35 years ago happened to walk into the wrong office in the same building, and as long as you were there, they offered you a job? I guess it was that straightforward?

Paul White: That's how it happened. Absolutely right.

Chris Riback: Okay. I imagine that it went a little bit more complicated than that, but that's a funny story. It's a really good story. Let's talk about two of the divisions that you just mentioned: aviation and the QuickSTAT life science logistics. On the one hand, totally different industries obviously. What I'm curious here, is what you're hearing from your clients in these two spaces. My guess is that there may be overlap at the highest levels, but like everything else in life the devil is in the details. What are their pain points? What are their most critical challenges? Are their needs, at the fine strokes, are their needs really unique and customized based on the different sectors that those clients of yours come from?

Paul White: From an aviation perspective, obviously the key is to keep aircraft flying, that's how they make their revenue. For them, they have more of a criticality point of having parts delivered within a period of time. They're arranging engineers to be able to be available to fit parts to the aircraft so the aircraft can get flying again. There's much more emphasis on speed when we're dealing with aviation customers. More so it's more about integrity of the product that they're shipping. So, that comes, again, to the temperature management of the products and supply and continuous supply. Often there are times though where it's patient critical. The patient

needs to be dosed and they're waiting for the product to be delivered within a certain period of time and as we enter into new phases of drug development, we're now seeing a lot of cell and gene therapy studies that are being approved. They have a much shorter life cycle. Speed becomes critical for those customers.

Chris Riback: I know your focus is global, but are there certain geographical regions that you specifically are focusing on?

Paul White: Me personally, UK and Asia/Australia. We have an office in London. We have an office in Paris. We have, obviously, people on the ground in Singapore, Australia, and Dubai. We are making some expansion plans currently which we're going through. We're going to be beefing up our operations in Singapore and Australia to cover that region and give it more support. They are my primary focus points from a region perspective.

Chris Riback: Let's just talk about each one of them briefly. Tell me about the logistics. What are you dealing with in terms of trying to ship in or out of those areas? How is this affecting the way you think about keeping a global supply chain and your client's global supply chains running? What questions do they have for you? How much is the coronavirus affecting or changing what you do, and how are you reacting to it?

Paul White: The coronavirus is having impact. The flights are being canceled. From a life science perspective, our customers are asking us how quickly we can get product in? Do they need to ship more in one go so that they've got continuous supply once the product arrives? I think that it's just really down to capacity would be an issue at certain points. As airlines either take flights or add flights bank in that will obviously have an impact.

Chris Riback: Your areas are very much in the news because your other area, UK, has just undergone Brexit.

Paul White: Correct.

Chris Riback: What has that done for you and what has that done for your clients?

Paul White: It's caused a lot of uncertainty. We still don't know where we stand. We've got this deal until December 2020. In the meantime, obviously the UK government has to formalize trade deals with Europe and the rest of the world. Lots of our customers have invested heavily in building facilities in Europe so that they are now in Europe. From a clinical trial perspective, when you're releasing products to patients it has to be QP released. Under the legislation prior to Brexit, you could release product from the UK into Europe. Since we've Brexited, we cannot release product from the UK into Europe. It has to be released from within Europe, hence our customers creating facilities within Europe.

Chris Riback: That's terrific because logistics weren't challenging enough previously.

Paul White: It's been a challenge and a worry mostly because of lack of true information. My personal opinion, I think we'll see a soft Brexit. I think some things will obviously change but from a logistics standpoint I'm not saying it will be as it was, but we'll be ready for any challenges ahead.

Chris Riback: For the logistics business, information has to be among the most important commodities isn't it?

Paul White: Oh, totally. Yes. We can't live without information.

Chris Riback: In a way, would you almost say you are in the information and communication business?

