Pharmaceutical Packaging Market – Q4 2020 Update – 13 October 2020

Disclaimer

Specialist: Sascha Sonnenberg (SS)
Title: Global Head, Business Development at Sharp (UDG Healthcare plc)
Moderator: Arelis Agosto (AA), Third Bridge Sector Analyst

Agenda:

1. Overview of pharmaceutical packaging market
2. Sector growth drivers and near-to-mid-term outlook for major players
3. Segment analysis highlighting growth in biologics and cell and gene therapy
4. Coronavirus impact and expected timelines
5. Outlook for Q4 2020

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Transcription begins at 00:02:36 of the recorded material

AA: Welcome to Third Bridge Forum's Interview on pharmaceutical packaging market, Q4 2020 update. I am Lis Agosto, and I'll be facilitating today's Interview with Sascha Sonnenberg, former VP of Cell and Gene Therapies and Clinical Trial Supply Services at Marken.

Sascha, before we start today's Interview, please state I agree or I disagree to the following statement: You understand the definition of material non-public information and agree not to disclose any such information, or any other information which is confidential, during this Interview.

SS: I agree.

AA: Now, if you would, could you begin with a brief introduction to your background?

SS: Yes, absolutely. For the last almost 20 years, I'm working on the service provider side, serving the pharmaceutical industry with a strong focus on clinical and commercial packaging or overall supply chain services. I've worked with top pharma companies as well as small and medium-sized companies and have helped them to reorganise supply chains or to scale up from clinical to commercial just lately for many of the cell and gene therapies that are now coming into the market, and after my engagement at Marken, I joined as CMO to head their global sales.

[00:04:02]

Q: Could you outline the ongoing shift towards large molecule products and what that has entailed in the packaging industry?

SS: Yes, absolutely. We see still a domination by small molecule, but the large molecule growth rates are much, much higher than the small molecule growth rates. What does it mean to the industry is first of all that drugs are becoming much more expensive, which has an impact on liability and contract negotiations. On the other side, a very important topic is that the material usually is less stable and needs to be handled under cold-chain conditions. Cold chain can reach from two to eight refrigerated conditions down to -20 degrees Celsius or even -60 to -80 degrees Celsius, and when you go into some of the cell and gene therapy areas, even into liquid nitrogen. It requires from a processing point of view, and that can include the packaging and labelling, controlled conditions as the stability data and the excursion time might be very limited.

[00:05:26]

Q: You mentioned the growth rate was much higher on large molecules for CPOs [contract packaging organisations]. What are the growth rates currently for both of these cateogories and to what extent do you expect those to trend differently?

SS: I think the growth rates are pretty stable when you look at the overall CMO/CPO market. Depending on the different segments, as we discussed earlier, it's a highly diversified market. The average growth rate is around 7-8%. If you look on the biologics area, this goes up to 15-20%, in some areas even to 25%. When we talk about CPO, of course we have to differentiate between two things. One is the primary packaging aspect, where we talk about, and especially about large molecules, about sterile fill and finish, a market where the

currently available capacities are far below the actual market demand. Then, on the other side, we have the secondary packaging. They are vials, pre-filled syringes, pens also, packed into blisters, cartons, labelled according to specific country regulations and then prepared for distribution, usually through a 3PL or specialised pharmacy network. In this area, the growth rates, as I mentioned, are more 15-20% compared to the small molecule growth rates, which are somewhere around 7%.

[00:07:34]

Q: When thinking of some of the more up-and-coming subsegments or modalities in large molecule, particularly when thinking of cell and gene therapies, there was an increase from the FDA [Food and Drug Administration] regarding CMC [chemistry, manufacturing and control]. How would you expect regulation or any of the SOPs [standard operating procedures] to change in this particular modality as they continue to get further scrutiny?

