

# Julius Bär

## Think Tank Podcast: Genomics – a molecular revolution

### TRANSCRIPT

**Nisha Pillai (NP):** Welcome to Julius Baer’s Think Tank Podcast. In this series we’ll be walking you through the mega trends of the future, and bringing you closer to our network of thought experts that are capturing the world’s big changes and putting them into context for us.

I am Nisha Pillai, former BBC World News presenter and your moderator today.

Even a year ago, who would have thought that Genomics and the manipulation of genetic material could deliver such meaningful impact? Then came the Covid pandemic and the astonishingly fast and effective development of mRNA vaccines. What would have taken decades has instead delivered results in less than 10 months. Technology is being used for gene editing, testing, and many other applications. Scientists now believe that Genomics, the study of genes, has the potential to revolutionize healthcare.

We will be talking today with Dr. Damien Ng, Next Generation Research Analyst at Julius Baer, and Esteban Polidura, Head of Americas Advisory and Products, about this Genomics revolution unfolding before our very eyes.

Damien, welcome. Now it’s clear that Covid-19 has fast-forwarded the development of mRNA techniques being used in the Pfizer and Moderna vaccine platforms, for instance. What does that mean for the development of other therapies, do you think?

**Damien Ng (DN):** Yes, Nisha, thank you very much actually for this interview. Indeed, the mRNA technology that’s currently being used in vaccines has grabbed media attention all over the world. And whether or not the Covid-19 vaccines show full clinical efficacy or whether they cause side effects to the recipients, or whether these vaccines relying on this mRNA technology is going to be predominantly used by American and European biotech companies, or on inactivated virus used by the Chinese and Indian biotech companies, the fact is that the world is witnessing a remarkable scientific breakthrough, right before our eyes. And especially in such a short space of time. And this is especially remarkable taking into account the number of years that were required to develop vaccines in the past. On average, vaccines required a minimum of 10 years to be developed and subsequently made available to the public. For instance, the development of vaccines for hepatitis B, for example, took 15 years and for typhoid, the vaccine took even longer, around 105 years. And thanks to these encouraging advancements in medicine, particularly in the area of gene-based therapies, this means that there is now a higher chance that solutions can be found for other diseases as well.

**NP:** So researchers are talking about Genomics revolution, is this really going to revolutionize healthcare?

**DN:** Definitely. We’re going to see like a further revolutionizing of healthcare system. Why? Because thanks to this Covid-19 vaccine, let’s put it this way, it has even put Genomics in the media or in front of actually everybody’s mind. However, we mustn’t also forget that despite all this media attention, there’s still several other diseases that have, you know, plagued mankind, and this includes, say, for example, Alzheimer’s, and also cancer, so in that in that context, Genomics promises... it’s actually a very promising tool that can help to find cures for other diseases as well.

# Julius Bär

**NP:** Yes, it's so easy to forget about other health challenges while we're still in the thick of the Covid pandemic, right? So which other areas do you think that Genomics might be able to make a significant difference? Or is it too early to tell?

**DN:** It's definitely still too early to tell. However, having said that, we mustn't forget that there's still a concept of, say, population aging, that is happening across the world. So because we have already read, you know, in the news, population aging is real. So we know that, for example, by the year 2030, for the first time in human history the number of people age 60 and over is expected to surpass that of children under the age of 10. So this has ramifications for, you know, for all society as a whole, because the world is getting older. And at the same time, with age there's a higher chance of us becoming ill. In other words, actually we are getting older but we are also getting sicker at the same time. So these are the health challenges that the society has to start to tackle.

**NP:** Yes, I've been reading some of your research and longevity is definitely a big theme. So do you think there's some kind of overlap between longevity and the Genomics revolution?

**DN:** Yes, there is, as you rightly say, there's sort of like an overlap between both areas because for example, there's this gene, the longevity gene, that scientists have actually discovered in recent years that they can sort of like repair the DNA within humans. So in that context, in other words it means that we might be able to say that "wow, we can actually live longer in the future". Humanity as a whole has, say, a longer lifespan and that has important ramifications for the society as a whole. Why? Because it's not just about the healthcare system but also about questions, important questions, that arise. Say, for example, who is going to fund our future expenses when the number of working age people is expected to decline or the number of elderly rises, and this is precisely what the governments and companies should embrace, the potential for longevity colony and turn this overly pervasive dire demographic narrative into a thriving social-economic opportunity, by encouraging as many people as possible, whether it's young people, men or women, or older people, to contribute to the society. And we also mustn't forget that older population, they tend to have greater spending power compared to the younger generation. And this can present huge opportunities in areas like beauty, leisure, nutrition and financial planning. It's not just about healthcare per se in that sense.

**NP:** Huh, that's really a fascinating way of looking at it, Damien. What about other pandemics in the future? This massive investment we are seeing in Genomics at the moment, is that going to put us in a better position of preparation for future pandemics?

**DN:** This is a very good question to be honest, because Covid-19 is not the first public health emergency and will not be the last health crisis that mankind will face. Because after all, as far as few pandemics are concerned, there have been around, let's say, 15 of them over the last 500 years. For example, you've got the Spanish flu in the early 20<sup>th</sup> century, the Asian flu in the 1950's, and the H1N1 flu in 2009 and 2010, if I'm not wrong. We also had the outbreak of Ebola, between 2014 and 2016. And in fact some scientists across the world even believe that humanity is likely to see a pandemic or a health emergency at least once every 5 years. This is amazing. But I also would say that once every 5 years could even be an optimistic scenario, because the reality could be far worse. So it's in this context that governments and public health authorities around the world should treat and view the Covid-19 pandemic as a form of a stress test. To determine whether, you know, what are the vulnerabilities that are present in the system that, you know, previously they have overlooked. So this way can we not only identify the next health threat, and respond to this threat before it becomes an epidemic or pandemic, you know, like a global scale that we see now, but if it does

# Julius Bär

become a full-blown pandemic, societies in the future can also better recover in a way that does not sharpen already existing health, economic, and social inequalities. So, in other words, we may not be able to avoid the risk of a similar health threat from happening entirely, but we should at least be able to mitigate the fallout.

