

Welcome to GENcast, a sponsored podcast series brought to you by Genetic Engineering & Biotechnology News. I'm your host, Jeff Buguliskis.

Hello everyone and welcome to this episode of GENcast, the quarantine edition. I hope you're all healthy and safe and doing your part to flatten the curve.

I'm joined today by Dr. Klaus Lun who is executive vice president and head of the life sciences business division at Tecan, and we're going to be discussing some of the global impacts that COVID-19 is having on life science researchers and the industry at large. Dr. Lund, it's a pleasure to speak with you today.

**KLAUS LUN:** Jeff thanks for the introduction.

**JEFFREY BUGULISKIS:** So, let me get to my first question. Pretty general question, I think, but an important one as well. What are the global developments pertaining to COVID-19 that you've been observing over the past few weeks?

**DR. KLAUS LUN:** Great question to start Jeff. It changes on a daily, if not hourly basis. All the news channels are full of how it impacts our daily lives. It's about social distancing everywhere. It's about massive shelter in place regulation in different countries all across the world. It impacts heavily

on how we used to do business and how we used to interact with our customers out there.

If I look back only three weeks on the level of complexity, this has added on how we work. Schools are closed down. Parents that used to have somebody at home to take care of their kids and make sure they do their homework need to make sure that they stay on top of what's happening in their professional lives.

Now people are starting to get used to it to some extent. We also see some management challenges around how to keep communication going between the different teams. The pandemic has forced everybody to work together and start to look at the overall solution globally.

JEFFREY BUGULISKIS: So, I guess more specifically for your business how has the COVID-19 outbreak impacted Tecan operations.

DR. KLAUS LUN: I think, as for many other businesses out there, the safety of our customers, partners, and our employees, everybody working at Tecan, is our highest priority. So far, it's working out okay for us. We are proud of that specifically from a supply chain point of view. We were able to keep our supply chain up and running. We introduced home offices for all our employees who can work from home. I'm very proud that we were able to keep up the overall operation with small teams so that if anybody is being

diagnosed positively with the COVID-19 infection we just need to shutdown a very small team in the overall production and are able to continue and have other teams that then can jump in and take over.

We continually monitor our internal situation as the global situation develops. We have a key team who takes care to respond quickly and effectively to any changes that we see coming. And we try to keep our customers well informed if any of these changes will impact them directly.

JEFFREY BUGULISKIS: So, I know as Tecan you guys are very well connected with your customers. So, what have you been observing in your customer labs, what kind of stories have you been hearing? And how has COVID-19 impacted their activities.

DR. KLAUS LUN: When we look across our customer base, we see different impacts. If we look at our customers in universities, research institutes, and bio-pharma companies they have reduced their capacity or even temporarily closed down their facilities to allow some of their employees to work from home. This has been more visible in academic labs that are not so much involved in COVID-19 testing. Those researchers now mostly do a non-bench research focus, data analysis, writing manuscripts, writing grants, doing online seminars, and taking care of their kids and families.

In the clinical area, routine doctor's visits have been halted, which has an impact on conventional testing volume. This is probably what I was surprised about most, but it's due to the fact that with fewer people going to the doctor general testing volumes have gone down.

Labs that are focused on diagnostics and research of COVID-19 have been working nonstop. That's where we got a lot of requests around acceleration of their capabilities and scaling up throughputs. That has been a priority.

In the U.S. as well as in Europe labs have been dropping other testing services to help their governments. We saw a shift of labs that are now focusing on COVID-19 and dropping other activities that they were running. A very prominent example here in Europe is the UK Biocentre, and I'm very proud that Tecan is also a key part in helping them achieve scaleup in terms of the overall throughput.

On the research side as the workflows adjust to the new normal, labs are able to focus on work to better understand and characterize research barriers and try to support the development of potential therapies and vaccines to contain the virus.

**JEFFREY BUGULISKIS:** What is it that you see as Tecan's role in facing the challenges of this pandemic?

DR. KLAUS LUN: Tecan has always met its directive as a partner supporting research and discoveries around the globe by living up to our customer promise--always there for you—and specifically in these crazy times. Our teams are living and spending 24/7 at our customers' side to help them gear up for COVID-19 testing.

In the face of the pandemic it means we are helping customers first with improving their throughputs. In many regards fighting this pandemic is a battle of numbers whether for testing, scrutinizing potential treatments, or developing vaccines. Clinical labs are trying to process large numbers of samples now for diagnosis. In the second phase, when we will look at the serological profile of all those collected samples, it will be more important to increase throughput.

A second consideration is around quality. Speed is very important, but we also want to keep the level of quality. That is essential to make sure that we get accurate and precise results in the clinical space. Data quality and data reproducibility are a must.

Last but not least is the safety of the personnel as they're dealing with highly infectious agents. We need to make sure that everybody working with the instrument is able to stay safe and protected while doing their work.

By the way, 2020 is the 40<sup>-year</sup> anniversary for Tecan, which has specialized in designing laboratory instruments and solutions that exactly help on these points.

For throughput our robotic system can process high sample numbers with the precision accuracy to generate the data that you would expect. Manipulation of liquids cuts back on manual handling time thus allowing scalability.