SS: I think what we see on the biotech side, so on the large molecules, of course the development is still new, but the regulations, they are pretty stable. There are of course things like Pharmacopeia 800 where it's about protecting the environment from a certain impact. This is something that needs to be looked at, but although they are pretty stable. I think where we see for sure, or where we will see more regulations, and I hope that regulators will aim for more a harmonised approach, is around cell and gene therapies. What you see there is that the regulations on a global basis, and even across the EU, for example, are not harmonised, which makes it quite difficult to develop a network for packaging or storage operations, for example, so in this area for sure we will see more stringent or more clear regulations that will help the industry to develop their services in this area.

[00:09:17]

Q: When assessing CPOs in the US and abroad, how might we think of the criteria for evaluating those players and how does this differ between commercial and clinical capabilities?

SS: The key criteria for sure is performance, this goes for both regions, clinical as well as commercial. On the clinical side, when you're selecting partners, it's in general more a tactical approach, and timelines to implement and execute the projects are much, much short-term, so a set-up of a project usually takes between three, maybe six months, depending on the services that are required. On the commercial side, that's a different story. Usually, you have to validate the process, the packaging process, tech transfer has to be considered, and sometimes even the investment into equipment needs to be taken into account and negotiated between the service provider and the client, and as the set-up on the commercial side is more complex, the whole topic of available resources and capacities and flexibility are the major selection criteria on the commercial side. The price on the clinical side is something that is not so relevant. I would say that performance, experience and quality are the key criteria. On the commercial side, it is performance, flexibility and then comes the price, so it's much higher-ranked on the commercial side than on the clinical side, and then of course also global reach. Also, when we look at the current situation, what are your back-up capacities in a specific region and how fast can you potentially switch from one facility into another in case there is any kind of impact that would slow down or stop an entire packaging production?

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Q: Could you highlight the strongest players in the industry? Are there any up-and-coming players we should be monitoring?

SS: I think when we look on the clinical side, there, the picture is actually quite clear. You have the tier 1 players, which I would say there are three companies out there, it's Fisher Clinical Services, then you have Catalent, you have Almac. On the tier 2, you have companies like PCI, like Sharp, like CSM on demand, and

then you have a very, very broad range of sometimes only local or regional players including universities and hospitals on the tier 3 side that are providing packaging and labelling services for clinical trials. If you go on the commercial side, usually it's a more fragmented and diversified marketplace. You have sometimes companies that only offer specific packaging services. Sterile fill and finish is a very common area where companies are specialised and might even just support small batch or lot sizes, or focusing on larger ones. Then, you have of course the larger players, again, when we look at the US market, like PCI, like Sharp, Catalent is going into this direction, QPR, who are providing a more holistic approach when it comes to pure secondary packaging services. In the European market, it's very similar. You have the key players on the clinical side, especially the tier 1s, that have established a global presence, and when I mean global, it's usually the US, it's the EU and then Asia, and in Asia it's usually about Singapore, China, potentially Japan.

On the commercial side, most of the companies are focusing on the US and on the European market, although capabilities and capacities might be quite different. What you see on the commercial side as well is that you very often have a facility that might be dedicated to either a certain product or to a certain client as the contractual relations are usually much, much longer and the volumes are also higher, so that's another difference that you see between the commercial and the clinical side. Upcoming companies, if you look, for example, to the Netherlands, there is a company called Tjoapack that is focusing, I think, mainly on commercial, but they might also look into some clinical business. I think they show some kind of development. Then, overall, the market I think is currently, or not currently, but over the last years already, going through a consolidation, and this will for sure continue so that by either making strategic acquisitions or by adding additional capacities a player can easily move from one tier to another.

[00:16:00]

Q: Could you highlight the coronavirus impact on the pharmaceutical packaging industry so far in its different segments, such as commercial vs clinical? There has been a lot of disruption on clinical trials worldwide, as we know. How has this developed for CPOs so far and is there any further impact that you would expect?

