IK: This is Voicemail, the Universal Postal Union’s podcast covering the wonderful world of mail. Every month we will bring you all the stories fit to post. I am your host Ian Kerr. Each episode of Voicemail offers a postal story from around the world. We will speak to the people who deliver the mail, the decision makers that influence the sector, and those who work so hard behind the scenes to help things move from A to B. Through personal reflections, anecdotes and insights, we will look at how the Post forms an essential part of the United Nations and its efforts to support sustainable development. The mail is truly a global service, and the UPU – the Universal Postal Union – is the international body that brings the postal world together. Voicemail is part of that spirit of global corporation. We have an exciting and diverse range of guests lined up for the upcoming episodes of Voicemail and in a few moments I will be joined by our special guest for this episode, Thomas Ellmann from DHL, to talk about DHL’s role in distributing the COVID-19‎ vaccines. Remember to subscribe to Voicemail on your favourite podcast platform to make sure you get each episode as it is released. For more information on Voicemail, visit the UPU website at upu.int and follow the links to the Voicemail podcast. So coming up in just a moment, Thomas Ellmann to talk about distributing the COVID-19‎ vaccines.

IL: I’m joined by Thomas Ellmann. Thomas is Vice-President, Life Sciences and Healthcare, at DHL. We are going to get stuck into a big discussion about the world-famous vaccine – or there are a number of vaccines – but we are going to talk about distribution of the vaccine and the logistics behind it. But before we get into that, Thomas, you are part of the giant that is Deutsche Post DHL. So let’s start off with a postal question: what are your earliest memories of the Post, whether it is a postman or in the post office? Just tell us a little bit about your early involvement with the Post.

TE: Yes sure, it is a pleasure Ian and thank you for this opportunity here for the podcast. So, when I remember back on the Post, one of my earliest childhood experiences of the post was when I was a child, I went once a week probably with my mum to buy stamps or to bring parcels or even in those days ordering a new stationary telephone, for those who still remember that, but obviously that was a long time ago, I am with the company now since 2007 and what was the German Post is now a global company with more than 500,000 employees covering 220 countries in the world; wherever you arrive with an airplane you see a yellow DHL plane standing next to the runway and obviously covering the planet, and we are enabling global trade and obviously a topic for today’s podcast is how we play quite a significant role in life-size logistics. So a big change from the early childhood memories.

IK: So tell us a little bit about how you got to be where you are and what led you to be in this particular sector.

TE: So basically all of my career I was working in logistics. When I left university I was with a couple of consumer goods companies, chemical companies and so forth, always part of supply chain and logistics, and then there were some changes in 2007 and changes at Deutsche Post as well, where they were looking for people to equip their life science functions in what was at that time the European road freight division. So I started there and I was covering industry sectors, life science and chemicals and since then I’ve been working in life science logistics and quite enjoying it. And right now I am in the group called customer solutions and innovation that is in the first place a global key account team for the top 100 customers, so where we have five different industry sectors, of which life science is one, and the other mission of that team is to basically, together with the divisions, to develop solutions and services that are making sure that our customers in the marketplace are successful and remain successful since we are picking up the latest industry trends and needs and we come up with solutions and services to support our customers.

IK: So this sector that you are working for – DHL’s life sciences, health care and chemicals sector – it’s an established part of DHL, so how long has it been part of the DHL operations?

TE: So the sector approach was coming up more than 15, almost 20 years ago, and within the life science sector we basically started it off in 2001. We have founded an annual industry conference where we are sitting together with our customers, where we listen to their needs and learn from them and see what are the market trends and, together with our customers and based on their input, we basically started to develop solutions, be it in airfreight, in ocean freight, in warehousing, in road freight, tailor-made to these requirements and basically has led us to where we are right now and the life science sector within DPDHL is made up of 9,000 people running a global infrastructure and serving our customers around the world.

IK: Let’s turn now to the pandemic. When were you first aware of the emerging COVID-19 pandemic, and what were your initial thoughts when you first heard about it?