Paul White: That is a huge part of what we do. That's what stands us out from our competition. We've always, always, always communicated with customers, sometimes to our detriment because we give them bad news sometimes. And they don't like bad news obviously. We always communicate 100% of the way. We have certain milestones that we update our customers on continuously. We do that so that they can react. If we have an engineer waiting for a part and unfortunately a weather delay has caused the aircraft to divert or be late, rather than the engineer just standing around waiting for the part to be delivered, we then update to our customers so they can reschedule. That in turn saves them time and money.

Chris Riback: Not communicating bad news immediately, I assume, turns into much worse news later.

Paul White: 100%. I couldn't agree more with that comment. You have to communicate with customers. You have let your customer know what's happening with their parcels.

Chris Riback: I imagine so. Let's talk now about temperature management. It's a fascinating capability. Delivering that temperature management capability is all part of a day's work at this point. End-to-end temperature management solutions are must haves especially, obviously, for life science client's global clinical supply chain. Tell me about how you make that happen. What are the keys to end-to-end temperature management solutions?

Paul White: We have designed within our system a temperature management system whereby we enter information about the pack out of a shipment, when the shipment was packed out with the appropriate packaging. We start the clock, and then the clock starts to tick down. Our customer services team monitor that throughout transit. We provide VIP packaging, which generally is validated for 96 hours.

Chris Riback: Vacuum insulated packaging?

Paul White: Yes, vacuum insulated packaging. It's 96 hour validation, 2-8 degrees, 15-25 degrees, -20. We then have other solutions for -80, which would be dry ice shipments. Then we

go deep frozen, which is cryo-shipping, which is -196. We've got the technology through the packaging to be able to ensure that temperature is maintained throughout transit. With the new packaging solutions, we're able to hibernate on route. If we arrive into Sydney, Australia as an example, it's a long transit time. Other than New Zealand, it's the furthest transit that we go. So, we're using the energy of the box throughout transit. However, on arrival the shipments are then either stored in the appropriate temperature at 15-25 or 2-8. The shipment, the box stops working and allows the temperature around it to take over. It saves its energy. Then, once we take it out of storage it then restarts. It's been a revolution for us in managing temperature. Temperature excursions have almost disappeared. We don't really see any temperature excursions because of the packaging. We see excursions, it's opened by customs outside of the wrong temperature or it's opened in an office outside of the wrong temperature. That's the only time we see a spike in temperature. The airlines offer temperature management services. We always use temperature management services with the airlines, which is more expensive. However, it means that we know that on arrival the goods will automatically be stored in the right temperature.

Chris Riback: Tell me more about that packaging. You said you use the energy of the packaging. Tell me about that technology. What an extraordinary thing. What does that mean?

Paul White: Okay. We have a box. It has panels in it that need to be conditioned at the right temperature. Once those panels are ready, they go back into the box and that box is closed and if it's a 2-8 shipment, that box inside is a fridge. It's maintaining 2-8 temperature for 96 hours. What the new packaging with the vacuum insulated panels allows us to do is if we put that box into a fridge, the box stops working and the fridge takes over maintaining 2-8 temperature. With the old style packaging systems, gel pack water-based systems, if you put the box into a fridge the box is still working and the fridge is working. It goes too cold and therefore creates temperature excursion.

Paul White: One of our customers five years ago decided they wanted to get away from the gel-based water systems because they were seeing too many temperature excursions within their network. Between the two of us, we collaborated and introduced the VIP packaging into their supply chain. Their temperature excursions have gone to almost zero. Therefore, no loss of product, hardly any loss of product. Some of these products are in the millions of dollars, which obviously is a worry. Also, it's about critical supply to patients and having enough product. Manufacturing lead times aren't always the shortest. There might not be manufacturing space. If you have a temperature excursion and have to dump the product, you may not be able to get any sometime soon. Then you're left with patients obviously needing their drug supply.

Chris Riback: What would be examples of the types of products that you are shipping at 2-8 degrees Celsius or 15-25 or interestingly, down below zero. The -25 to -15 and then crazily, you even mention -196 degrees. What are the products that you are shipping and needing to maintain at those various temperatures for, I guess, as much as 24 hours?