SS: Yes and no. Let's focus on the commercial part first. On the commercial side, there was less of an impact. It was mainly about the providers making sure that business continuity plans are fully up to date and that their own staff is not infected and slowing down potential, or not potential, but slowing down the packaging operations. On the clinical side, that is different. On the clinical side, companies are more dependent on patients coming to their clinical sites, which was not possible either because of travel restrictions on patients being afraid to travel during the COVID early days and also that sites, depending on what kind of therapeutic area they were focusing on, also had their workforce focusing on the fight against COVID instead of running clinical trials. This is why many large pharmaceutical companies have hit the brake in regards to starting clinical trials or even have paused clinical trials, and then some others switched to a completely new distribution model, including direct to patients, to make sure that at least for some of the trials they could continue to get the medication to the patient, so the impact on the clinical supply industry compared to the commercial industry by COVID for sure was much, much bigger. I would also say that the impact in Europe was bigger, most likely because, instead of acting as one European Union, countries have raised the borders and the walls again and isolated themselves, which made it more difficult also from a logistical point of view to distribute drugs on the clinical trial side.

On the US, on the other side, you have a different philosophy, or a more venture-capital-driven. You have small biotech companies that just try to successfully go into a phase 2a, 2b, to get to the financing round or to get acquired by one of the large players, and they just couldn't afford to stop their trials. This is why in the US overall the business or the impact on COVID on clinical trial sector was less compared to Europe or other regions, but the impact is still there, and slowly the area is normalising, whereas on the commercial side, this is something where what I see is that, depending on of course what kind of medications you are producing, the volumes are even going up. For example, if you have any kind of fever-reducing medication, this is something where the demand has peaked, especially during the first couple of COVID months. On the other side, there are medications where the demand decreased because of patients just not putting the priority or just not going to the doctor because of it, so it was a little bit in both directions, but in overall less on the commercial side.

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Q: We know that for any COVID-19-specific antibody or vaccine, the industry would heavily rely on the fill-finish industry to reach the most amount of people or the quickest time frame. This would also be highly reliant on a decentralised model. Is the industry prepared and do any players stand out that might benefit from this?

SS: If you asked me honestly, I would say no, they are not prepared, because what I mentioned earlier when it comes to fill and finish, the capacities are at the moment not meeting the market demands, and when we look at the kinds of products that are produced there, all the biologics, these are very often oncology products, they are products to therapy, chronic or rare diseases. Companies I know, they have a filled production schedule until March, April if not May next year, and especially if you go into the larger ones, they have usually a very solid pipeline and book of business that is filling their fill and finish production capacities. What you see or the discussion that you will have is of course when we talk about filling millions or even billions of doses of antibody or a COVID-19 vaccine, how fast can this be done in a production environment where you don't really have the capacities. The question is, of course, and I see this in the current project where the fill and finish companies approached by a government to fill the first million doses for local front-line workers, and they have to inform all their other clients to kick out their production or to put it on hold until they have completed the fill and finish of the COVID-19 vaccine.

This alone, I think there will be a lot of discussions because you cannot tell a cancer patient that, "I'm sorry, we don't have any therapy for you anymore. We had to produce COVID-19 vaccine," so I think there we will see continuous discussion. On the other side, when we talk about the next step, is the distribution, it's all cold-chain distribution, we see of course press releases from the large logistics companies like UPS that they are building up freezer farms. It's not just about what you are able to handle on the ground, but it's about availability of qualified containers that can maintain the temperature. We still have limited air traffic that results in limited space to ship the material, so this is for sure something where we are not prepared yet. Of course, everybody is working to move things forward, but if we come back to fill and finish, setting up a fill and finish line is something that can easily take you a year or two years, depending on if you have the space in one of your facilities. It's not something where you just say, "Okay, I'll buy new equipment, and in three months I'm ready to produce a couple of millions of doses of antibodies or a COVID-19 vaccine." Absolutely, some room to go, and it will take some time until all of the required volume is available to everybody globally.

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Q: What is the outsourcing rate for packaging within the various different clinical and commercial subsegments, also in specific capabilities such as fill and finish, which you were highlighting? How might we think about that and how will that trend for the next 12-18 months?