TE: Well honestly probably a good year ago now in January/February 2020 the pandemic, as likely for most of us, was something that happened in the province of Wuhan in China and it felt very far away, and we wondered if it would ever come to Europe, would it ever affect our dealings. And then a couple of weeks later it did affect us because all of a sudden we were involved in sourcing PPE materials – masks and gloves – on behalf of customers or governments, and organizing emergency shipments and charter flights from China into Europe, into Africa, into North America. Suddenly the whole issue was very present, also in the Western World, and that is when we basically started to see the consequences of it and that was in springtime. And then in the summer the company made the decision to create a white paper around the whole issue. I am one of the co-authors of the white paper that was released in September. This created a lot of discussions with manufacturers, with governments, with NGOs. So in the fall last year we were going into more concrete planning with a global task force that basically dealt with issues on how to support our customers and pharmaceutical manufacturers on one side, or how to support NGOs and governments for successful distribution of the vaccine. A year has passed since all this started, and still a lot of companies are developing new vaccines. A lot of countries are now seeing the second, third or even fourth wave of the pandemic. We basically serve the world with vaccines and with other ancillaries needed to administer the vaccination to a patient. This has been keeping us pretty busy in the last five to six months.

IK: We all know that there are a number of vaccines out there at the moment with their own needs and their own requirements, so can you just talk us through some of the technology and infrastructure that DHL has introduced specifically for distributing the COVID vaccine?

TE: One of the things that was really new to us were the new temperature requirements for some of the new vaccines that came to the marketplace. When I grew up in life science logistics, vaccines was always something that needed to be stored and shipped at +2 to 8 degrees, but now we have new vaccines, we call it delivery mechanisms like the MRNA or the viral vectorand because of the absence of stability data, people said this needed to be stored long-term and transported at -70 degrees Celsius or -20 degrees Celsius and also manufacturers obviously, as they continued to collect long-term stability data or improve their formula, see this as a kind of moving target. So for us as logisticians, that required us to rethink the way we store and transport goods. We basically looked at our systems in terms of capabilities to have long-term storage for -70 degrees; because of that, we invested in ultra-low freezers in a couple of different countries. We also looked at our systems and the capabilities in order to ship significant numbers of shipments with dry ice because dry ice is seen as dangerous goods, especially on a plane. So we started to train people to write SOPs to document what needs to be done, and prepared basically for the delivery of the first vaccines, and I think that that is something that we adapt going forward, and right now we are serving all approved vaccine manufacturers here in one way or another, so actually we have learnt together with our customers to bring in place what needs to be done to have effective delivery of the vaccine.

IK: How are you overcoming the issues of limited air cargo capacity, as well as the safety issues of carrying vaccines at very low temperature?

TE: As a first thing we do not compromise on safety and all our experts and operations dealt a lot with establishing all the right procedures and upgrading the IT system in order to ship dry ice successfully on the plane. I think air freight capacity, since a lot of passengers and aircraft are grounded and remain grounded, is still tight, but I think the issue is different from a maybe a year ago when PPE was sourced almost solely out of China into Europe, and Africa and US where a lot of charter flights needed to be ramped up. What we see right now is that with the vaccine coming to the market, obviously they are produced out of different regions, Western Europe, North America, India, Russia and China, and so is a little bit spread all over the globe and also the time these vaccines come to the market is also spread over a longer period of time that so far airfreight capacity can be managed in order to serve the needs of our customers and we basically do that in a combination of both. We have our global forwarding division that works with a number of airlines who are our partners in the shipment of temperature-controlled pharmaceuticals, and on the other side we have our own express fleet with almost 300 own planes that carries a lot of those vaccines that are basically shipped directly to the point of usage and are shipped in more parcel-size format than pallet format. So far with the great support of all the colleagues in the divisions we have been able to manage these requirements.

IK: How else has this distribution of this particular COVID vaccine differed from distributing other vaccines or pharmaceuticals?

TE: Well obviously there are always vaccination campaigns going on but just to explain the sheer magnitude and volume of the COVID vaccine that now needs to be shipped out, our numbers show that at any given average year there are probably 2.5 to 3 billion doses of vaccines that are shipped around the place. In order to reach that herd immunity of close to 8 billion people on the planet, and looking at the fact that a lot of these vaccines need to be administered twice, we calculated the number of up to 10 billion doses, and some people now say it is up to 15 billion. So this is an activity that will keep all of us busy not only this year but also throughout 2022, and some people estimate it will reach into 2023. So that is a huge volume that needs to be managed. Then secondly we have the temperature regime of -70 degrees; we manage that with dry ice, we have installed some additional measures in our operations that now we have online supervision of the temperature and the location of the vaccine, something that is coming new to our service offering. I think that so far the industry in the past was happy with passive loggers where the temperature record could be read out at the consignee, at the destination, now online tracking becomes more and more of a requirement of the marketplace and our customers. That obviously brings up additional technology challenges in terms of the logger needing to be approved by IATA and by the airlines in order to do this as in essence it is a cell phone that keeps recording and sending while it is on the plane. So a lot of these technology challenges we looked at in the last couple of months and found successful solutions to.