**NP:** That's a really powerful analysis. Dr. Damien Ng, it's been a pleasure talking to you. Thank you for joining us on Think Tank.

**DN:** Thank you very much, Nisha. Thank you.

NP: Let me turn now to Esteban Polidura, for his investment views on this industry. Esteban, in light of the complexity and the scope of Genomics, where does Julius Baer suggest that investors should focus?

**Esteban Polidura (EP):** Sure thing, thank you, Nisha. Well, our team suggest that investors focus on two key segments: genetic testing and gene modification. Genetic tests are essentially DNA tests that look for mutations in our genes, chromosomes, or proteins, which may eventually lead to an illness or a disease. The segments of infectious disease diagnostics and parental diagnostics are clearly supporting genetic testing for these purposes. But there are others that take advantage of genetic testing with different goals. For example, in consumer genomics, tests are advertised, sold, and delivered directly to the end user without the involvement of a medical professional. More than 30 million consumers worldwide have added their DNA to ancestry databases looking for insights into their family connections.

As far as genome modification or gene editing goes, a growing number of new techniques have allowed genes in living organisms to be added or removed more precisely thanks to declining sequencing costs. Thus, genome modification holds great promise in the prevention and treatment of diseases that can afflict both children and adults alike. RNA therapies backing many Covid-19 vaccines are just one of the many segments successfully underpinning genetic modification. More than 200 million doses have been administered across 92 countries so far. Just in the US, more people have now received at least one dose than have tested positive for the virus since the pandemic began. And other countries are also making solid progress. We believe that global herd immunity could be achieved in the second half of 2021, and all thanks to genomics.

**NP:** Well, that's good news indeed, Esteban. What kind of vehicles could clients use if they were interested in looking to invest in Genomics?

**EP:** Investors looking for ways to play genomics will most likely consider stocks of companies taking advantage of gene testing and genome modification. Those pursuing a broader exposure to the genomics theme can always seek diversified vehicles such tracker certificates, mutual funds and exchange traded funds (ETFs). On the latter, The Wall Street Journal notes that assets in thematic ETFs have grown at an average of 45% annually over the past three years. In the fourth quarter of 2020 alone, thematic ETF assets shot-up 78% to more than hundred billion dollars.

But is there an alternative way for investors to play the genomics theme? Yes, and this is found in entities commercializing (buying and selling) with genetic data. The Human Genome Project (HGP) was launched in 1990 to study the structure and characteristics of human DNA. Fast forward 31 years, the world is bursting with genomic data. In some cases, the genetic readouts of millions of individuals are readily available to anyone looking to use them to power new discoveries. However, a

# Julius Bär

growing number of governments, research institutes and private companies are also developing their own custom-built databases for handling the genetic information. This can later be sold to pharmaceutical companies and insurers, among other, at hefty profits.

**NP:** You make it all look so straight-forward, Esteban. But there must be some challenges too, right? What do you see as the main challenges when investing in Genomics?

**EP:** Whether public or private, these datasets need to deal with challenges that come along with handling personal information. Nature notes that genomic medicine aims to both provide patients with personalised treatment and embed knowledge generation into healthcare. But what ethical principles should govern this practice, those of clinical care or those of research? Unfortunately, the boundaries are not always clear and leave space for information misuse. Moreover, phenotype data can include healthcare records, disease status or lifestyle choices that, even if anonymized, could be used to identify an individual. And finally, the digital world we live in is allowing for information to be copied, shared, and moved over networks. Ethics and the duty toward society become paramount in a value chain where the individual can easily lose track of how his or her individual data is being used.

**NP:** So with those kinds of safeguards, you do see that there are ways to overcome some of those challenges and still be able to invest in Genomics?

**EP:** Indeed, this is where responsible investing becomes important. It looks into some of the key ethical issues of genomics as part of the focus on environmental, social, and governance principles, these are the ESG principles. No matter the region, consumers are expecting companies to do more to support responsible choices, including managing the teams paying attention to the interests of society at large, for their own benefit and for that of their shareholders. We believe that these key factors have a significant influence on a company's strategy and culture and ultimately, on its long-term success.

Around USD 70 trillion of financial assets are currently managed by financial institutions that are also signatories of the UN's Principles of Responsible Investment. There is a broader and deeper interest in ESG factors and value-based impact investing among younger investors, thanks in part to recent empirical evidence that shows that ESG investments can actually produce improved returns on a risk-adjusted basis. This means that investors looking into genomics and other megatrends will be increasingly in the lookout for wealth and asset managers that are committed to minimum ESG ratings across all of their investment activities.

**NP:** Thank you, Esteban. A really fascinating interview there. Genomics is not only transforming how we tackle the Covid pandemic, it promises a whole host of other new medical interventions. If you have any more questions, please do talk to your representative at Julius Baer. Thank you for listening to this episode of Think Tank and please do follow us on Spotify. From me, Nisha Pillai, goodbye for now.