SS: I would say that we will see the outsourcing rate continue to grow and to develop. It's difficult to clearly say this is the rate. Again, it's very much diversified. If we look at the clinical side, there are only a few companies on the sponsor or on the pharmaco side that really have broader in-house manufacturing and packaging and distribution capabilities. Abbvie, Roche are probably the leading companies here, J&J as well, but even they have from time to time outsource peaks. If you look to most of the mid-sized pharma companies, all the small companies and virtual companies, they usually go for outsourcing and, if possible, a full-service outsourcing with fewer number of providers as the qualification, and contracting of each supplier is just taking a huge amount of time and occupies a lot of the resources, which they very often do not have. On the commercial side, I would say that the non-core business areas will continue to be outsourced, also accelerated by some of the regulatory developments that we have seen. What does it mean? All the secondary packaging, usually primary packaging for small molecule products, this is something that will continue to be outsourced as it is not key know-how for the pharma companies.

The regulatory environment when it comes to civilisation, it's something where each pharmaco on a global basis, of course, has to deal with, but implementing it for each and every project is quite time-consuming and is requiring a lot of resources, so this area for sure will continue to see further increase in outsourcing activity.

When we talk about some of the biologics area, and especially when it comes to first manufacturing, but potentially also the fill and finish because of the market or the resources that are available in the market and very often that also the device or the container where the biologic is filled and is specialised or customised into the pharmaco's requirements, we still see that a lot of the companies, and Biogen is a good example, are keeping this part in-house as they consider it a core business for them.

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Q: You mentioned the know-how of some of the tough modalities, such as through sterilisation, is driving some of the outsourcing rate to increase. What are the CAPEX costs of those capabilities for some of the CPOs and to what extent is further capacity needed in the industry?

SS: The further capacity is of course always certain. The question is not just the investment into it, it's a question how long will it be utilised and how many clients can you win, actually? Do you have one client who is more or less occupying this system and is willing to invest into a specific system, or do you have the client base to have multiple different packaging solutions run in one room or on one piece of equipment? There, it comes to flexibility of the equipment, and again, usually those machines are quite complex. When we talk about, for example, Dividellas [sic], the investment is usually quite high, so it depends on your ability to secure business, to secure long-term business, and of course then you can invest either into additional technologies, more modern technologies or you acquire additional capacities to meet your client demands. This is how I currently see the development, that it's really based on your ability to either convince clients based on the technologies that you have or the flexibility that you can actually offer to them.

[00:31:05]

Q: To what extent can capacity from one CPO be shared among different customers, given the fluctuations in demand?

SS: I would say it's not something that is really common. As I mentioned, it is common to co-invest into equipment, it is quite labour-intensive. When you go, before even submitting your documents for commercial approval, you have to qualify, and validate and in a certain extent also even name the packaging company, so splitting it across multiple providers, at least in one region, doesn't make any sense. If we talk about going into a more decentralised approach, yes, potentially, especially as a countermeasure against the COVID impact, so as a company you might be looking to minimise your risk and to have what in the past was more a centralised approach, and then you were distributing on a global basis. You're looking into decentralising some of the operations to make sure that you can serve local markets. Not just for commercial but also on the clinical side, this is something that companies are looking at on the clinical side. There are even other motivations to move in this direction. By decentralising, you could potentially use your inventory in a more efficient way, and then applying just-in-time or on-demand models, you could use available drug inventory potentially for multiple different clinical trials. Especially when we look to the price of comparator products, reducing the inventory can have a significant and sometimes double-digit-million-dollar impact on your clinical trial budget. On the commercial side, I think for certain kinds of therapies, especially when we look into biologics, and we can also discuss cell and gene therapies, biologics, usually you have smaller volumes. There's also a challenge that many of the CMOs or CPOs are facing. You're used to producing millions and millions of units, and you have a smaller number of batch sizes.