IK: You mentioned earlier that this a truly global effort not from just from DHL but from everybody responding to the pandemic. Part of this is getting vaccines into some rural and remote parts of the world, some very isolated areas that still require to receive shipments of the vaccines. What are some of the challenges that your team has faced when it comes to dealing with delivering vaccines to rural and isolated areas?

TE: Absolutely, it is a challenge and we saw at the beginning of the deliveries it might even be a challenge for the more developed parts of the world because -70 degree freezers are not always available. So that even more counts for the low- and middle-income countries and part of the world. We are in close discussions with NGOs and with governments in those regions; we have services in our global network that cater for bringing the material into the main capital airport, the customs clearance depending then on the scope of our activities. It is very often a handover either to the government or to the NGO. Bringing these products into hinterland I would say is a challenge and only can be mastered if there is a sufficient infrastructure and packaging plays a big role in this whole game as we have services where, for instance, we deliver the product that is secured by dry ice, and then have a replenishment as well with dry ice to allow people to re-ice the products and keep them within the given temperature range in the absence of maybe a stationary freezer. We see that some of these things are just now starting; you see pictures of products arriving in areas of Africa and Latin America, which is great because it is a great deal and really for the country as well. There will be more volumes to be shipped there: people are looking more at volumes that need to be stored and shipped at +2 to 8 degrees which is a kind of normal range and that those countries are more comfortable in dealing with but it remains a challenge in certain places and it can only be mastered by close collaboration between all parties involved, the pharmaceutical manufacturer, the logistics service provider, the government and the NGO.

IK: Tell us about the COVAX facility: how did DPDHL get involved in the COVAX facility?

TE: Well, COVAX is the alliance that caters for the procurement of now two billion doses of vaccines under WHO and handled by UNICEF, so we are a partner in that setup. We have other *pro bono* activities with WHO with our GoTrade and GoHelp initiatives, we have a long, strong relationship and now with the challenge to support WHO and UNICEF in the shipments of vaccines we also want to contribute in our area of competence so we have people who are seconded to support UNICEF, be it in their logistics head office or regional setups, so we see that as part of our obligation to support here and the distribution of the vaccinations for these parts of the world.

IK: I understand that DHL is involved in the local storage and distribution of the vaccines; can you just share information about that?

TE: Next to global transport, in parts of the world we also step in when it comes to local storage and distribution and executing the last mile to the vaccination centre. I can mention a couple of examples because some of these things are a little bit confidential and sensitive: here in Germany we cover three of the federal states, where we not only ship the vaccines but also the ancillaries. We have a similar job in parts of Spain or in Brazil. In the UK, where we work closely with the NHS, we ship everything but the vaccine: for various reasons the vaccine is handled by wholesalers, but we do everything else, the syringes, the needles, the test kits, even down to furniture to equip vaccination centres, and the UK is very fast in the whole vaccination. We have other parts of the world in APEC – I would like to call out Japan and Australia where we work closely with the governments and we step in with the distribution down to the vaccination centre which is obviously a completely different task than global transportation, but I think in a nice cross-BU work between our divisions in global forwarding, supply chain and express we can also cater for that part of the vaccine supply chain.

IK: One final question before we wrap up, it has been a fascinating conversation about how the logistics and delivery sector has been able to help the world respond to this pandemic, to this crisis… if you look forward now, do you feel that there are lessons that we’ve learnt through the logistics and delivery centre that will hold us in good stead should the world be ever threatened again by another pandemic?

TE: Definitely: I think we have learnt a lot about the technology side of things and how to handle these extreme temperature requirements with vaccines on a large scale. I believe now, looking back at these past five to six months, preparations started in the fall and the first shipments that we executed started in mid-December. I think in a lot of countries in the world the vaccination programmes are about to start and the large volumes are yet to come. We hear every day in the news about these mutants and some vaccines are more efficient against these mutants than other vaccines, and vaccination development continues, so I believe that this whole thing will keep us busy in the coming months and that there is a lot of insight now that it is not a question of if the next pandemic will hit us but probably other things will come in the future to us and a lot of governments are now having preparations to become more resilient, to plan ahead to select the logistics service partners upfront to get prepared when the next crisis is coming up, or first and foremost to bring us over the next months of the current crisis. People are working closely together now as well, and this will help us to become stronger in that core community to fight more effectively against the pandemic.

IK: Two great points about resilience and collaboration, and I wholeheartedly agree that logistics will play a big part in dealing with whatever challenges nations and the world face in the future.