Paul White: Well, longer. Up to 96 and above. Particularly when we go into destinations where there are longer customs controls we may have shipments that are hibernating in a fridge for 2 weeks. But the packaging and the technology has allowed us to be able to do that. In the past, we'd run out of energy in the box and we'd have had a temperature excursion. The product we are shipping in the main 2-8, 15-25, -15-25 would be clinical trial supply drug product and tissue supply. The coldest temperatures, -80, is really around blood samples coming back from laboratories for testing. They often come back in a frozen state. At the really low temperatures, the -196 cryo-shipping, that's the new technology with cell and gene therapy. When a patient is being treated and they have their affairs removed, that cell and gene sample fundamentally, they're tending to be shipped at -196.

Chris Riback: In addition to the packaging innovations, you also have been creating conditioning facilities around the world. Where are they? How do they play into your ability to provide just-in-time solutions that actually improve turnaround times?

Paul White: This all started, again, with a particular client. Five years ago we were invited to bid process, which we were successful in. They wanted to have a reusable shipper. Hence, the VIP packaging we introduced into their supply chain. To do that, we had to be close to them. We opened a facility 30 minutes from their door. We condition all of their packaging and supply on a daily basis. That was our grounding really. From there, we've continued to open conditioning facilities within our partner network. Korea is the next one to be ready, which will be next week. It just means that we're not having to ship packaging into country, which has a cost associated to it. It also means that supply is much faster. We can ramp much quicker. We're on their doorstep. We can have a package delivered to our customers in 30 minutes. They're not waiting or worrying about when the package is going to turn up because they can't ship without the packaging. They're not worrying, they know that supply is ready available.

Chris Riback: Each of these facilities was designed, mapped, and qualified according to EUGDP guidelines?

Paul White: Yes. Then, we were audited by our customers.

Chris Riback: I would expect so.

Paul White: Yes. Then, they tell us where we need to improve, which is great. You don't get everything right every time. It's always good to get positive feedback from your customers and help, obviously. It's about partnership really. We all want the same goal. We're all trying to achieve the same thing, which is: deliver critical supply within temperature.

Chris Riback: Going back to one of the first points that we talked about in this conversation in how the changes that have occurred within your industry and the interplay between the technological and the customer client expectations, you just talked about facilities. You just talked about packaging. Two key innovations that you have made, and both of them were in, to

use your word, direct partnership with the clients. They were based off of, it sounds like, listening to what your client needed and then working with the clients to create solutions.

Paul White: 100%. We're client driven. Our customers come to us. They look for solutions. If we don't have them ready available, we will go and create them and make sure that our customers are getting exactly what they need at all times. Without partnership, it can't be a one way street. It has to be a two way street. Investment has to be made. Our clients, thankfully, understand that and understand that they need to give us their support for us to be able to make the investments that's required for the end result, which is supply to patient fundamentally from a life sciences perspective.

Chris Riback: Yes, no doubt. You just mentioned the audits that the clients will do. Obviously that's because they want to meet their requirements. Are they facing and/or are you facing industries that are more regulated? How have regulations and increased regulations impacted client expectations?

Paul White: Predominantly we are audited from the life sciences industry. They have very strict guidelines. Obviously, they're dealing with product that's going to be consumed by human. There's many, many, many regulations around that. Every year, we have more audits. Every year, we have to do more audits of our supply chain. We have to make sure that everyone's on the same quality management system. We have to make sure that's trailing out through our network. Yes.

Chris Riback: In listening to you, I think about what your clients are doing. You just talked about it. They are delivering life-saving science in capability and tech to do the most sacred thing, to save lives. It sounds like everyone is just pushing each other to be able to do more and better every single time.