With biologic products, this is actually changing. On the one side you have the cold chain, and the decentralisation there would of course eliminate or reduce the risk of potential temperature excursions that could occur during transport. On the other side, you would have anyway smaller batch sizes or number of units per batch. On the other side, potentially you have a higher batch size as biologics also potentially can be used for different therapeutic areas, so you would need to have a different packaging configuration, for example. If we look into what we could call pharma 4.0, is then actually going completely into a decentralised approach where you have the cell and gene therapy area, where you have one vial or maybe 10 vials that are

used to treat one patient, so you have actually one batch per patient. Here, the distribution, especially when we talk about autologous cell therapies, is very critical, and it was a significant impact during COVID. If you look to companies that already made the commercial step, like Novartis with Kymriah or Kite-Gilead with Yescarta, they're all going into a decentralised approach where they, because of the supply chain complexity and also the ability to reach their patients, have to establish at least regional hubs to process the cells. That's not working anymore from one global, centralised solution. The development there might even go into the direction that you move the cell processing directly to the hospital. That's probably just coming up in 5-10 years.

[00:36:20]

Q: How would you say the decentralisation model compares to a more traditional model?

SS: I would say that at the moment I'm not aware of any CPO who could easily open up a global solution or just a solution in the two key markets, the US and Europe, and followed probably by China. Nobody really has sufficient capacities to support one client on a global basis. I think it will lead to more strategic cooperations. That usually means a longer contract duration as it will put pressure on the CPOs to invest into additional capacities in other markets, and they can do this either by acquisition or building up something on the greenfield and establishing their own manufacturing and packaging operations. I would say that contracts become longer in the short term, there might be a price increase. On the long term, probably a price decrease.

[00:38:01]

Q: What is your expected pace of acquisitions or consolidation in the market given the considerations you have already highlighted? What considerations play a role in informing that assumption?

SS: I believe that we will see further consolidation in this space. This will go among the big players who are either continuing to acquire to add additional capacity or to add technical capabilities, when you look at Catalent, for example, investing USD 130m into another acquisition to position them in the cell and gene therapy area. On the other side, you see other organisations, CPOs, who are doing acquisitions, either to increase their global reach and to target certain markets or again to acquire facilities from competitors or the entire competitive organisation to make sure they have sufficient space to further grow. Again, when I talk about decreasing prices in the long term, I think it's also about economy of scale, after we have seen, let's say, a little bit of the situation calming down during the corona pandemic and would continue mergers and acquisition activities in this area. With recovery either on a global basis or even in a regional basis with bigger capacities, you will have more buying power, and you will turn over more volume, which should help you on the procurement side and also drive costs down. I would say that we see it more and more, and also that we will see CPOs probably expanding more into the CMO space, and if you look at some of the CPOs like PCI or Sharp, for example, they both have clinical operations which are already set up more as a CDMO with their own manufacturing formulation and analytical development. I believe that we will see the CPOs also looking more into the expanding into the CDMO space and vice versa, so that CDMOs will also look if they can move more into the packaging space and become a full service provider.

[00:41:08]

Q: You mentioned there has already been significant consolidation in the market. Who do you expect to continue that, from the players that have been most active? You mentioned a potential further convergence between the CMO [contract manufacturing organisations] and CPO industries. Do you expect any CDMOs [contract development and manufacturing organisations] that are not currently doing much packaging to further enter the market? If so, how do you expect that to play out?

SS: Again, when we look at the market, it's very diversified. What you see on some of the CPOs, for example, that were focusing on secondary packaging, that they move into primary packaging, especially with

acquisitions in fill and finish. On the other side, I see that CMOs are looking into packaging operations as well. It is not necessarily meaning that it is a fully integrated service offering. If you look at some of the larger organisations, for example, they might buy or have established companies or buy them, but they are isolated and operate like an independent company, and they just share the same brand. Very often, depending on how far the integration is, you still need to sign two different MSAs, have two different quality agreements set up. It always depends how good you are with integrating, because what many companies on the client side are looking for is to find really one service provider who can provide an integrated service offering for them, helping them, maybe not necessarily with the manufacturing and API manufacturing, that's still a different step, but at least when it comes to the primary packaging and the processing of the API and then the secondary packaging. Even if we take this a little bit further, especially when we talk about the biological products and cell and gene therapies, this will also change or have an impact on the typical wholesale and distribution. With the blockbuster products and many of the small molecule products, the medication or pharmaceutical finished product was going through a wholesaler network for distribution and pushed into the local market to hospitals and pharmacies.

