CEO statement

Vaccinations are and have long been one of the best ways to prevent pandemics and epidemics. Right now the need has never been greater. Not least due to the Covid-19 pandemic, which has proven the enormous benefits vaccines have on society as whole. New travelling habits, population growth, climate change and overcrowding all potentially increase the risk of epidemics and pandemics, and children are the most vulnerable; one child in five still does not receive adequate vaccination protection. Approximately 1.5 million children die each year from diseases for which vaccines are already available. With the Covid-19 pandemic, many countries have come to realize the importance of taking responsibility for vaccine production.

Ziccum has a unique and patented technology – LaminarPace ™ – which enables us to produce vaccines in dry powder form, which is not practically or economically possible with conventional technologies. The benefits are many. It increases the stability and so the lifespan of the vaccine, it facilitates the entire transport chain from factory to patient and it enables the distribution of vaccines to new places where, for example, cold- and freezer storage is a major challenge. The result is greater vaccination coverage at a lower cost.

Ziccum's key strategic priorities focus on three major areas: Developing thermostable formulations of vaccines, preparing for production on a commercial scale and building external collaborations with industrial actors who develop vaccines and, importantly for the industry, Non-Governmental Organizations (NGOs) and International Governmental Organizations (IGO). Several IGOs, including the WHO, are very clear that vaccine production must be increased in developing countries in so-called regional hubs, so that an equitable vaccine supply can achieved.

Driven by the ongoing pandemic, our work on developing thermostable formulations of vaccines is focused increasingly on Covid-19 vaccines. For example, we taken on work evaluating whether LaminarPace can dry vaccines built on mRNA technology. Good results in this would broaden our offer to the vaccine industry significantly. It should also be mentioned that Covid-19 vaccines are mainly based on 4-5 different technology platforms - we feel comfortable that our technology can be used effectively on a number of these.

In parallel, we are continuing our work developing a system for large-scale industrial production of dry thermostable vaccines. This is a top priority that will speed up our discussions with external collaborators and make our offering more attractive to partners.

Our collaboration, for instance with Janssen continues as planned. At the same time, we continue discussions with new partners about new collaborations.

We are gratified to see the large number of new initiatives being taken worldwide to greatly increase the regional production capacity of vaccines. This means that the traditional customer base for our technology, ie large global vaccine companies, is being expanded with several new players, especially in developing countries. Our solution for thermostable vaccines provides a very strong competitive advantages, as many Covid-19 vaccines still have to be transported and stored at temperatures all the way down to -80 ° C. Yet storing and transporting vaccines at -80 ° C in large parts of the world with undeveloped infrastructure and insecure access to stable electricity networks is an enormous challenge.

We are also seeing completely new trends among national procurement in Western countries who are now beginning to make demands on traditional vaccine manufacturers to deliver products that are better adapted to meet the climate change. In the current situation, work is being done to change the packaging so that it takes up less space in the cold chain. At the same time, we believe that this can only partially address climate change because the cold chain is still needed.

In summary, we are well positioned for a very exciting future in an industry that will remain a key priority area globally for a long time to come. Furthermore, we are dependent on our partners' decisions, which we can not control when they are made. Therefore, we try to build Ziccum to become more independent, by being able to take projects further up the value chain. Thus becoming a more competent partner to facilitate the industrialization of LaminarPace.

Lund, February 17, 2022 Göran Conradson, CEO

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