Paul White: Absolutely. It is live-saving for sure. You would expect lots of regulations around that. You'd expect lots of quality around that. That's what we're striving to deliver every time.

Chris Riback: I can understand how you prepare every day for the expected, unexpected. What about the unexpected? Natural events whether that's from weather to obviously as we talked about a moment ago, elements like the coronavirus. How do you plan for it or manage the unexpected, unexpected events?

Paul White: Well, we have a team of people within the Quick group who are managing this on our behalf. Managing weather, managing critical events, earthquakes, volcanoes, bush fires in Australia as an example. And they feed back to our customer services teams. Each of our control towers in our network has live news feed. We have televisions with live news feed coming into the facilities. We're all constantly up to date with what's going on around the world. Then, we'll have meetings seeing that if it's become very critical to decide how we're going to manage expectations of the customers. Business continuity, it's all about business continuity. A number of years ago now there was the volcanic eruption in Iceland and that caused no end of

challenges for sure. No aircraft were flying in Europe. It was a scary scene, scary scene to look up at the sky and not see any aircraft. Then, we had to work out how we were going to manage our customers shipments and having direct drives back from Russia as an example. To make sure that their blood samples were delivered in time back to the laboratory for testing. We've been doing it a long time. We've learned a lot. Everyone goes the extra mile to make sure we're supporting our customer.

Chris Riback: That's exactly what I wanted to ask you about because we've been talking about the technology. We've been talking about the facilities, the packaging. The cutting edge of IT. The work that your technology teams, internal technology teams are doing. It's critical, but we all know delivering reliable logistic solutions can't live by technology alone. What about the people? Of course, they are excellent, but what kind of expertise, experience is needed to give the urgency, and as we were just discussing, the last minute decisions that need to be made often totally unexpectedly, volcanoes, fires, viruses, of the shipments you're looking after?

Paul White: We have a very dedicated team. We have a team of long tenure. As you know, as we've discussed, I've been with the company 35 years. I'm not the only person in the 30-year bracket. There are many more. We have many, many people in the 20-year bracket and many in the 10-year bracket. Quick's a really good family. We seem to join and we don't leave. And through that, collectively we gain experience. We learn from people who've been there a long time already. They pass on what the expectations are of Quick as a company and what our customer's expectations are.

Chris Riback: It sounds like an ongoing combination of expertise and judgment. I guess like any professional space, it's just in your particular case you're dealing with life-saving products, natural disasters, viruses that come out of anywhere, the regular changes to travel or transportation that occur, but that combination of experience. I guess experience gives us judgment. Speaking for myself, the older I get, the wiser I seem to believe I am.

Paul White: Very true. I think we all feel like that. It's a matter of most things that we experience have happened before. It's making sure that we've learned from those experiences. Learn lessons that can be learned, and that we play them out when a face a similar situation. We've had volcanoes. We've had earthquakes. We've had bush fires. It's making sure we're on top of it. We're feeding back the information to our critical people and they're in turn feeding back to our customers so that they can arrange their supply chain in the right way.

Chris Riback: Can you sum up, what would your and Quick's chief goals and priorities be over the coming few years? What trends do you see and new technologies? What is it that you want the clients you support to know?

Paul White: Our goals will always remain to be customer-focused. Our goals will always remain to continue to deliver for our customers. We always want to be number one choice for our customers. We always want to stay ahead of our competition. To do that, we have to work very

hard. We have to innovate. We have to use new technologies that will undoubtedly be available now, tomorrow, next week, next year.

Chris Riback: I guess you'll just continue to hope that nobody asks you to guarantee temperature management at -296 degrees? That would really be crazy.

Paul White: Well, that would be crazy. I'm not sure that exists. However...

Chris Riback: We'll give you till tomorrow.

Paul White: Yes. Exactly.

Chris Riback: Paul, thank you. Thank you for your time and thank you for what you do particularly, obviously in the life science areas where these products are life-saving. Thank you for what you do for patients all over the world every day.