With more specialised therapies, this will change. You don't have the volumes anymore, you don't have from the supply chain set-up the need, so I would also say that the CMOs and the CPOs will also develop further downstream and look into onboarding or integrating some of the distribution activities to the final customers. With those who have already clinical capabilities, and we can look at Catalent, that's one of the large ones, we can look at Sharp, we can look at PCI, even Almac, on the clinical side, this is already becoming a more common approach that medication is shipped directly, for example, to patients, and this will be something that we will see on the commercial side as well. This implies, or indicates, actually, some further developments, talking about adherence packaging, where CPOs need to look into new technologies. Packaging solutions will not just be a simple folding box or a wallet that holds a blister. It might have integrated electronic components that are showing additional information, videos to guide patients, to provide additional information about the therapy, the disease, the company, that can include reminder functions and so on. There are a lot of technologies are already available that to some extent are explored and finding their way into the clinical environment, and this is something that we will see on the commercial side as well.

[00:46:21]

Q: You highlighted some of the difficulties in switching capacity, given both co-investment as well as how tailored some of these things are for specific customers. How might this play out under potential acquisition of that capacity?

SS: When you see further consolidation, usually what you do, and when you acquire a facility, you give it a specific purpose. Either it can be a client-specific one, as I mentioned earlier, where you only support a specific client or one specific product, and then of course you need to make sure that you have the same outcome, you need to qualify and validate the entire process. The tech transfer also if it is within your own network is simply taking quite some time in regards to the overall set-up. If you use it for a different purpose, for example, to establish a specific area just to support smaller batch sizes where you have more flexibilities or you are actually overall increasing flexibility to your network by having facilities that will run larger volumes and are more dedicated on the other side, you have facilities that are set up from a process but also from a technology point of view to handle smaller lot sizes, I think this is something how you can manage the consolidation. It's always the question what is driving you, is it just you're acquiring additional revenue? Then, probably you do not change a lot, you probably look for synergies to get your return on investment, or is the motivation for the acquisition an actual capacity need or a need for regional expansion to follow or to support your clients in this area? That's always the question, of course. That is what is the driver for the consolidation and for the acquisition that you potentially are doing.

[00:49:51]

Q: Could you speak to the preferred materials for pharma packaging, whether they are PVC [polyvinyl chloride], PET [polyethylene terephthalate], RPET [recycled polyethylene terephthalate], etc, and particularly any considerations regarding recycling and to what extent you would expect that to be, as of right now, underweight?

SS: The whole range that you mentioned, it depends of course what kind of medication do you have. Do you have tablets that could be in a PET bottle, or would it be blisters? There are also cultural or regional differences, like in the US if you have an oral solid dose you're going with a PET bottle. When you go to the European market and it's not OTC, then usually you will get the medication in a blister format where you have then of course either an aluminium foil, you have a blister, which could be a PET or PPT material. Then, for most of the biologics, either you have a pre-filled syringe, which could be glass or a vial again, usually with the glass and with the aluminium cover, so there's really a very broad range that you can see. When it comes to recycling, I have my personal opinion there. On the clinical trial side, you do return and destruction and you do reconciliation. When you get returns from the clinical side and for quality purposes you just check what is in the box that is supposed to only contain drugs, for example, or containers, then you will find everything from an iPad, laptop, teddy bears, I don't know what else they put in there. On the commercial side, that's probably the same. You don't see a lot of recycling. I think the green initiatives are going there in a different area, or how can you use energy more efficient? Can you use solar panels, for example? What kinds of packaging solutions do you use more on the distribution containers? Do you use reusable packaging or do you use single-use packaging? This is something that you can control. Collecting back single units from patients, that's probably quite challenging.

[00:52:34]

Q: We mentioned some of the considerations between clinical and commercial. Could you speak to a potential convergence between these two industries and how resource-intensive it would be to offer these two services concurrently?