Finally, more recently, we have partnered with biotech companies to deliver preprogrammed workflows for commonly used chemistries like nucleic acid isolation kits and NGS library prep kits. Our goal here is to enable researchers to hit the ground running. We all feel that this is our goal during the pandemic. Our instruments, our experts, and our customer service representatives--everyone is a Tecan enabler. This way clinical labs can cope with the tremendous testing volumes. And scientists can focus on understanding COVID-19 and working out the way to stop it.

JEFFREY BUGULISKIS: So, I think Tecan and Gen actually have something in common as this is also our 40<sup>th</sup> anniversary coming up in 2020. So, we've obviously come up in the industry together, but I digress. Just to get back to what you were talking about and you started to touch on some

more specific things. Maybe you could explain a little bit more, how exactly has Tecan helped its customers already and what specifically is it doing?

DR. KLAUS LUN: I personally have been overwhelmed by the incredible dedication of our employees who have worked tirelessly to stand by customers and partners around the world. We have been an active player at the front line of Coronavirus research and diagnostics over the last couple of months. In the early phase of the pandemic when it was very much contained in China and South Korea, we were supporting local IVD companies through our Tecan partnering division where we delivered dedicated instruments under the label of our partners--over 100 automated platforms for RNA-based virus research testing into those two countries.

Now that the virus has spread, and it has become a global pandemic we also supply instruments and consumables to leading Western diagnostic companies. In many countries those capacities are part of the backbone of clinical virus testing. We also directly support a significant number of labs worldwide.

I can think of three good examples. One is in Australia. Our liquid handling robots are helping to produce a quarter of a million Coronavirus tests per month. Another example is in Italy, which we all know has been hit very hard by COVID-19. At the Lodi Research Center in North Italy where

the need has been so urgent our team brought a DreamPrep NAT nucleic acid preparation workstation to automate viral extraction at Covid-19 diagnostic's lab in a matter of days. The lab is now able to run 700-800 tests every day. You should have seen the team installing it. They had protective clothes with Class 3 safety in an environment where they worked for about four five days. And they were able to get the full protocol of our customers running.

Another example is in Israel. Our Freedom EVO robot is at the heart of our system for Coronavirus testing designed as a one-step workflow. There is as little need for human intervention as possible. Twenty thousand samples will be processed in a day and the output will then flow back to the physicians.

All COVID-19 related orders of our instruments are being reviewed with urgency and given priority as far as possible. The purpose of Tecan to empower research and diagnostics is now visible more than ever.

**JEFFREY BUGULISKIS:** You talked a lot about the clinical testing and obviously the need for that is of great importance. But I think we also know that we can't really understand this virus until we do a lot more research on this. So, what is it exactly that Tecan is offering to help researchers in their fight against Coronavirus?



DR. KLAUS LUN: In addition to clinical testing we are aiming to cover as many steps of the research workflow with solutions that automate, streamline, and increase process throughputs. For that we have put together packages for genomic testing for COVID-19. This includes our flexible and powerful DreamPrep Solution as well as NGS library preps. Both of those systems are complemented with chemistries and optimized for deep clinical sample preparation steps for qPCR and NGS analysis.

Then we also have packages for ELISA serological testing for COVID-19 which I was pointing to before. The World Health Organization recommends augmenting our qPCR-based testing with epidemiological studies to better characterize the extent of infected people in a population. We think that's probably going to be the next wave of testing that is going to come.

We have individual solutions that can handle time consuming essential steps in any lab, such as a fast and highly effective plate washer. And our plate readers are highly versatile instruments that enable anything from fluorescent reading to real time image cytometry to cover a range of assay systems. Accessories for these solutions also serve to protect users by providing them with instruments for microplate removal and reagent injection.

JEFFREY BUGULISKIS: And I think just as a last question everyday we're inundated with news about Coronavirus and the news is not always great all the time. So, I'd like to end on something that's a little bit more upbeat and talk about what are you seeing from the industry and so forth in your area about some of the potential therapeutics and cures that are being talked about?

DR. KLAUS LUN: Great question, I think a real and important one where we need to get our hands around. Looking for a vaccine or effective drugs in the fight against COVID-19 is probably on the minds of many out there. In many places social distancing, washing hands, and wearing masks has been accepted as the quickest, most effective approach to control the overall pandemic. Longer term, vaccine development is seen as the best solution and significant investments in R&D and developments are being made. Many of our Tecan U.S. customers are aggressively working on vaccine and therapeutic development and we are supporting them with our knowhow and instrumentation.

There is a lot happening, a lot in the early stage and probably the most promising way forward currently being discussed are RNA based vaccines. That's what companies are now putting in clinical trials. I hope that we will

find a cure for this pandemic that is going to help us prevent it going forward.

JEFFREY BUGULISKIS: Dr. Lun, I want to thank you very much for your time today and all the information. That's very, very interesting. Thank you for joining this GENcast and we hope that you will speak to us again and that you stay safe and healthy.

DR. KLAUS LUN: Jeff, thanks for having me today and stay safe, stay healthy and stay positive.

JEFFREY BUGULISKIS: Thanks for listening to GENcast. For Genetic Engineering & Biotechnology News. I'm Jeff Buguliskis.

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