SS: What you see at the moment, not every CPO or not every CMO has clinical services. On the other side, I think it's something that is very important to combine many companies. Also, you have different decision makers. Different parts of the organisation would probably prefer to have one company that can help them, from doing the clinical trial, and if it is successful, to help them scale up into the commercial area. As I said, especially for small and medium-sized pharma and going into biologics, I think there's a huge potential to have both services offered out of one hand. I see that clients are requesting this more and more often, or seeing this as a benefit if you have one service provider who has capabilities and capacities on both sides, on clinical and on the commercial side.

[00:54:05]

Q: When thinking of the expansion of potential capabilities, as you highlighted with the potential convergence between clinical and commercial, are there any adjacent value-add offerings you would expect CPOs to assess?

SS: What you see is that in the past, companies were always looking how you can integrate clinical supplies into the commercial supply chain. Moving in the direction of cell and gene therapies, it's actually the other way around. When you set up a clinical supply chain, it remains the commercial supply chain. Technologies that are used, especially when we look at establishing a new distribution channel, so IoT technologies that are used to allocate medication to a patient, to manage the inventory, this could be also something that can be easily transferred into the commercial area. Overall, I think that the two supply chains and service offerings will merge closer, also driven by the developments that we see on the batch sizes as they will continue to decrease and require more flexibility. I think an area that companies need to look at is the whole area of just in time, and just in time not just to ask for faster turnaround times but to implement just in time or actually on demand as a real process so that you can react more flexible or more agile based on the market or patient

requirements. This is something where I would say that in some areas clinical is more advanced than the commercial supply chain, and where commercial can certainly learn and convert some of the technologies and innovations that have been implemented over to the commercial supply chain.

[00:56:23]

Q: You mentioned that you noticed the industry being quite fragmented, and that no one player is set to potentially benefit from the decentralisation in the industry. In what timeline might that be feasible?

SS: Good question. Again, it will depend. You will not have one player who is able to cover everything, because just the range of services, if we talk about handling the different dosage forms from a primary packaging point of view, from a secondary packaging point of view, is very complex in its own. Then you have the regional or global set-up and footprint that you would need. If you really have someone who says, "Okay, I want to, for example, support biologics on a global basis in the three, let's say, key markets," and you're currently serving, let's say, the US, so to replicate this, I would say it is easily a five-year project, depending if you move with acquisitions, then you can probably do this faster. Otherwise, if you start to build up your own facilities and equip them, then I would say easily five years, and it will cost you also quite some money, so I would probably look more into mergers and acquisitions as you can achieve this much, much faster, and then you just need to do the tech transfer from one site to the other, but if you have a real plan to roll this out on a global basis, easily five years.

[00:58:18]

Q: Is there anything else that you believe is key when assessing the broader pharma packaging industry?

SS: I think overall when we look to the demands, it's an area that is growing and it will continue to grow, and we see that, or what we have learned probably during the pandemic situation is that it's to some extent a restart or a fresh start, and it's opening up a lot of opportunities for technical innovations, for rethinking the supply chain. I believe that here it comes really down to… it's a chance to either gain or to lose market share depending on how much you are willing to look at innovative ideas. As I said, adherence packaging, I believe, is something that will move over. We will see growth rates in the future. It's something that is not new, but with patients demanding more responsibility, and on the other side with being more patient-centric and making sure that on the clinical sides patients are staying engaged. From the other side, if we look at the loss that the pharmaceutical industry on a global basis made because of patient non-adherence, and drugs are becoming more specific, I think this is an area where we will see a lot of development and investment, moving forward. For companies that move in this area and also find ways to develop strategies together with their clients to be more agile, it's certainly something that will help them to position themselves in the market and to continue to grow successfully.

[01:00:35]

AA: This brings us to the end of our Third Bridge Forum Interview. Sascha, thank you very much for your insights today. Clients, if you would like to speak with our specialist in a private call or meeting then please let your relationship manager know. Thanks all.

SS: You're welcome. Let me know if you have any further questions. Thank you. Bye.

Transcription ends at 01:01:05 of the recorded material